
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 20-F

(Mark One)

- Registration statement pursuant to Section 12(b) or 12(g) of the Securities Exchange Act of 1934
- or
- Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2019
- or
- Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
- or
- Shell company report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Commission file number: 001-3132734

TERNIUM S.A.
(Exact name of Registrant as specified in its charter)

N/A
(Translation of Registrant's name into English)

Grand Duchy of Luxembourg
(Jurisdiction of incorporation or organization)

26, Boulevard Royal- 4th floor
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(Address of principal executive offices)

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(Name, Telephone, E-Mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange On Which Registered
American Depositary Shares	TX	New York Stock Exchange
Ordinary Shares, par value \$1.00 per share	TX	New York Stock Exchange*

*Ordinary shares of Ternium S.A. are not listed for trading but only in connection with the registration of American Depositary Shares which are evidenced by American Depositary Receipts.

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

2,004,743,442 ordinary shares, par value \$1.00 per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes No

Note – checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 from their obligations under those Sections.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of “large accelerated filer,” “accelerated filer,” and “emerging growth company” in Rule 12b-2 of the Exchange Act (Check one):

Large accelerated filer

Accelerated Filer

Non-accelerated filer

Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act.

†The term “new or revised financial accounting standard” refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP International Financial Reporting Standards as issued by the International Accounting Standards Board Other

If “Other” has been checked in response to the previous question indicate by check mark which financial statement item the registrant has elected to follow. Item 17 Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

Please send copies of notices and communications from the Securities and Exchange Commission to:

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CERTAIN DEFINED TERMS

In this annual report, unless otherwise specified or if the context so requires:

- References to the “Company” are exclusively to Ternium S.A., a Luxembourg public limited liability company (*société anonyme*);
- References to “Ternium,” “we,” “us” or “our” are to Ternium S.A. and its consolidated subsidiaries;
- References to the “Ternium companies” are to the Company’s manufacturing subsidiaries, namely Ternium México S.A. de C.V., or “Ternium Mexico,” a Mexican corporation; Ternium Brasil Ltda., or “Ternium Brasil” (formerly, CSA Siderúrgica do Atlântico Ltda., or CSA), a Brazilian corporation; Ternium Argentina S.A., or “Ternium Argentina”, (formerly Siderar S.A.I.C., or Siderar), an Argentine corporation; Ternium Colombia S.A.S., or “Ternium Colombia”, (formerly Ferrasa S.A.S., or Ferrasa), a Colombian corporation; Ternium del Atlántico S.A.S., or “Ternium del Atlántico”, a Colombian corporation; Ternium Internacional Guatemala S.A., or “Ternium Guatemala,” a Guatemalan corporation; Ternium USA Inc., or “Ternium USA”, a Delaware corporation; Las Encinas S.A. de C.V., or “Las Encinas,” a Mexican corporation; and Consorcio Minero Benito Juárez Peña Colorada S.A. de C.V., or “Consorcio Peña Colorada,” a Mexican corporation, and their respective subsidiaries;
- References to “Tenaris” are to Tenaris S.A., a Luxembourg public limited liability company (*société anonyme*) and a significant shareholder of the Company;
- References to “San Faustin” are to San Faustin S.A., a Luxembourg corporation and the Company’s indirect controlling shareholder;
- References to “Exiros” are to Exiros B.V., a Dutch corporation, and its subsidiaries under the brand “Exiros”
- References to “Tecpetrol” are to Tecpetrol International S.A., a wholly owned subsidiary of San Faustin;
- References to “Tenigal” are to Tenigal S.R.L. de C.V., a Mexican company, 51% owned by Ternium and 49% owned by Nippon Steel Corporation, or NSC;
- References to “Usiminas” are to Usinas Siderúrgicas de Minas Gerais S.A. – USIMINAS, a Brazilian corporation in which we own a total of 242.6 million ordinary shares and 8.5 million preferred shares, representing 20.5% of Usiminas’ capital. For further information on our investment in Usiminas, see Item 4. “Information on the Company—C. Organizational Structure—Other Investments-Usiminas” and note 14 to the consolidated financial statements included elsewhere in this annual report;
- References to “ADSs” are to the American Depositary Shares, which are evidenced by American Depositary Receipts, or ADRs;
- References to “finished steel products” when used in connection with production capacity are to finished steel products and semi-finished steel products intended to be sold to third parties;
- References to “tons” are to metric tons; one metric ton is equal to 1,000 kilograms, 2,204.62 pounds or 1.102 U.S. (short) tons;
- References to “billions” are to thousands of millions, or 1,000,000,000; and
- References to “Ternium Investments” are to Ternium Investments S.à r.l., a Luxembourg private limited liability company (*société à responsabilité limitée*), and a wholly owned subsidiary of the Company.

PRESENTATION OF CERTAIN FINANCIAL AND OTHER INFORMATION

Accounting Principles

We prepare the consolidated financial statements in accordance with International Financial Reporting Standards (“IFRS”), as issued by the International Accounting Standards Board (“IASB”), and adopted by the European Union. IFRS differs in certain significant respects from generally accepted accounting principles in the United States, commonly referred to as U.S. GAAP.

We publish consolidated financial statements presented in increments of a thousand U.S. dollars. This annual report includes our audited consolidated financial statements for the years ended December 31, 2019, 2018 and 2017.

Currencies

In this annual report, unless otherwise specified or the context otherwise requires:

- “dollars,” “U.S. dollars,” “USD,” “US\$” or “\$” each refers to the United States of America dollar;
- “Mexican pesos” or “MXN” each refers to the Mexican peso;
- “Argentine pesos” or “ARS” each refers to the Argentine peso; and
- “Brazilian reais” or “BRL” each refers to the Brazilian real.
- “Colombian pesos” or “COP” each refers to the Colombian peso.

On December 31, 2019, the U.S. dollar sell exchange rate in Mexico (as published by *Banco de México*, the Mexican central bank) was MXN18.86=\$1.00; the U.S. dollar sell exchange rate in Brazil (as published by *Banco Central do Brasil*, the Brazilian central bank) was BRL4.03=\$1.00; the U.S. dollar sell exchange rate in Argentina (as published by *Banco Central de la República Argentina*, the Argentine central bank) was ARS59.90=\$1.00; and the U.S. dollar average exchange rate in Colombia (as published by *Banco de la República*, the Colombian central bank) was COP3,277=\$1.0000. Those rates may differ from the actual rates used in preparation of the Company’s consolidated financial statements. We do not represent that any of these currencies could have been or could be converted into U.S. dollars or that U.S. dollars could have been or could be converted into any of these currencies.

Rounding; Comparability of Data

Certain monetary amounts, percentages and other figures included in this annual report have been subject to rounding adjustments. Accordingly, figures shown as totals in certain tables may not be the arithmetic aggregation of the figures that precede them, and figures expressed as percentages in the text may not total 100% or, as applicable, when aggregated may not be the arithmetic aggregation of the percentages that precede them.

Our Internet Site Is Not Part of this Annual Report

We maintain an Internet website at www.ternium.com. Information contained in or otherwise accessible through our Internet website is not a part of this annual report. All references in this annual report to this Internet site are inactive textual references to this URL, or “uniform resource locator” and are for your informational reference only. We assume no responsibility for the information contained on this website.

Industry Data

Unless otherwise indicated, industry data and statistics (including historical information, estimates or forecasts) in this annual report are contained in or derived from internal or industry sources believed by Ternium to be reliable. Industry data and statistics are inherently predictive and are not necessarily reflective of actual industry conditions. Such statistics are based on market research, which itself is based on sampling and subjective judgments by both the researchers and the respondents, including judgments about what types of products and transactions should be included in the relevant market. In addition, the value of comparisons of statistics for different markets is limited by many factors, including that (i) the markets are defined differently, (ii) the underlying information was gathered by different methods and (iii) different assumptions were applied in compiling the data. Such data and statistics have not been independently verified, and the Company makes no representation as to the accuracy or completeness of such data or any assumptions relied upon therein.

CAUTIONARY STATEMENT CONCERNING FORWARD-LOOKING STATEMENTS

This annual report and any other oral or written statements made by us to the public may contain “forward-looking statements” within the meaning of and subject to the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995 and under applicable securities laws. This annual report contains forward-looking statements, including with respect to certain of our plans and current goals and expectations relating to Ternium’s future financial condition and performance, which are provided to allow potential investors the opportunity to understand management’s beliefs and opinions in respect of the future so that they may use such beliefs and opinions as one factor in evaluating an investment in Ternium’s securities.

Sections of this annual report that by their nature contain forward-looking statements include, but are not limited to, Item 3. “Key Information,” Item 4. “Information on the Company,” Item 5. “Operating and Financial Review and Prospects” and Item 11. “Quantitative and Qualitative Disclosures about Market Risk.”

We use words such as “aim,” “will continue,” “will likely result,” “contemplate,” “seek to,” “future,” “objective,” “goal,” “should,” “will pursue,” “anticipate,” “estimate,” “expect,” “project,” “intend,” “plan,” “believe” and words and terms of similar substance to identify forward-looking statements, but they are not the only way we identify such statements. All forward-looking statements are based on management’s present expectations of future events and are subject to a number of factors and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied by those forward-looking statements. These factors include the risks related to our business discussed under Item 3. “Key Information—D. Risk Factors,” and among them, the following:

- uncertainties about the behavior of steel consumers in the markets in which Ternium operates and sells its products;
- changes in the pricing environments in the countries in which Ternium operates;
- the impact in the markets in which Ternium operates of existing and new competitors whose presence may affect Ternium’s customer mix, revenues and profitability;
- increases in the prices of raw materials, other inputs or energy, or other events affecting supply and demand of raw materials, other inputs or energy, such as the events following the collapse of a tailings dam at a mine in Brumadinho, Brazil or public health epidemics such as COVID-19 pandemic;
- the economic, political, social and regulatory developments and conditions in the countries in which Ternium owns facilities or other countries which have an impact on Ternium’s business activities or investments;
- inflation or deflation and foreign exchange rates in the countries in which Ternium operates;
- volatility in interest rates;
- the performance of the financial markets globally and in the countries in which Ternium operates;
- the uncertainties associated with the performance of our investment in Usiminas (including those concerning the operating and financial performance of Usiminas and the Brazilian economy in general and the trading price of Usiminas’ ordinary and preferred shares);
- changes in domestic and foreign laws and regulations, including changes relating to tax, trade and foreign exchange matters, or the imposition of tariffs, quotas or other trade barriers;
- regional or general changes in asset valuations;
- uncertainties as to the result of our iron ore exploration activities or the successful exploitation of our mines;
- our ability to successfully implement our business strategy or to grow through acquisitions, greenfield and brownfield projects, joint ventures and other investments;
- effects of global events such as pandemics; and
- other factors or trends affecting the steel and mining industries generally and our financial condition in particular.

By their nature, certain disclosures relating to these and other risks are only estimates and could be materially different from what actually occurs in the future. As a result, actual future gains or losses that may affect Ternium's financial condition and results of operations could differ materially from those that have been estimated. You should not place undue reliance on the forward-looking statements, which speak only as of the date of this annual report. Except as required by law, we are not under any obligation, and expressly disclaim any obligation, to update or alter any forward-looking statements, whether as a result of changes of circumstances or management's estimates or opinions, new information, future events or otherwise.

PART I

Item 1. Identity of Directors, Senior Management and Advisers

Not applicable.

Item 2. Offer Statistics and Expected Timetable

Not applicable.

Item 3. Key Information**A. Selected Financial Data**

The selected consolidated financial data set forth below have been derived from the consolidated financial statements for each of the years and at the dates indicated herein. Ternium's consolidated financial statements were prepared in accordance with IFRS, and were audited by PricewaterhouseCoopers, *société coopérative, Cabinet de révision agréé*, or "PwC Luxembourg"), an independent registered public accounting firm. PwC Luxembourg is a member firm of PwC International Ltd., or "PwC".

For a discussion of the currencies used in this annual report, exchange rates and accounting principles affecting the financial information contained in this annual report, see "Presentation of Certain Financial and Other Information—Accounting Principles" and "Currencies".

Selected consolidated income statement data

For the year ended December 31,

<i>In thousand U.S. dollars (except number of shares and per share data)</i>	2019	2018	2017	2016	2015
Net sales	10,192,818	11,454,807	9,700,296	7,223,975	7,877,449
Cost of sales	(8,452,440)	(8,483,328)	(7,403,025)	(5,384,390)	(6,477,272)
Gross profit	1,740,378	2,971,479	2,297,271	1,839,585	1,400,177
Selling, general and administrative expenses	(897,475)	(876,764)	(824,247)	(687,942)	(770,292)
Other operating income (expenses), net	21,663	13,656	(16,240)	(9,925)	9,454
Operating income	864,566	2,108,371	1,456,784	1,141,718	639,339
Finance expense	(88,284)	(131,172)	(114,583)	(89,971)	(89,489)
Finance income	29,071	21,236	19,408	14,129	7,981
Other financial (expenses) income, net	(39,756)	(69,640)	(69,915)	37,957	(17,922)
Equity in earnings (losses) of non-consolidated companies ⁽⁴⁾	60,967	102,772	68,115	14,624	(272,810)
Profit before income tax expense	826,564	2,031,567	1,359,809	1,118,457	267,099
Income tax expense	(196,519)	(369,435)	(336,882)	(411,528)	(207,320)
Profit for the year	630,045	1,662,132	1,022,927	706,929	59,779
Attributable to:					
Owners of the parent	564,269	1,506,647	886,219	595,644	8,127
Non-controlling interest	65,776	155,485	136,708	111,285	51,652
Profit for the year	630,045	1,662,132	1,022,927	706,929	59,779
Depreciation and amortization	661,112	589,299	474,299	406,890	433,788
Weighted average number of shares outstanding ⁽¹⁾	1,963,076,776	1,963,076,776	1,963,076,776	1,963,076,776	1,963,076,776
Basic earnings per share (\$) ⁽²⁾⁽³⁾	0.29	0.77	0.45	0.30	—
Basic earnings per ADS (\$) ⁽²⁾⁽³⁾	2.87	7.67	4.51	3.03	0.04
Dividends paid per share (\$)	n/a	0.12	0.11	0.10	0.09
Dividends paid per ADS (\$)	n/a	1.20	1.10	1.00	0.90

(1) Of the 2,004,743,442 shares issued as of December 31, 2019, the Company held 41,666,666 that were repurchased from Usiminas on February 15, 2011. Such shares were not considered outstanding for purposes of the calculation of the weighted average number of shares.

(2) International Accounting Standard N° 1 (IAS 1) (revised) requires that income for the year as shown in the income statement includes the portion attributable to non-controlling interest. Basic earnings per share and basic earnings per ADS, however, continue to be calculated on the basis of income attributable solely to the owners of the parent.

(3) Diluted earnings per share and per ADS (expressed in \$ per share or ADS) equals basic earnings per share or ADS, respectively.

(4) Equity in earnings (losses) of non-consolidated companies include a write-down of our investment in Usiminas, as a result of the performance of an impairment test, of \$191.9 million in 2015.

<i>Selected consolidated balance sheet data In thousand U.S. dollars (except number of shares and per share data)</i>	At December 31,				
	2019	2018	2017	2016	2015
Non-current assets	8,757,320	8,121,824	7,727,283	5,622,556	5,480,389
Property, plant and equipment, net	6,539,581	5,817,609	5,349,753	4,135,977	4,207,566
Other non-current assets ⁽¹⁾	2,217,739	2,304,215	2,377,530	1,486,579	1,272,823
Current assets	4,178,213	4,426,038	4,395,283	2,700,314	2,582,204
Cash and cash equivalents	519,965	250,541	337,779	183,463	151,491
Other current assets	3,656,150	4,173,348	4,054,741	2,506,603	2,419,046
Non-current assets classified as held for sale	2,098	2,149	2,763	10,248	11,667
Total assets	12,935,533	12,547,862	12,122,566	8,322,870	8,062,593
Capital and reserves attributable to the owners of the parent	6,611,665	6,393,255	5,010,424	4,391,298	4,033,148
Non-controlling interest	1,103,208	1,091,321	842,347	775,295	769,849
Non-current liabilities	3,452,535	3,236,756	3,442,521	1,324,785	1,558,979
Borrowings	1,628,892	1,637,101	1,716,337	396,742	607,237
Deferred tax liabilities	403,278	474,431	513,357	609,004	609,514
Other non-current liabilities	1,420,365	1,125,224	1,212,827	319,039	342,228
Current liabilities	1,768,125	1,826,530	2,827,274	1,831,492	1,700,617
Borrowings	559,782	399,856	1,505,570	821,893	913,786
Other current liabilities	1,208,343	1,426,674	1,321,704	1,009,599	786,831
Total liabilities	5,220,660	5,063,286	6,269,795	3,156,277	3,259,596
Total equity and liabilities	12,935,533	12,547,862	12,122,566	8,322,870	8,062,593
Number of shares	1,963,076,776	1,963,076,776	1,963,076,776	1,963,076,776	1,963,076,776

(1) Includes goodwill mainly related to the acquisition of the Company's Mexican subsidiaries for a total amount of \$662.3 million as of December 31 of each year.

B. Capitalization and Indebtedness

Not applicable.

C. Reasons for the Offer and Use of Proceeds

Not applicable.

D. Risk Factors

You should carefully consider the risks and uncertainties described below, together with all other information contained in this annual report, before making any investment decision. Any of these risks and uncertainties could have a material adverse effect on our business, financial condition and results of operations, which could in turn affect the price of the Company's shares and ADSs.

Risks Relating to the Steel Industry

A downturn in global or regional economic activity would cause a reduction in worldwide or regional demand for steel and would have a material adverse effect on the steel industry and Ternium.

Steel demand is sensitive to trends in cyclical industries, such as the construction, automotive, appliance and machinery industries, which are significant markets for Ternium's products and are also affected by national, regional or global economic conditions. A downturn in economic activity would reduce demand for steel products. This would have a negative effect on Ternium's business and results of operations. A recession or depression affecting developed economies, or slower growth or recessionary conditions in emerging economies would exact a heavy toll on the steel industry and adversely affect our business and results of operations.

A novel strain of coronavirus (“COVID-19”) was reported to have surfaced in China in December 2019, spreading to the rest of the world in the first quarter of 2020. The COVID-19 virus is impacting economic activity worldwide and poses the risk that Ternium or its employees, contractors, suppliers, customers and other business partners may be prevented from conducting certain business activities for a prolonged period of time. If that happens, our future operations may be severely affected. Given the uncertainty around the extent and timing of the future spread of COVID-19, the imposition of additional protective measures, or the relaxation of existing protective measures, it is not possible to predict the COVID-19’s effects on the industry, generally, or to reasonably estimate the impact on Ternium’s results of operations, cash flows or financial condition. For further information on the effects of COVID-19 see Item 5. “Operating and Financial Review and Prospects-G. Recent Developments-Effect of COVID-19 outbreak on Ternium’s activities.”

A protracted fall in steel prices would have a material adverse effect on the results of Ternium, as could price volatility.

Steel prices are volatile and are sensitive to trends in steel demand and raw material costs, such as steel scrap, iron ore and metallurgical coal costs. Historically, the length and nature of business cycles affecting steel demand and raw material costs have been unpredictable. For example, US steel prices trended down during most of 2018 and 2019, after peaking during the first half of 2018, as a result of softer steel consumption, increased steel production and, in 2019, lower costs of steel scrap. After a trough during the fourth quarter of 2019, steel prices recovered partially due to higher costs of steel scrap and decreased steel production. A fall in steel prices could adversely affect Ternium’s operating results by means of lower revenues and could also lead to inventory write-downs.

Even if raw material costs were to accompany the decrease in steel prices, the resulting reduction in steel production costs would take several months to be reflected in Ternium’s operating results as Ternium would first consume older inventories acquired prior to such raw material cost decrease. In addition, Ternium may be unable to recover, in whole or in part, increased costs of raw materials and energy through increased selling prices on its products, or it may take an extended period of time to do so.

Regional or worldwide excess steel production capacity may lead to unfair trade practices in the international steel markets and/or to intense competition, hampering Ternium’s ability to sustain adequate profitability.

In addition to economic cycles, the steel industry can also be affected by regional or worldwide production overcapacity. Historically, the steel industry has suffered, especially on downturn cycles, from substantial overcapacity. As a result of a slowdown in steel demand growth and protracted increase in steel production capacity in the last decade, there are signs of over-capacity in all steel markets, particularly in China, which impacted the profitability of the steel industry and Ternium. Currently, global steel production capacity exceeds global steel demand, which affects global steel prices. Moreover, there are several new steel making and steel processing facilities under construction or whose construction was announced both in Mexico and the United States, that will contribute to a significant increase in steel capacity in North America in the coming years. For further information on Ternium’s competition in the Mexican market see Item 4. “Information on the Company—B. Business Overview—Competition—Steel—Mexico”.

Excess steel production capacity may require several years to be absorbed by demand and, as a consequence, may contribute to an extended period of depressed margins and industry weakness. International trade of steel products conducted under unfair conditions increases particularly during downturn cycles and as a result of production overcapacity. Unfair trade practices may result in the imposition by some countries (that are significant producers and consumers of steel) of antidumping and countervailing duties or other trade measures, and may cause fluctuations in international steel trade. The imposition of such trade remedies or temporary tariffs on major steel exporters in significant steel producing countries could in turn exacerbate pressures in other markets, including those in which Ternium operates, as exporters target such other markets to compensate, at least partially, for the loss of business resulting from the imposition of trade remedies or tariffs.

China is the largest steel producing country in the world, accounting for approximately half of worldwide steel production. In 2014 and 2015, Chinese exports of steel products expanded rapidly as a result of decreased domestic consumption. Consequently, Chinese exports of steel products, including exports to Europe, the United States and Mexico, were subject to several antidumping and countervailing investigations, and to the imposition of antidumping and countervailing duties and other trade measures. A decrease in steel consumption in China in the future, including as a result of the COVID-19 pandemic, could stimulate aggressive Chinese steel export offers, exerting downward pressure on sales and margins of steel companies operating in other markets and regions, including those in which Ternium operates. Similarly, a downturn in global or regional economic activity could stimulate unfair steel trade

practices and, accordingly, may adversely affect Ternium's business and results of operations. For further information, see Item 4. "Information on the Company—B. Business Overview—Regulations—Trade Regulations and Item 5. "Operating and Financial Review and Prospects-G. Recent Developments-Effect of COVID-19 outbreak on Ternium's activities."

Sales may fall as a result of fluctuations in industry inventory levels.

Inventory levels of steel products held by companies that purchase Ternium's products can vary significantly from period to period. These fluctuations can temporarily affect the demand for, and price of, Ternium's products, as customers draw from existing inventory during periods of low investment in construction and other industry sectors that purchase Ternium's products and accumulate inventory during periods of high investment and, as a result, such companies may not purchase additional steel products or maintain their current purchasing volume. Accordingly, Ternium may not be able to increase or maintain its current levels of sales volumes or prices.

Intense competition could cause Ternium to lose its share in certain markets and adversely affect its revenues.

The market for Ternium's steel products is highly competitive, particularly with respect to price, quality and service. In both global and regional markets, Ternium competes against other global and local producers of steel products, which in some cases have greater financial and operating resources, or direct and indirect governmental support. Competition from such steel producers could result in declining margins and reductions in shipments. Ternium's competitors could use their resources in a variety of ways that may affect Ternium negatively, including by making additional acquisitions, implementing modernization programs, expanding their production capacity, investing more aggressively in product development, and displacing demand for Ternium's products in certain markets. To the extent that these producers become more efficient, Ternium could confront stronger competition and could fail to preserve its current share of the relevant geographic or product markets. In addition, there has been a trend in the past toward steel industry consolidation among Ternium's competitors, and current smaller competitors in the steel market could become larger competitors in the future. For further information on Ternium's competitors and their investments, see Item 4. "Information on the Company—B. Business Overview—Competition."

Moreover, Ternium and other steel makers compete against suppliers of alternative materials, including aluminum, wood, concrete, plastic and ceramics. In particular, certain customers, such as the automotive industry, are increasing their consumption of lighter-weight materials, such as aluminum, composites and carbon fiber, sometimes as a result of regulatory requirements. Competition from these alternative materials could adversely affect the demand for, and consequently the market prices of, certain steel products and, accordingly, could affect Ternium's sales volumes and revenues.

Price fluctuations or shortages in the supply of raw materials, energy and other inputs could adversely affect Ternium's profitability.

Like other manufacturers of steel-related products, Ternium's operations require substantial amounts of raw materials, energy and other inputs from domestic and foreign suppliers. In particular, the Ternium companies consume large quantities of iron ore, metallurgical coal, scrap, ferroalloys, natural gas, electricity, oxygen and other gases in operating their blast and electric arc furnaces. The prices of these raw materials, energy and other inputs can be volatile. Also, the availability and price of a significant portion of such raw materials, energy and other inputs used in Ternium's operations are subject to market conditions, government regulations or other events affecting supply and demand, including wars, natural disasters and public health epidemics (such as COVID-19). For example, the collapse in January 2019 of a tailings dam at a mine operated by Vale S.A., or Vale, in Brumadinho, Brazil, followed by Vale's decommissioning of all upstream tailing dams and the shut down of operations at its Feijão and Vargem Grande mines, and the governments cancellation of Vale's licenses for eight tailings dams contributed to an increase in iron ore prices in the international markets as well as significant logistic burdens. In Argentina, shortages of natural gas in the past resulted in supply restrictions that, if repeated in the future, could lead to higher costs of production and eventually to production cutbacks at Ternium's facilities in Argentina. In Mexico, constraints in natural gas transportation capacity in the past led to increased imports of liquefied natural gas that, if repeated in the future, could lead to higher costs of production. In the past, Ternium has usually been able to procure sufficient supplies of raw materials, energy and other inputs to meet its production needs; however, it could be unable to procure adequate supplies in the future. Any protracted interruption, discontinuation or other disruption of the supply of principal inputs to the Ternium companies (including as a result of strikes, lockouts, trade restrictions, accidents or natural disasters, worldwide price fluctuations, the availability and cost of transportation, global epidemics such as COVID-19 or other problems) would result in lost sales and would have a material adverse effect on Ternium's business and results of operations. For further information related to effects of global events see Item 3. "Key Information —D. Risk Factors—Risks Relating

to the Steel Industry - A downturn in global or regional economic activity would cause a reduction in worldwide or regional demand for steel and would have a material adverse effect on steel industry and Ternium" and Item 5. "Operating and Financial Review and Prospects-G. Recent Developments-Effect of COVID-19 outbreak on Ternium's activities." For further information related to raw materials, energy and other inputs requirements see Item 4. "Information on the Company—B. Business Overview—Raw Materials, Slabs, Energy and Other Inputs."

Ternium depends on a limited number of key suppliers.

Ternium depends on certain key suppliers for their requirements of some of its principal inputs, including Vale for iron ore, BHP Billiton and Warrior for metallurgical coal and Carbo One for pulverized coal. In general, there is a trend in the industry towards consolidation among suppliers of iron ore and other raw materials. The Ternium companies have entered into long-term contracts for the supply of some (but not all) of their principal inputs and it is expected that they will maintain and, depending on the circumstances, renew these contracts. However, if any of the key suppliers fails to deliver or there is a failure to renew these contracts, the Ternium companies could face limited access to some raw materials, energy or other inputs, or higher costs and delays resulting from the need to obtain their input requirements from other suppliers.

Risks Relating To Ternium's Business

If Ternium does not successfully implement its business strategy, its opportunities for growth and its competitive position could be adversely affected.

Ternium plans to continue implementing its business strategy of enhancing its position as a competitive steel producer, focusing on higher margin value-added products, pursuing strategic growth opportunities, implementing Ternium's best practices in acquired and new businesses, providing services to a wider range of customers in the local and export markets, improving utilization levels of its plants, increasing efficiency and further reducing production costs. For example, after the acquisition of a steel slab production plant in Rio de Janeiro, Brazil, Ternium began the construction of a hot-rolling mill in its facility in Pesquería, Mexico to integrate the Rio de Janeiro unit to its industrial system. For information on Ternium's capital expenditures, see "—B. Business Overview—Capital Expenditure Program". Any of these components or Ternium's business strategy could be delayed or abandoned or could cost more than anticipated, any of which could impact its competitive position and reduce its revenue and profitability. For example, Ternium could fail to develop its projects and/or to make acquisitions and/or integrate newly acquired businesses to increase its steel production capacity, or may lose market share in its regional markets. Even if Ternium successfully implements its business strategy, such strategy may not yield the desired goals.

Future acquisitions or other significant investments could have an adverse impact on Ternium's operations or profits, and Ternium may not realize the benefits it expects from these business decisions.

A key element of Ternium's business strategy is to identify and pursue growth-enhancing opportunities. As part of that strategy, Ternium regularly considers acquisitions, greenfield and brownfield projects and other significant investments. However, any growth project will depend on market and financing conditions. Ternium must necessarily base any assessment of potential acquisitions or other investments on assumptions with respect to operations, profitability and other matters that may subsequently prove to be incorrect. Furthermore, Ternium may fail to find suitable acquisition targets or fail to consummate its acquisitions under favorable conditions. In the past, Ternium acquired interests in various companies, including Hylsamex S.A. de C.V., or Hylsamex, one of the main steel producers, in 2005, in Mexico, and Grupo Industrias Monterrey, or Grupo Imsa, a leading Mexican steel processor, in 2007 (both currently Ternium Mexico); Ferrasa, a Colombian steel producer and processor (currently, Ternium Colombia); and more recently, in 2017, CSA, a Brazilian steel slab producer (currently, Ternium Brasil). Ternium also formed, together with Nippon Steel Corporation, or NSC, Tenigal, a company that manufactures and sells hot-dip galvanized and galvanized steel sheets for the Mexican automotive market. In 2012, Ternium acquired a participation in the control group of Usiminas, the largest flat steel producer in Brazil, and in 2014 and 2016, Ternium significantly increased its equity investment in Usiminas.

Ternium's acquisitions or other investments may not perform in accordance with its expectations and could have an adverse impact on its operations and profits. Furthermore, Ternium may be unable to successfully integrate any acquired businesses into its operations, realize expected synergies or accomplish the business objectives that were foreseen at the time of deciding any such investment. Moreover, Ternium may also acquire, as part of future acquisitions, assets unrelated to its business, and it may not be able to integrate them or sell them under favorable terms and conditions. These risks, and the fact that integration of any acquired businesses will require a significant amount of time and resources from Ternium's management and employees, could have an adverse impact on Ternium's ongoing business and a material adverse effect on its business, financial condition and results of operations.

Ternium may be required to record a significant charge to earnings if it must reassess its goodwill, other amortizable intangible assets, or investments in non-consolidated companies.

In accordance with IFRS, management must test for impairment all of Ternium's assets whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Assets subject to testing include goodwill, intangible assets and investments in non-consolidated companies. In addition, management must test for impairment goodwill at least once a year whether or not there are indicators of impairment. IFRS requires Ternium to recognize a non-cash charge in an amount equal to any impairment.

As of December 31, 2019, goodwill in connection with the Company's Mexican subsidiaries amounted to \$662.3 million and the carrying value of our investment in non-consolidated companies, mainly related to its investment in Usiminas, amounted to \$513.6 million. If Ternium's management determines in the future that the goodwill from its acquisitions or its investments in non-consolidated companies are impaired, Ternium will be required to recognize a non-cash charge against earnings, which could materially adversely affect Ternium's results of operations and net worth.

If Usiminas is not able to successfully implement its business strategy, or if the business conditions in Brazil or in the global steel and mining industries were to be worse than expected, the Company may be required to record a significant charge to earnings in the form of a further impairment of its investment in Usiminas, which could have a material adverse effect on Ternium's results, financial condition or net worth.

Since 2012, Ternium is a member of the control group of Usiminas, the largest flat steel producer in Brazil. In 2014, a conflict arose within the Usiminas control group and its board with respect to the governance of Usiminas, including with respect to the rules applicable to the appointment of senior managers, the application of the shareholders' agreement in matters involving fiduciary duties, and the company's strategy. Such conflict was resolved by an agreement between Ternium, NSC and Usiminas' employee pension fund (Previdência Usiminas, formerly known as Caixa do Empregados do Usiminas), providing for new governance rules for Usiminas. Under the new Usiminas shareholders' agreement, no control group member can, without the consent of other shareholder group or groups, implement any change to Usiminas' strategy or business practices. If the parties fail to reach consensus, changes at Usiminas that may be necessary to achieve sustainable profitability may not take place or fail to be implemented. For further information related to the conflict within the Usiminas control group and the agreement between Ternium, NSC and Previdencia Usiminas on governance rules for Usiminas, see Item 4. "Information on the Company—C. Organizational Structure—Other Investments—Usiminas."

As indicated above, the Company reviews periodically the recoverability of its investment in Usiminas, and as of December 31, 2012, September 30, 2014, and December 31, 2015, Ternium wrote down its investment in Usiminas by \$275.3 million, \$739.8 million and \$191.9 million, respectively. As of December 31, 2019, the carrying value of Ternium's investment in Usiminas was \$486.6 million. The Company reviews the economic policies of Brazil and market expectations relating to the BRL/\$ exchange rate on an ongoing basis and will continue to evaluate their impact on the drivers used to calculate the value in use of Ternium's investment in Usiminas. These matters could lead to further changes in the carrying value of Ternium's investment in Usiminas, either through currency translation adjustments, impairment charges or recoveries of impairment charges. Any further write-downs to Ternium's investment in Usiminas could have a material adverse effect on Ternium's results of operations or net worth.

If Ternium does not comply with laws and regulations designed to combat governmental corruption in countries in which it sells its products, Ternium could become subject to fines, penalties or other sanctions and its sales and profitability could suffer.

Ternium conducts business in certain countries known to experience governmental corruption. Although Ternium is committed to conducting business in a legal and ethical manner in compliance with local and international statutory requirements and standards applicable to its business, there is a risk that employees or representatives may take actions that violate applicable laws and regulations that generally prohibit the making of improper payments to foreign government officials for the purpose of obtaining or keeping business, including laws relating to the 1997 OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions such as the U.S. Foreign Corrupt Practices Act. In addition, the main countries in which Ternium operates (including Argentina, Mexico and Brazil) have adopted in recent years legislation that imposes strict criminal liability on companies for corrupt practices undertaken by their employees or representatives.

Labor disputes at Ternium's operating subsidiaries could result in work stoppages and disruptions to Ternium's operations.

A substantial majority of Ternium's employees at its manufacturing subsidiaries are represented by labor unions and are covered by collective bargaining or similar agreements, which are subject to periodic renegotiation. Strikes or work stoppages could occur prior to or during the negotiations leading to new collective bargaining agreements, during wage and benefits negotiations or, occasionally, during other periods for other reasons. Ternium could also suffer plant stoppages or strikes if it were to implement cost reduction plans. From time to time, Ternium takes measures in order to become more competitive; none of the measures taken in the past have resulted in significant labor unrest. However, Ternium cannot assure that this situation will remain stable or that future measures will not result in labor actions against Ternium companies. Any future stoppage, strike, disruption of operations or new collective bargaining agreements could result in lost sales and could increase Ternium's costs, thereby affecting its results of operations. For further information on the geographic distribution of Ternium's workforce, see Item 6. "Directors, Senior Management and Employees—D. Employees".

Changes in exchange rates or any limitation in the ability of the Ternium companies, including associates, to hedge against exchange rate fluctuations could adversely affect Ternium's business and results.

The operations of the Ternium companies expose them to the effects of changes in foreign currency exchange rates and changes in foreign exchange regulations. A significant portion of Ternium's sales are carried out in currencies other than the U.S. dollar. As a result of this foreign currency exposure, exchange rate fluctuations impact the Ternium companies' results and net worth as reported in their income statements, statements of comprehensive income and statements of financial position in the form of both translation risk and transaction risk. In the ordinary course of business, the Ternium companies may see fit to enter from time to time into exchange rate derivatives agreements to manage their exposure to exchange rate changes. Future regulatory or financial restrictions in the countries where Ternium operates may affect its ability to mitigate its exposure to exchange rate fluctuations, and thus could cause an adverse impact on Ternium's results of operations, financial condition or cash flows. For information concerning the effect of the changes in exchange rates on Ternium's business and results, see Item 5. "Operating and Financial Review and Prospects—Overview".

Cyberattacks could have a material adverse impact on Ternium's business and results of operation.

Ternium relies heavily on information systems to conduct its business. Although Ternium devotes significant resources to protect its systems and data, from time to time it experiences varying degrees of cyber incidents in the normal conduct of its business, which may occasionally include sophisticated cybersecurity threats such as unauthorized access to data and systems, loss or destruction of data, computer viruses or other malicious code, phishing, spoofing and/or cyberattacks. These threats often arise from numerous sources, not all of which are within Ternium's control, such as fraud or malice from third parties, including fraud involving business email, failures of computer servers or other accidental technological failure, electrical or telecommunication outages or other damage to its property or assets. Given the rapidly evolving nature of cyber threats, there can be no assurance that the systems that Ternium has designed to prevent or limit the effects of cyber incidents or attacks will be sufficient to prevent or detect such incidents or attacks, or to avoid a material adverse impact on its systems when such incidents or attacks do occur. While Ternium attempts to mitigate these risks, it remains vulnerable to additional known or unknown threats, including theft, misplacement or loss of data, programming errors, employee errors and/or dishonest behavior that could potentially lead to the compromising of sensitive information, improper use of its systems or networks, as well as unauthorized access, use, disclosure, modification or destruction of such information, systems and/or networks.

If Ternium's systems for protecting against cybersecurity risks are circumvented or breached, this could also result in disruptions to its business operations (including but not limited to, defective products or production downtimes), access to its financial reporting systems, the loss of access to critical data or systems, misuse or corruption of critical data and proprietary information (including its intellectual property and customer data), as well as damage to its reputation with customers and the market, failure to meet customer requirements, customer dissatisfaction and/or other financial costs and losses. In addition, given that cybersecurity threats continue to evolve, Ternium may be required to devote additional resources in the future to enhance its protective measures or to investigate and/or remediate any cybersecurity vulnerabilities. Moreover, any investigation of a cyber-attack would take time before completion, during which Ternium would not necessarily know the extent of the actual or potential harm or how best to remediate it, and certain errors or actions could be repeated or compounded before duly discovered and remediated (all or any of which could further increase the costs and consequences arising out of such cyberattack). Ternium does not maintain any specific insurance coverage to protect against cybersecurity risks. Even if such coverage is contracted in the future, Ternium cannot ensure that it will be sufficient to cover any particular losses resulting from a cyberattack.

Risks Relating To Ternium's Mining Activities

Ternium has equity interests in two iron ore mining companies in Mexico: a 100% interest in Las Encinas and a 50% interest in Consorcio Peña Colorada. Ternium's mining activities are subject to the following risks:

Unexpected natural and operational catastrophes may impact the environment or cause exposure to hazardous substances, adversely impact Ternium's operations and profitability, and result in material liabilities to Ternium.

Ternium operates extractive, processing and logistical operations, including tailings dams, in many geographic locations. Liabilities associated with Ternium's mining activities include those resulting from tailings and sludge disposal, effluent management, and rehabilitation of land disturbed during mining processes. Ternium's operations involve the use, handling, storage, discharge and disposal into the environment of hazardous substances and the use of natural resources. The iron ore mining industry is generally subject to significant risks and hazards, including environmental pollution, such as spilling or emissions of polluting substances or other hazardous materials; operational incidents, such as open-cut pit wall failures, rock falls or tailings dam breaches; transportation incidents, involving mobile equipment or machinery, slurry pipes and cable transportation; and may also be subject to unexpected natural catastrophes. This could result in environmental damage, damage to or destruction of properties and facilities, personal injury or death, and delays in production. For example, in January 2019, a tailings dam at Vale's Córrego do Feijão mine in Brumadinho, Brazil, collapsed, releasing a mudflow that resulted in hundreds of people dead or missing. This incident followed a previous one in November 2015, when the collapse of the Samarco dam, operated by Vale and BHP, resulted in the death of 19 people. Ternium operates mines with tailings dams in Mexico and could become subject to liabilities arising from incidents in the future. Over time, Ternium has conducted stability studies of its tailings dams, with the help of consultant companies, using increasingly strict standards for seismic areas and, as a result, has been carrying out several investment projects to reinforce certain dams and is analyzing several more reinforcement projects arising from studies carried out in 2019. For further information, see Item 4. "Information on the Company - B. Business Overview - Mining". Although Ternium believes that, once completed, ongoing and future investment projects will further mitigate the risk of incidents, it cannot guarantee that failures or breaches will not occur prior to or after the completion of reinforcement works.

Ternium may also be subject to claims under federal and local laws and regulations for toxic torts, natural resource damages and other damages, as well as for the investigation and clean-up of soil, surface water, sediments, groundwater and other natural resources. Such claims for damages and reclamation may arise out of current or former conditions at sites that Ternium owns, leases or operates or at inactive sites that Ternium currently owns, leased-land sites and third-party waste disposal sites. Ternium may be named as a responsible party at other sites in the future. Ternium also could be subject to litigation for alleged bodily injuries arising from claimed exposure to hazardous substances allegedly used, released, or disposed of by Ternium. Environmental impacts as a result of Ternium's operations could result in costs and liabilities that could materially and adversely affect margins, cash flow and profitability. Third-party claims arising from these events may exceed the limit of liability of the insurance policies we could have in place.

Required governmental concessions could be subject to changes or termination, permits and rights of use and occupancy could be difficult to obtain or maintain and taxes or royalties applicable to the mining industry could increase, all of which could adversely affect Ternium's mining activities and operating costs.

Ternium's mining activities are subject to specific regulations and depend on concessions and authorizations granted by governmental authorities. Amendments to applicable laws and regulations in Mexico may change the terms pursuant to which Ternium is required to pursue exploration, mining and ore processing activities. For example, in 2014, a comprehensive tax reform became effective in Mexico, imposing new taxes and royalties on mining activities, which in the case of Ternium's iron ore mining subsidiaries resulted in a 7.5% royalty on mining profits, calculated on a special tax basis. Additional changes to Mexican laws and regulations may result in new taxes or royalties or require modifications to the processes and technologies used in Ternium's mining activities, leading to unexpected capital expenditures and higher costs.

Concessions may be revoked if the competent government authorities determine that Ternium does not comply with its obligations under the respective concession terms and agreements. Furthermore, in order to explore or exploit mines, it is necessary to obtain the right of use and occupancy of the land where the mines are situated. Even though government regulations frequently establish provisions intended to facilitate the establishment of such rights, in some cases it may be difficult to reach and maintain agreements with the landowners or such agreements may be excessively onerous. If Ternium is unable to establish use and occupancy rights on acceptable terms, its mining activities may be compromised. In addition, Ternium's iron ore mining subsidiaries need to obtain, in the normal course of business, permits for the preparation of new iron ore bodies at the mines and for the expansion of tailings deposit capacity. If

Ternium is unable to obtain such permits on a timely basis, it may need to alter its mining and/or production plans, which could lead to unexpected capital expenditures and higher costs.

Ternium's reserve estimates may differ materially from actually recoverable mineral quantities, or its estimates of mine life may prove inaccurate; and market price fluctuations and changes in operating and capital costs may render certain ore reserves uneconomical to mine in the future or cause Ternium to revise its reserve estimates.

Ternium's reserves are estimated quantities of ore that it has determined can be economically mined and processed under present and anticipated conditions to extract their mineral content. There are numerous uncertainties inherent in estimating quantities of reserves and in projecting potential future rates of mineral production, including factors beyond Ternium's control. Reserve calculations involve estimating deposits of minerals that cannot be measured in an exact manner, and the accuracy of any reserve estimate is a function of the quality of available data and engineering and geological interpretation and judgment. Reserve estimates also depend on assumptions relating to the economic viability of extraction, which are established through the application of a life of mine plan for each operation or project providing a positive net present value on a forward-looking basis, using forecasts of operating and capital costs based on historical performance, with forward adjustments based on planned process improvements, changes in production volumes and in fixed and variable proportions of costs, and forecasted fluctuations in costs of raw material, supplies, energy and wages. These forecasts and projections involve assumptions and estimations that, although Ternium believes are reasonable at the time of estimating its reserves, may change in the future and may fail to anticipate geological, environmental or other factors or events that could make it difficult or unprofitable to mine certain ore deposits.

In addition, Ternium's reserve estimates are of in-place material after adjustments for mining depletion and mining losses and recoveries, with no adjustments made for metal losses due to processing. As a result, no assurance can be given that the indicated amount of ore will be recovered from Ternium's reserves, or that it will be recovered at the anticipated rates, or that extracted ore will be converted into saleable production over the mine life at levels consistent with its reserve estimates. Reserve estimates may vary from those included in this annual report, and results of mining and production subsequent to the date of an estimate may lead to future revisions of estimates. Estimates of mine life may require revisions based on actual production figures, changes in reserve estimates and other factors. For example, fluctuations in the market prices of minerals, reduced recovery rates or increased operating and capital costs due to inflation, exchange rates, mining duties or other factors could affect Ternium's mine life projections. To the extent that market price fluctuations or changes in its operating and capital costs increase its costs to explore, locate, extract and process iron ore, Ternium may be required to lower its reserve estimates if certain ore reserves become uneconomical to mine in the future.

Ternium's exploration activities are subject to uncertainties as to the results of such exploration; even if the exploration activities lead to the discovery of ore deposits, the effective exploitation of such deposits remains subject to several risks.

Exploration activities are highly speculative, involve substantial risks and may be unproductive. Ternium may incur substantial costs for exploration which do not yield the expected results. The failure to find sufficient and adequate reserves could adversely affect Ternium's business. In addition, even if ore deposits are discovered, the ability to pursue exploitation activities may be delayed for a long time during which market conditions may vary. Significant resources and time need to be invested in order to establish ore resources through exploration, define the appropriate processes that shall be undertaken, obtain environmental licenses, concessions and permits (including water usage permits), acquire land, build the necessary facilities and infrastructure for greenfield projects and obtain the ore or extract the metals from the ore. If a project does not turn out to be economically feasible by the time Ternium is able to exploit it, Ternium may incur substantial write-offs.

Inability to complete investment projects required to maintain iron ore and pellets production rates over time could increase Ternium's steel production costs.

Mining requires continuous investment to sustain production rates. Such investments require, among other things, the design of the project, the awarding of environmental permits and the successful execution of civil works. If Ternium fails to timely carry out the investment projects required to maintain iron ore and pellets production rates over time, including tailing dams, Ternium could have to substitute internally produced iron ore with third party purchases, with a consequent increase in steel production costs.

Ternium's expected costs and capital expenditure requirements for exploration, exploitation or restoration activities may vary significantly and affect its financial condition and expected results of operations.

Ternium may be subject to increased costs or delays relating to the acquisition of adequate equipment for the exploration and exploitation of ore deposits, or restoration of exhausted mines. Moreover, Ternium may face increasing costs or capital expenditure requirements related to several factors, including diminished iron ore reserve grades, deeper pits and operational sections of its mines, iron ore deposits within the pit area that are more difficult to locate or extract, additional maintenance works in dams and ponds, and increased energy supply requirements that may be difficult to obtain. Adverse mining conditions and other situations related to the operation of the mine and related facilities during their life cycle, whether permanent or temporary, may lead to a significant increase in projected capital expenditures and costs, as well as affect Ternium's ability to produce the expected quantities of mineral. If this occurs, Ternium's financial condition and expected results of operations may also be negatively affected.

Difficulties in relationships with local communities may adversely affect Ternium's mining activities and results of operations.

Communities living or owning land near areas where Ternium operates may take actions to oppose and interfere with its mining activities. Although Ternium makes significant efforts to maintain good relationships with such communities, actions taken by them (or by interest groups within those communities) may hamper Ternium's ability to conduct its mining activities as planned, request the government to revoke or cancel its concessions or environmental or other permits, prevent Ternium from fulfilling agreements reached with the government, or significantly increase the cost of exploring and/or exploiting the mines, thereby adversely affecting Ternium's business and results of operations.

In the past, Ternium faced actions by certain native or local Mexican communities demanding higher compensation or other benefits, or seeking to stop Ternium's activities. Although attempted legal actions against Ternium did not succeed, Mexican legislation affords judges the power to preemptively suspend environmental or other permits or concessions, and take certain other measures to protect the *ejidos* (land jointly owned by native communities) until the claim is resolved. An adverse legal decision suspending or cancelling permits, or the illegal occupation of facilities, could adversely impact Ternium's mining activities and results of operations.

Risks Relating To The Structure Of The Company

The Company's dividend payments depend on the results of operations and financial condition of its subsidiaries and could be affected by legal, contractual or other limitations or tax changes.

The Company is a holding company and conducts all its operations through subsidiaries. Dividends or other intercompany transfers of funds from those subsidiaries are the Company's primary source of funds to pay its expenses, debt service and dividends and to repurchase shares or ADSs.

The ability of the Company's subsidiaries to pay dividends and make other payments to us will depend on their results of operations and financial condition and could be restricted by applicable corporate and other laws and regulations, including those imposing foreign exchange controls or restrictions on the repatriation of capital or the making of dividend payments, and agreements and commitments of such subsidiaries. If earnings and cash flows of the Company's operating subsidiaries are substantially reduced, the Company may not be in a position to meet its operational needs or to pay dividends. For information on exchange controls recently imposed in Argentina, see "Risks Relating to the Countries in Which Ternium Operates- Argentina: Argentine exchange controls could prevent Ternium from paying dividends or other amounts from cash generated by Ternium Argentina".

The Company's ability to pay dividends to shareholders is subject to legal and other requirements and restrictions in effect at the holding company level. For example, the Company may only pay dividends out of net profits, retained earnings and distributable reserves and premiums, each as defined and calculated in accordance with Luxembourg law and regulations. In addition, the Company's dividend distributions (which are currently imputed to a special tax reserve and are therefore not subject to Luxembourg withholding tax) may be subject to Luxembourg withholding tax if current Luxembourg tax laws were to change.

The Company's controlling shareholder may be able to take actions that do not reflect the will or best interests of other shareholders.

As of the date of this annual report, San Faustin beneficially owned 62.02% of Ternium's outstanding voting shares and Tenaris, which is also controlled by San Faustin, held 11.46% of Ternium's outstanding voting shares. Rocca & Partners Stichting Administratiekantoor Aandelen San Faustin, or RP STAK, holds voting rights in San Faustin sufficient in number to control San Faustin. As a result, RP STAK is indirectly able to elect a substantial majority of

the members of the Company's board of directors and has the power to determine the outcome of most actions requiring shareholder approval, including, subject to the requirements of Luxembourg law, the payment of dividends. The decisions of the controlling shareholder may not reflect the will of other shareholders. In addition, the Company's articles of association permit the Company's board of directors to waive, limit or suppress preemptive rights in certain cases. Accordingly, the Company's controlling shareholder may cause its board of directors to approve in certain cases an issuance of shares for consideration without preemptive rights, thereby diluting the minority interest in the Company. See "Risks Relating to shares and ADSs - Holders of shares and ADSs in the United States may not be able to exercise preemptive rights in certain cases".

Non-controlling interests in the Company's subsidiaries could delay or prevent us from completing our strategy.

The Company does not own 100% of the interests in certain of the Company's subsidiaries. As of February 29, 2020, 26.03% of Ternium Argentina was held by *Administración Nacional de la Seguridad Social*, or ANSeS, Argentina's governmental social security agency, and 11.95% was publicly held. ANSeS became a significant shareholder of Ternium Argentina in the last quarter of 2008 as a result of the nationalization of Argentina's private pension system, which caused assets under administration of Argentina's private pension funds-including significant interests in publicly traded companies, such as Ternium Argentina, held by such funds-to be transferred to ANSeS. In addition, Ternium holds a 51% ownership interest in Tenigal, and NSC holds the remaining 49%. Ternium also has a participation in the control group of Usiminas. For further information on the Usiminas investment, see Item 4. "Information on the Company—C. Organizational Structure—Other Investments—Usiminas". The existence of non-controlling interests in these companies could prevent Ternium from taking actions that, while beneficial to Ternium, might not be beneficial to each relevant subsidiary, considered separately. As a result, the Company could be delayed or prevented from completing the Company's strategy or fully maximizing Ternium's competitive strengths.

Risks Relating To The Countries In Which Ternium Operates

Negative economic, political, social and regulatory developments in certain markets where Ternium has a significant portion of its operations and assets could hurt Ternium's shipment volumes or prices, increase its costs or disrupt its manufacturing operations, thereby adversely affecting its results of operations and financial condition.

The results of Ternium's operations are subject to the risks of doing business in emerging markets, principally in Mexico, Brazil and Argentina and to a lesser extent in Colombia, and have been, and could in the future be, affected from time to time to varying degrees by economic, political, social, and regulatory developments, such as nationalization, expropriation or forced divestiture of assets; restrictions on production, domestic sales, imports and exports; travel or trade bans; interruptions in the supply of essential energy inputs; restrictions on the exchange or transfer of currency; inability or increasing difficulties to repatriate income or capital or to make contract payments; inflation; devaluation; or other events, including wars and other international conflicts, natural disasters and public health epidemics (such as COVID-19); civil unrest and local security concerns that threaten the safe operation of its facilities and operations; direct and indirect price controls; tax increases and changes (including retroactive) in the interpretation, application or enforcement of tax laws and other claims or challenges; cancellation of contract rights; and delays or denial of governmental approvals. Both the likelihood of such occurrences and their overall effect upon Ternium vary greatly from country to country and are not predictable. Realization of these risks could have an adverse impact on the results of operations and financial condition of Ternium's subsidiaries located in the affected country and, depending on their materiality, on the results of operations and financial condition of Ternium as a whole.

Mexico

Ternium has significant manufacturing operations and assets located in Mexico and a majority of its sales are made to customers in this country. The majority of Ternium's revenues from its Mexican operations, therefore, are related to market conditions in Mexico and to changes in its economic activity. Ternium's business could be materially and adversely affected by economic, political and regulatory developments in Mexico.

Political, economic and social conditions and government policies in Mexico could negatively impact Ternium's business and results of operations.

In the past, Mexico has experienced several periods of slow or negative economic growth, high inflation, high interest rates, currency devaluation and other economic problems. Furthermore, the Mexican national economy tends to reflect changes in the economic environment in the United States and could be affected by changes in the terms of trade. In addition, actions and policies that could be adopted by the Mexican federal government concerning the economy could have a significant impact on market conditions affecting Ternium's operations in Mexico. If problems such as

deterioration in Mexico's economic conditions re-emerge (for example, as a result of lower revenues due to a decline in the price of oil) or there is a future re-emergence of social instability, political unrest, reduction in government spending or other adverse social or political developments, foreign exchange and financial markets may exhibit continued volatility, which, depending on its severity and duration, could adversely affect the business, results of operations, financial condition or liquidity of Ternium. Moreover, adverse economic conditions in Mexico could result in, among other things, higher interest rates coupled with reduced opportunities for refunding or refinancing, reduced domestic consumption of Ternium's products, decreased operating results and delays in the completion of ongoing and future capital expenditures.

Regulatory changes in Mexico could adversely impact Ternium's results of operations and net results.

In the past, Mexico went through various economic and labor reforms. In December 2012, new labor regulations introduced a reassessment of the status of third-party workers, changes in rest periods, and an increase in the amounts of fines and penalties for violations of such regulations. In addition, in 2014 a comprehensive tax reform became effective in Mexico, which, among other things, maintained the corporate income tax at 30% (eliminating a scheduled reduction to 28%); introduced a 10% withholding tax on dividend distributions; and created a new royalty over mining activities, which in the case of Ternium's iron ore mining subsidiaries resulted in a 7.5% royalty on mining profits calculated on a special tax basis. These measures resulted in a deferred tax loss of \$22.3 million in Ternium's 2013 results. Any additional new changes to Mexican regulations could adversely impact Ternium's results of operations and net results.

Violence and crime in Mexico could negatively impact Ternium's business and operations.

In recent years, there have been high incidences of violence and crime related to drug trafficking in Mexico, including the Monterrey area in Nuevo León, where Ternium's main facilities are located, and Michoacán, where some of Ternium's mining facilities are placed. Although the Mexican government has implemented various security measures and has strengthened its military and police forces, drug-related crime continues to exist in Mexico. Security issues could affect Ternium's day-to-day operations and could also result in an economic slowdown, reducing domestic demand for its products and thereby having an adverse effect on Ternium's business. A deterioration of the security situation could result in significant obstacles or additional costs to the implementation of growth plans in Mexico, including delays in the completion of capital expenditures.

Unexpected changes in trade rules with the United States could adversely impact Ternium's results of operations and net results.

Mexico, the United States and Canada recently ratified the United States-Mexico-Canada Agreement, or USMCA, a new trade agreement that will become effective and replace the current NAFTA once uniformed regulations and local legislation is passed. In addition, during 2019 Mexico and the United States agreed to waive a 25% tariff on steel products exported to the United States, which had been imposed during 2018, subject to an agreed premise of continuous monitoring for surges in steel imports and transshipment of non-NAFTA material into the United States. Furthermore, in 2019 the United States, Mexico and Canada agreed to modify the definition of "North American steel" (with such amendment becoming effective after the seventh anniversary of USMCA) for purposes of vehicles being awarded preferential treatment under USMCA restricting the defined term to steel melted and poured within the three countries. Uncertainties about the possibility of new trade conflicts in the future have adversely affected the investment climate and economic activity in Mexico and may continue to worsen in the future. Moreover, amendments to, or the termination of current terms of trade could adversely and materially affect Ternium's shipments, results of operations and net worth.

Brazil

Ternium has significant manufacturing operations and assets located in Rio de Janeiro, Brazil, and some of its sales are made in Brazil. Ternium Brasil's profitability could be materially and adversely affected by economic, political, social, fiscal and regulatory developments in Brazil.

Changing economic policies and political conditions in Brazil, which on several occasions in the past resulted in economic uncertainties and recession, may occur in the future, thereby adversely affecting Ternium's business, financial condition and results.

The Brazilian economy has been characterized by frequent and occasionally extensive intervention by the Brazilian government. The Brazilian government has often changed monetary, taxation, credit, tariff and other policies to influence the course of the country's economy. The Brazilian government's actions to control inflation and implement

other policies have involved hikes in interest rates, wage and price controls, foreign exchange controls and devaluation, freezing of bank accounts, capital controls and restrictions on imports. If repeated in the future, such governmental policies may adversely affect Ternium's results of operations. The Brazilian government's policies may also result in increases in tax payments or tariffs, which could adversely affect industry profitability. For example, the Brazilian congress is currently discussing major changes to the Brazilian tax regime, which, among other things, would replace current federal, state and municipal taxes levied on the trade of goods and services with a single national value added tax. Ternium cannot predict whether, if approved, the new tax regime would result in a net tax burden increase for its operations. Any increase in the applicable tax burden or tariffs may make it more difficult for Ternium to maintain its projected cash flow and profitability. The Brazilian economy has been affected by inflation, energy shortages, illiquid lending markets and other political, diplomatic, social and economic developments. Uncertainty over whether the Brazilian government will change policies or regulations affecting these or other factors may contribute to economic instability in Brazil. Ternium's business and results of operations in Brazil could be adversely affected by rapidly changing economic conditions in Brazil or by the Brazilian government's policy response to such conditions.

Political instability could adversely affect Ternium's business, financial condition and results.

Brazil's political environment has historically influenced, and continues to influence, the performance of the country's economy. Political crises have affected and continue to affect public and investor confidence, which resulted in economic deceleration. Brazil has experienced heightened economic and political instability derived from various investigations into allegations of money laundering and corruption being conducted by the Office of the Brazilian Federal Prosecutor, including the Lava Jato investigation, which has had a negative impact on the Brazilian economy and political environment and contributed to a decline in market confidence in Brazil. Ternium cannot predict whether new allegations against government officials or businessmen will arise in the future leading to further political and economic instability. In addition, it cannot predict the outcome of such investigations nor their effect on the Brazilian economy and, consequently, on the results of operations and financial conditions of Ternium's businesses in Brazil.

Inflation may undermine economic growth in Brazil and impact Ternium's costs, thereby adversely affecting its results of operations and financial position.

High levels of inflation have in the past undermined the Brazilian economy and the government's ability to stimulate economic growth. Although consumer price inflation in Brazil has been under control in recent years, if inflation were to increase again in the future, Ternium's results of operations and financial position could be negatively impacted, as BRL-denominated costs (mainly labor-related costs) at Ternium Brasil increase, thereby affecting Ternium's cost-competitiveness. Inflationary pressures may also lead to the imposition of additional government policies to combat inflation and hinder access to Brazilian capital markets, which could adversely affect Ternium's business and ability to finance operations and capital expenditures, making it impossible to estimate with reasonable certainty future results of operations of Ternium Brasil.

Argentina

A significant portion of Ternium's sales are made in Argentina through its subsidiary, Ternium Argentina. Most of Ternium Argentina's sales revenue is affected by market conditions in Argentina and changes in Argentina's gross domestic product, or GDP, and per capita disposable income. Accordingly, Ternium Argentina's business could be materially and adversely affected by economic, political, social, fiscal and regulatory developments in Argentina. For more information on Ternium's sales in Argentina, see Item 4. "Information on the Company—B. Business Overview—Sales—Southern Region."

Economic and political instability in Argentina, which on several occasions resulted in economic uncertainties and recession, may adversely affect Ternium's business, financial condition and results.

Ternium's business and results of operations in Argentina depend on macroeconomic conditions, among other factors. Steel shipments to the Argentine domestic market were severely affected in different opportunities over the last decade. This happened with the 2008-2009 downturn in the global economy, in 2016 when the country faced a significant rebalancing of the economy's relative prices, and in 2018-2019 as the economy was affected by a severe downturn resulting from financial market volatility, high interest rates and heightened political uncertainty during the presidential election process.

Over the past years, the Argentine economy has been affected and capital investment has declined significantly due to, among other factors, political, economic and financial uncertainties as well as government intervention in, or

limitations to, the conduct of business in the private sector and other government measures affecting investor confidence.

The Argentine economy is currently facing significant challenges, including high and unpredictable inflation rates and declining capital investment. Inflation and declining capital investment may continue to affect growth and, accordingly, cause demand for the Company's local subsidiary's products in the domestic market to remain at low levels or continue to drop.

In addition, Argentina is currently undergoing a sovereign debt restructuring process with the International Monetary Fund, or IMF, and private bondholders whose outcome is uncertain. Moreover, Argentine credit rating has been downgraded to near-default by Fitch Ratings and S&P Global Ratings in late December 2019. Debt holders may elect not to participate in Argentina's restructuring efforts and sue Argentina for payment upon default. In the past, litigation over defaulted sovereign debt has taken a long time to settle and has adversely affected the country's (as well as local corporations, such as Ternium Argentina) ability to attract capital and access the international capital markets. Failure to achieve a successful debt restructuring could further adversely affect the country's economy.

Ternium's business and results of operations in Argentina could be adversely affected by rapidly changing economic conditions in Argentina or by the Argentine government's policy response to such conditions.

Inflation may undermine economic growth in Argentina and impact Ternium's costs, thereby adversely affecting its results of operations and financial position.

In the past, inflation has undermined the Argentine economy and the government's ability to stimulate economic growth. Consumer price inflation in Argentina, as reported by INDEC, the Argentine statistics and census bureau, reached 53.8% in 2019, 47.6% in 2018 and 24.8% in 2017. Sustained high inflation in Argentina negatively impacts Ternium's results of operations and financial position, as ARS-denominated costs (mainly labor-related costs) at Ternium Argentina increase, thereby affecting cost-competitiveness and margins. A high inflation economy could undermine Argentina's foreign competitiveness in international markets and negatively affect economic activity and employment levels. Argentine inflation rate volatility makes it impossible to estimate with reasonable certainty the extent to which activity levels and results of operations of Ternium Argentina could be affected in the future.

The Argentine government has increased taxes on Argentine companies and could further increase the fiscal burden in the future, which could adversely affect Ternium's results of operations, net results and financial condition.

Between 1992 and 2017, Argentine companies were not allowed to make inflation adjustments on the value of fixed assets and inventories for tax purposes. Since 2018 the application of an inflation adjustment on the value of inventories is permitted as long as the consumer inflation rate surpasses certain threshold (15% for the year 2020). As a result of the significant devaluation of the Argentine peso against the U.S. dollar and high inflation rates over the last decade, the real value that Ternium Argentina was permitted to deduct as depreciation for investments in plant, property and equipment and as cost of sales, has materially decreased, thus creating artificial gains for tax purposes which resulted in effective tax rates that are higher than statutory tax rates. In addition, provincial taxes on Ternium Argentina's sales have increased over the last years. During September 2018, the Argentine government suspended tax rebates and imposed a new general tax on exports of goods. Although the current tax rate is 5%, the relevant export tax may not exceed, in the case of Ternium Argentina, ARS3 (approximately \$0.05) per each U.S. dollar worth of exports. In 2017, Congress passed a new tax law that gradually decreased the tax burden on Argentine corporations over a five-year period. However, such law was suspended at the end of 2019, and as a result the personal asset tax payable by shareholders of domestic companies for the year 2019 was increased from 0.25% to 0.50%. If the tax burden on Ternium Argentina's operations or its shareholders is increased again in the future, Ternium's results of operations, net results and financial condition could be adversely affected.

Argentine exchange controls could prevent Ternium from paying dividends or other amounts from cash generated by Ternium Argentina's operations.

In the past, the Argentine authorities took several measures to reduce volatility in the ARS/\$ exchange rate, and implemented formal and informal restrictions on capital inflows into Argentina and capital outflows from Argentina. Certain foreign exchange restrictions that had been lifted in 2016 were reinstated during the fourth quarter of 2019. The Argentine government tightened controls on the flows of capital by requiring Argentine companies to repatriate export proceeds from sale of goods and services, limiting the purchase of foreign currency for saving purposes, and restricting or conditioning the ability of Argentine companies to transfer funds outside of Argentina (including for the purchase of goods or services, payment of principal and interest on foreign debt, and payment of dividends or

royalties). In addition, a 30% rate tax was imposed on purchases of foreign currency. As a result, Ternium Argentina is currently required to repatriate to Argentina all export proceeds (including U.S. dollars received through advance payment and pre-financing facilities) and convert such proceeds into Argentine pesos at the applicable exchange rate as of the repatriation date. With limited exceptions, prior approval from the Argentine central bank is required to purchase foreign currency to pay dividends to foreign shareholders and to make other payments to affiliates or third parties abroad. There can be no assurance that the Argentine central bank or other Argentine authority will not tighten exchange controls or impose new currency restrictions in the future. The existing controls and restrictions, and any others that may be imposed in the future, could expose Ternium to losses resulting from fluctuations in the exchange rate, affect Ternium's ability to finance its investments and operations in Argentina and impair Ternium Argentina's ability to make payments to foreign creditors, pay dividends abroad, or fund investments or other activities offshore. For additional information on Argentina's current exchange controls and restrictions, see Item 10. "Additional Information—D. Exchange Controls."

Restrictions on the import of key steelmaking inputs for Ternium Argentina's operations could adversely affect its production and revenues and negatively impact Ternium's results of operations.

Some of Ternium Argentina's key steelmaking inputs, including iron ore and metallurgical coal, are imported into Argentina. In the past, government administrations implemented significant import restrictions; for instance, all payments on imports of goods and services were required to be approved by the Argentine federal tax authority and other authorities, such as the Secretary of Commerce. Although most restrictions were lifted some years ago, such import restrictions, if reinstated, could delay imports and adversely affect Ternium's business, operations and growth projects in Argentina. In addition, they could affect Ternium Argentina's exports from Argentina, considering that foreign countries could adopt and implement counter-trade measures.

Restrictions on supply or an increase in the cost of energy to Ternium Argentina's operations could curtail its production and negatively impact Ternium's results of operations.

In the past, Argentina has suffered from an insufficient level of investment in natural gas and electricity supply and transport capacity, coupled with a substantial increase in demand for natural gas and electricity. This, in turn, resulted in shortages of natural gas and electricity to residential users and, in particular, to industrial users, including Ternium Argentina, during periods of high demand. Ternium Argentina's operations experienced constraints in their natural gas supply requirements and interruptions in their electricity supply at peak hours on many occasions. If demand for natural gas and electricity increases and a matching increase in natural gas and electricity supply and transport capacity fails to materialize on a timely basis, Ternium Argentina's local production (or that of its main customers and suppliers) could be curtailed, and Ternium Argentina's sales and revenues could decline. In addition, the government's subsidies for natural gas and electricity have been gradually reduced and could be reduced further in the future. This could result in an increase in Ternium Argentina's energy costs, which may adversely affect Ternium Argentina's results of operations. For further information, see "—Risks Relating to the Steel Industry—Price fluctuations or shortages in the supply of raw materials, energy and other inputs could adversely affect Ternium's profitability" above.

Certain Regulatory Risks And Litigation Risks

International trade actions or regulations and trade-related legal proceedings could adversely affect Ternium's sales, revenues and overall business.

International trade-related administrative proceedings, legal actions and restrictions pose a constant risk for Ternium's international operations and sales throughout the world. Ternium purchases steel products, including significant quantities of steel slabs, from diverse local and foreign suppliers for its operations in Mexico, Colombia and Argentina. The Mexican, Argentine or Colombian governments may impose or increase duties on steel products imports. Trade liberalization, mainly through free trade agreements, can reduce certain input costs and increase access to many foreign markets. However, greater trade liberalization in Ternium's domestic markets increases competition in such markets. In recent years, as a consequence of a global downturn and an economic slowdown in China, the number of antidumping, countervailing, safeguard measures and other actions limiting trade has increased substantially. Accordingly, producers that are restricted from certain markets need to find alternative markets for their products. As a result, Ternium's domestic market share could be eroded by foreign imports, and increased exports to foreign markets where import barriers have been reduced may not completely offset domestic market share losses resulting from increased foreign competition.

Countries may impose restrictive import duties and other restrictions on imports under various national trade laws. The timing and nature of the imposition of trade-related restrictions potentially affecting Ternium's exports are unpredictable. Trade restrictions on Ternium's exports could adversely affect Ternium's ability to sell products abroad

and, as a result, Ternium's profit margins, financial condition and overall business could suffer. One significant source of trade restrictions results from the imposition of "antidumping" and "countervailing" duties, as well as "safeguard measures". These duties can severely limit or altogether prevent exports to relevant markets. In several of Ternium's export destinations, such as the United States or Europe, safeguard duties and other protective measures have been imposed against a large number of steel imports. For example, during 2018, the United States imposed a 25% tariff on steel imports under Section 232 of the Trade Expansion Act of 1962. Although Australia was excluded from such Section 232 tariffs; Argentina, Brazil and South Korea were also excluded subject to quota system agreements covering steel imports from those countries and Canada and Mexico were exempted in 2019 subject to an agreed premise of continuous monitoring for surges in steel imports and transshipment of non-NAFTA material into the United States. Furthermore, in 2019 the United States, Mexico and Canada agreed to modify the definition of "North American steel" (with such amendment becoming effective after the seventh anniversary of USMCA), for purposes of vehicles being awarded preferential treatment under USMCA, restricting the defined term to steel melted and poured within the three countries. For further information, see Item 4. "Information on the Company-B. Business Overview-Regulations-Trade Regulations".

In addition, certain domestic producers have filed antidumping and/or countervailing duty actions against particular steel imports. Some of these actions have led or may lead to restrictions on Ternium's sales of certain types of steel products to certain steel markets. Antidumping and/or countervailing duty actions and other government actions are largely unpredictable and additional duties or restrictions could be imposed in the future, limiting Ternium's sales to and potential growth in those markets.

The cost of complying with environmental regulations and potential environmental and product liabilities may increase Ternium's operating costs and negatively impact Ternium's business, financial condition, results of operations and prospects.

Ternium's steelmaking and mining activities are subject to a wide range of local, provincial and national laws, regulations, permit requirements and decrees relating to the protection of human health and the environment, including laws and regulations relating to hazardous materials and radioactive materials and environmental protection governing air emissions, water discharges and waste management due to the risks inherent in the industries in which Ternium operates. Laws and regulations protecting the environment have become increasingly complex and more stringent in recent years, leading to higher costs of compliance.

Furthermore, environmental laws and regulations may, in some cases, impose strict liability for damages to natural resources or threats to public health and safety without regard to negligence or fault. Some environmental laws provide for joint and several strict liability for remediation of spills and releases of hazardous substances. Such laws and regulations may expose Ternium to liability for the conduct of, or conditions caused by, third parties or for actions that complied with applicable laws at the time they were performed.

Based on the Paris Agreement on climate change and the commitments adopted by signatories to the Agreement, future national legislation and regulations on greenhouse gas emissions, including carbon taxes and border adjustments, could become applicable to the steel industry and therefore to Ternium's operations. The ultimate impact of complying with environmental laws and regulations is not always clearly known or determinable as some of these laws have not yet been regulated or are under review. The expenditures required to comply with these laws and regulations, including site or other remediation costs, or costs incurred from potential environmental liabilities, could have a material adverse effect on Ternium's financial condition and profitability.

While Ternium incurs and will continue to incur expenditures to comply with applicable laws and regulations, there always remains a risk that environmental incidents or accidents may occur that may negatively affect Ternium's reputation or operations. Some of the activities for which Ternium supplies products, such as production of food cans, construction and the automotive industry, are subject to inherent risks that could result in death, personal injury, property damage or environmental pollution, and result in product liability risks that could extend to liability for damages caused by such products. Furthermore, Ternium's products are also sold to, and used in, certain safety-critical appliances. Actual or claimed defects in Ternium's products may give rise to claims for losses suffered by customers and expose Ternium to claims for damages. Liability insurance may not be adequate or available to protect Ternium in the event of a claim, coverage may be limited, canceled or otherwise terminated, or the coverage amount may be lower than the related impact on enterprise value after a loss.

Risks Relating To the Company's ADSs

The market price for the Company's ADSs could be highly volatile.

Volatility in the price of the Company's ADSs may be caused by factors within or outside of the Company's control and may be unrelated or disproportionate to the Company's operating results. In particular, announcements of potentially adverse developments, such as proposed regulatory changes, new government investigations or the commencement or threat of litigation against Ternium, as well as announcements of transactions, investments, or changes in strategies or business plans of Ternium or its competitors, could adversely affect the trading price of the Company's ADSs, regardless of the likely outcome of those developments. Broad market and industry factors could adversely affect the market price of the Company's ADSs, regardless of their actual effect in operating performance. As an example of this volatility, from a high closing price of \$32.24 on January 15, 2014, the price of the Company's ADSs fell to a low closing price of \$10.56 on January 15, 2016. In the 2016-2017 period, the price of the Company's ADSs recovered and reached a high closing price of \$42.19 on April 26, 2018, but then fell to a low closing price of \$16.24 on August 26, 2019. Although the market price of the Company's ADSs recovered some ground until January 2020, the coronavirus outbreak has sent stock market prices sharply down, including the Company's ADSs. The trading price of the Company's ADSs could also suffer as a result of developments in emerging markets. Although the Company is organized as a Luxembourg corporation, almost all of its assets and operations are located in Latin America. Financial and securities markets for companies with a substantial portion of their assets and operations in Latin America are, to varying degrees, influenced by political, economic and market conditions in emerging market countries. Although market conditions are different in each country, investor reaction to developments in one country can have significant effects on the securities of issuers with assets or operations in other emerging markets, including Mexico, Brazil, Argentina and Colombia. See "Risks Relating to the Countries in Which Ternium Operates."

Holders of shares or ADSs may not have access to as much information about the Company as they would in the case of a domestic issuer.

There may be less publicly available information about the Company than is regularly published by or about domestic issuers. Also, corporate and securities regulations governing Luxembourg companies may not be as extensive as those in effect in other jurisdictions, and U.S. securities regulations applicable to foreign private issuers, such as the Company, differ in certain respects from those applicable to U.S. domestic issuers. Furthermore, IFRS, the accounting standards in accordance with which the Company prepares its consolidated financial statements, differ in certain material aspects from the accounting standards used in the United States.

Holders of ADSs may not be able to exercise, or may encounter difficulties in the exercise of, certain rights afforded to shareholders.

Certain shareholders' rights under Luxembourg law, including the right to participate and vote at general meetings of shareholders, to include items on the agenda for the general meetings of shareholders, to receive dividends and distributions, to bring actions, to examine books and records and to exercise appraisal rights may not be available to holders of ADSs, or may be subject to restrictions and special procedures for their exercise, as holders of ADSs only have those rights that are expressly granted to them in the deposit agreement. The Bank of New York Mellon, or BNY Mellon, as depositary under the ADS deposit agreement, through its custodian agent, is the registered shareholder of the deposited shares underlying the ADSs and therefore only the Depositary can exercise the shareholders' rights in connection with the deposited shares. For example, if the Company makes a distribution in the form of securities, the depositary is allowed, at its discretion, to sell the right to acquire those securities on your behalf and to instead distribute the net proceeds to you. Also, under certain circumstances, such as the Company's failure to provide the Depositary with voting materials on a timely basis, you may not be able to vote by giving instructions to the Depositary. If the depositary does not receive voting instructions from the holder of ADSs or the instructions are not in proper form, then the depositary shall deem such holder of ADSs to have instructed the depositary to vote the underlying shares represented by ADSs in favour of any proposals or recommendations of the Company (including any recommendation by the Company to vote such underlying shares on any given issue in accordance with the majority shareholder vote on that issue) for which purposes the depositary shall issue a proxy to a person appointed by the Company to vote such underlying shares represented by ADSs in favor of any proposals or recommendations of the Company. Under the ADS deposit agreement, no instruction shall be deemed given and no proxy shall be given with respect to any matter as to which the Company informs the depositary that (x) it does not wish such proxy given, (y) substantial opposition exists, or (z) the matter materially and adversely affects the rights of the holders of ADSs.

Holders of the Company's shares and ADSs in the United States may not be able to exercise preemptive rights in certain cases.

Pursuant to the Luxembourg Company Law, existing shareholders of the Company are generally entitled to preferential subscription rights (preemptive rights) in the event of capital increases and issues of shares against cash contributions. Under the Company's articles of association, the board of directors has been authorized to waive, limit

or suppress such preemptive subscription rights. Although the validity period of such authorization will expire on June 5, 2020, the board of directors is expected to convene an extraordinary meeting of shareholders to be held on that date, which will consider the renewal of such authorization for an additional five-year period. Notwithstanding the waiver of any preemptive subscription rights, for as long as the shares of the Company are listed on a regulated market, any issuance of shares for cash within the limits of the authorized share capital shall be subject to the pre-emptive subscription rights of existing shareholders, except (i) any issuance of shares for, within, in conjunction with or related to, an initial public offering of the shares of the Company on one or more regulated markets (in one or more instances); (ii) any issuance of shares against a contribution other than in cash; (iii) any issuance of shares upon conversion of convertible bonds or other instruments convertible into shares of the Company; provided, however, that the preemptive subscription rights of the then-existing shareholders shall apply in connection with any issuance of convertible bonds or other instruments convertible into shares of the Company for cash; and (iv) any issuance of shares (including by way of free shares or at discount), up to an amount of 1.5% of the issued share capital of the Company, to directors, officers, agents, employees of the Company, its direct or indirect subsidiaries or its affiliates or the Beneficiaries, including without limitation, the direct issuance of shares or upon the exercise of options, rights convertible into shares or similar instruments convertible or exchangeable into shares, issued for the purpose of compensation or incentive of the Beneficiaries or in relation thereto (which the board of directors shall be authorized to issue upon such terms and conditions as it deems fit). For further details, see Item 10. “Additional Information—B. Memorandum and Articles of Association”.

Holders of ADSs in the United States may, in any event, not be able to exercise any preemptive rights, if granted, for shares underlying their ADSs unless additional shares and ADSs are registered under the U.S. Securities Act of 1933, as amended, or the Securities Act, with respect to those rights or an exemption from registration requirements of the Securities Act is available. The Company intends to evaluate, at the time of any rights offering, the costs and potential liabilities associated with the exercise by holders of shares and ADSs of the preemptive rights for shares, and any other factors it considers appropriate at the time, and then to make a decision as to whether to register additional shares. The Company may decide not to register any additional shares, requiring a sale by the Depositary of the holders’ rights and a distribution of the proceeds thereof. Should the Depositary not be permitted or otherwise be unable to sell preemptive rights, the rights may be allowed to lapse with no consideration to be received by the holders of the ADSs.

It may be difficult to obtain or enforce judgments against the Company outside Luxembourg.

The Company is a public limited liability company (société anonyme) organized under the laws of Luxembourg, and most of its assets are located in other jurisdictions. Furthermore, most of the Company’s directors and officers named in this annual report reside in different jurisdictions. As a result, investors may not be able to effect service of process upon the Company or its directors or officers. Investors may also not be able to enforce against the Company or its directors or officers in the investors’ domestic courts, judgments predicated upon the civil liability provisions of the domestic laws of the investors’ home countries. Likewise, it may be difficult for investors not domiciled in Luxembourg to bring an original action in a Luxembourg court predicated upon the civil liability provisions of other securities laws, including U.S. federal securities laws, against the Company, its directors or its officers. There is also uncertainty with regard to the enforceability of original actions of civil liabilities predicated upon the civil liability provisions of securities laws, including U.S. federal securities laws, outside the jurisdiction where such judgments have been rendered; and enforceability will be subject to compliance with procedural requirements under applicable local law, including the condition that the judgment does not violate the public policy of the applicable jurisdiction.

Item 4. Information on the Company

Overview

Ternium is Latin America’s leading flat steel producer with an annual crude steel production capacity of 12.4 million tons. We operate in Mexico, Brazil, Argentina, Colombia, the southern United States and Central America, through regional manufacturing facilities, service centers and distribution networks. In addition, Ternium participates in the control group of Usiminas, a leading steel company in the Brazilian market. Our customers range from small businesses to large global companies in the automotive, home appliances, heat, ventilation and air conditioning ("HVAC"), construction, capital goods, container, food and energy industries across the Americas. Ternium supplies a broad range of high value-added steel products and has advanced customer integration systems that enable us to differentiate ourselves from our competitors through the offering of sophisticated products and services.

Our industrial system has varied production technologies that provide a diversified cost structure, based on different types of raw material and energy sources, and a flexible production configuration. The industrial system includes proprietary iron ore

mines, steelmaking facilities, finishing facilities, service centers and a broad distribution network to offer slabs, hot-rolled products, cold-rolled products, galvanized and electro-galvanized sheets, pre-painted sheets, tinplate, welded pipes, bars and wire rods as well as slit and cut-to-length products. Its innovative culture, industrial expertise and long-term view enable Ternium to continuously achieve new breakthroughs in industrial excellence, competitiveness and customer service.

We believe that Ternium is the leading supplier of flat steel products in Mexico and Argentina, has a significant position as supplier of steel products in Colombia and in various other countries in Latin America, and is a competitive player in the international steel market for steel products. Through its network of commercial offices in several countries in Latin America, the United States and Spain, Ternium maintains an international presence that allows it to reach customers outside its local markets, achieves improved effectiveness in the supply of its products and in the procurement of semi-finished steel, and maintains a fluent commercial relationship with its customers by providing continuous services and assistance.

In 2019, 54% of Ternium's net sales of steel products were made to Mexico, 17% to the Southern Region (which includes Argentina, Bolivia, Chile, Paraguay and Uruguay), and 29% to other markets including major shipment destinations such as Brazil, the United States, Colombia and Central America (referred to in this document as "Other Markets"). In 2019, Ternium's net sales were \$10.2 billion, operating income was \$864.6 million, and net income attributable to owners of the parent was \$564.3 million.

A. History and Development of the Company

The Company

Our legal and commercial name is Ternium S.A. The Company was organized as a public limited liability company (*société anonyme*) under the laws of the Grand-Duchy of Luxembourg on December 22, 2003. Our Luxembourg office is located at 26 Boulevard Royal – 4th floor, L-2449 Luxembourg, telephone number +352 2668 3152. Our agent for U.S. federal securities law purposes is Ternium U.S.A. Incorporated, located at 2200 West Loop South, Suite 945, Houston, TX 77027, United States.

Ternium

Ternium's origins began in September 1961 with the founding of Propulsora Siderúrgica ("Propulsora"), by San Faustin's predecessor in Argentina. Propulsora began its operations as a producer of cold-rolled coils in December 1969 and in the early 1990s began to evolve through a series of strategic investments aimed at transforming Propulsora into an integrated steel producer. In 1993, Propulsora merged with Aceros Paraná S.A. (a company formed by the Argentine government in connection with the privatization of Sociedad Mixta Siderúrgica Argentina ("Somisa"), at that time the main integrated producer of flat steel in Argentina) and three other affiliated steel industry companies. After the merger, Propulsora changed its name to Siderar, and later to Ternium Argentina. San Faustin held a controlling interest in Siderar, with the remainder being held mainly by Usiminas, certain former employees of Somisa, and public investors.

In December 1997, a consortium formed by San Faustin, Ternium Argentina, Usiminas, Hylsamex, and Siderurgica Venezolana S.A. ("Sivensa"), won the bid in the privatization of a controlling interest in Sidor C.A. ("Sidor"), the largest steel company in Venezuela.

As part of a multiple-step corporate reorganization in 2005, San Faustin reorganized its investments in steel manufacturing, processing and distribution businesses by contributing to the Company San Faustin's controlling interests in Ternium Argentina and other subsidiaries, in exchange for shares of the Company. In addition, Usiminas and Sivensa exchanged their interests in Ternium Argentina, Sidor and other subsidiaries for shares of the Company. In 2005, we acquired, together with Ternium Argentina, an indirect 99.3% interest in the Mexican company Hylsamex and its subsidiaries.

On January 11, 2006, the Company launched an initial public offering of 24,844,720 ADSs, each representing 10 shares of the Company, in the United States, and subsequently granted the underwriters of the Company's initial public offering an option to purchase up to 3,726,708 additional ADSs to cover over-allotments in the sale of the ADSs.

On December 28, 2006, we acquired an additional 4.85% interest in Ternium Argentina from CVRD Internacional S.A, thereby increasing our ownership interest in Ternium Argentina to 60.93%.

On April 29, 2007, the Company entered into an agreement with Grupo Imsa and Grupo Imsa's controlling shareholders regarding Ternium's control of Grupo Imsa. Under the agreement, the Company, through a wholly-owned subsidiary, made a cash tender offer under applicable Mexican law for all of the issued and outstanding share capital

of Grupo Imsa, which resulted in the acquisition of 25,133,856 shares, representing 9.3% of the issued and outstanding share capital of Grupo Imsa. Concurrently with the consummation of the tender offer, on July 26, 2007, all the shares of Grupo Imsa that were not tendered into the tender offer (including the shares owned by Grupo Imsa's majority shareholders), representing 90.7% of Grupo Imsa's issued and outstanding share capital, were redeemed for cash pursuant to a capital reduction effected at the same price per share. Following this capital reduction, we became the sole shareholder of Grupo Imsa.

In 2007, Grupo Imsa was renamed Ternium Mexico and, effective March 31, 2008, Hylsamex merged with and into Ternium Mexico. In connection with this merger, Ternium Argentina acquired, and currently holds, a 28.7% participation in Ternium Mexico.

On April 29, 2008, the National Assembly of Venezuela passed a resolution declaring that the shares of Sidor, together with all of its assets, were of public and social interest, and authorizing the Venezuelan government to take any action it deemed appropriate in connection with any such assets, including expropriation. On May 11, 2008, the President of Venezuela issued Decree Law 6058 ordering that Sidor and its subsidiaries and associated companies were transformed into state-owned enterprises ("*empresas del Estado*"), with Venezuela owning not less than 60% of their share capital. On May 7, 2009, Ternium completed the transfer of its entire 59.7% interest in Sidor to Corporación Venezolana de Guayana, a Venezuelan state-owned entity.

On August 25, 2010, Ternium completed the acquisition of a 54% ownership interest in Ferrasa and, indirectly, in its wholly-owned Colombian subsidiaries, Siderúrgica de Caldas S.A.S. and Perfilamos del Cauca S.A.S. On April 7, 2015, Ternium acquired the remaining 46% minority interest in Ferrasa. Through this investment, Ternium expanded its business and commercial presence in Colombia. In 2017, Ferrasa was renamed Ternium Colombia.

In November 2010, Ternium and NSC established Tenigal, with each company holding 51% and 49% participations, respectively. Tenigal completed the construction of a hot dip galvanizing plant in the vicinity of Monterrey City, Mexico, which commenced production in the third quarter of 2013. Tenigal was designed to produce high grade and high quality galvanized and galvanized automotive steel sheets, including outer panel and high strength qualities.

On January 16, 2012, the Company's subsidiaries Ternium Investments and Ternium Argentina (together with its wholly-owned subsidiary Prosid Investments S.A., or "Prosid", and the Company's affiliate, Confab Industrial S.A., a subsidiary of Tenaris, or TenarisConfab, joined the existing control group of Usiminas, a leading steel company in the Brazilian flat steel market, through the acquisition of 84.7, 30.0, and 25.0 million ordinary shares, respectively, and formed the so-called Ternium/Tenaris (T/T) Group.

On October 30, 2014, Ternium Investments acquired 51.4 million additional ordinary shares of Usiminas. On April 20, 2016, Ternium Investments subscribed to 7.0 million preferred shares of Usiminas and Ternium Argentina, together with Prosid, subscribed to an aggregate 1.5 million preferred shares of Usiminas. On July 19, 2016, Usiminas' extraordinary general shareholders' meeting homologated a capital increase, and Ternium Investments issued 62.6 million additional ordinary shares, and Ternium Argentina and Prosid issued an aggregate 13.8 million additional ordinary shares. As a result of these transactions, Ternium, through its subsidiaries Ternium Investments, Ternium Argentina and Prosid, currently owns 242.6 million ordinary shares of Usiminas (representing 34.4% of Usiminas' ordinary shares) and 8.5 million of Usiminas' preferred shares (representing 1.6% of Usiminas' preferred shares), representing, in the aggregate, 20.5% of Usiminas' share capital. Ternium Investments, Ternium Argentina, Prosid and TenarisConfab are parties to an Usiminas shareholders' agreement, effective as of April 10, 2018, with NSC, Mitsubishi Corporation do Brasil S.A. and Metal One Corporation (comprising the so-called "NSC Group") and Previdência Usiminas, governing their rights and obligations as shareholders of Usiminas. For further information on our investment in Usiminas, see "*C. Organizational Structure—Other Investments—Usiminas.*"

On September 7, 2017, the Company acquired a 100% ownership interest in thyssenkrupp Slab International B.V or tkSI, and its wholly-owned subsidiary CSA from thyssenkrupp AG, or tkAG. Through this investment, Ternium significantly expanded its steel slabs production capacity. As part of this process tkSI was renamed Ternium Staal B.V. and CSA was renamed Ternium Brasil Ltda.

For information on Ternium's capital expenditures, see "*B. Business Overview—Capital Expenditure Program.*"

B. Business Overview

Our Business Strategy

Our main strategic objective is to enhance shareholder value by strengthening Ternium's position as a competitive producer of steel products, in a manner consistent with minority shareholders' rights, while further consolidating Ternium's position as a leading steel producer in Latin America and a strong competitor in the Americas. The main elements of this strategy are:

- **Focus on higher margin value-added products.** We intend to continue to shift Ternium's sales mix toward higher margin value-added products, such as cold-rolled sheets and coated and tailor-made products, and services, such as just-in-time delivery and inventory management. For example, during 2019 Ternium inaugurated a new hot-dip galvanizing line and a new painting line, and made progress on the construction of a new hot rolling mill at its facility in Pesquería, Mexico. For further information on Ternium's capital expenditures, see "—Capital Expenditure Program."
- **Pursue strategic growth opportunities.** We have a history of strategically growing our businesses through acquisitions and joint ventures. In addition to pursuing organic growth, we intend to continue to identify and actively pursue growth-enhancing strategic opportunities to consolidate Ternium's presence in its main markets and expand it to the rest of the Americas, increase its upstream integration, expand its offerings of value-added products, increase its steel production, and increase its distribution capabilities. For example, on September 7, 2017, Ternium acquired a 100% ownership interest in tkSI and its wholly-owned subsidiary CSA from tkAG. CSA (currently Ternium Brasil) is a steel slab producer with a steelmaking facility located in the state of Rio de Janeiro, Brazil, and has an annual production capacity of 5 million tons of high-end steel slabs, a deep-water harbor and a 490 MW combined cycle power plant. The above-mentioned investment in a new state-of-the-art hot rolling mill in Pesquería, Mexico, which was announced after the addition of the Rio de Janeiro facility to Ternium's industrial system, constitutes a logical next step: the Rio de Janeiro facility together with the new hot-rolling mill in Pesquería would enable Ternium to expand its product range in Mexico with a broader dimensional offering and the most advanced steel grades, and reduce lead times in the value chain targeting the demanding and innovative automotive industry, as well as the home appliance, HVAC, machinery, energy and construction sectors. For further information on the acquisition of CSA, see note 3 to the consolidated financial statements included in this annual report. For further information on Ternium's capital expenditures, see "—Capital Expenditure Program." For a description of some of the risks associated with Ternium's growth strategy, see Item 3. "Key Information—D. Risk Factors—Risks Relating to Ternium's Business—Future acquisitions or other significant investments could have an adverse impact on Ternium's operations or profits, and Ternium may not realize the benefits it expects from these business decisions."
- **Implement Ternium's best practices.** We believe that the implementation of Ternium's managerial, commercial and production best practices in acquired and new facilities and businesses should generate benefits and savings.
- **Maximize the benefits arising from Ternium's broad distribution network.** We intend to maximize the benefits arising from Ternium's broad network of distribution, sales and marketing services to reach customers in major steel markets with a comprehensive range of value-added products and services and to continue to expand its customer base and improve its product mix.
- **Enhance Ternium's position as a competitive steel producer.** We are focused on improving utilization levels of our plants, increasing efficiency and further reducing production costs from levels that we already consider to be among the most competitive in the steel industry through, among other measures, capital investments and further integration of our facilities. In addition, we aim at obtaining better purchase conditions and prices by combining the demand of products and services by both Ternium and Tenaris. We pursue this goal through Exiros, a purchase and sale agency which we own 50% / 50% with Tenaris. Exiros has offices in various countries and is in charge of the procurement of a majority of our purchases of raw materials and other products or services. For further information, see Item 7. "Major Shareholders and Related Party Transactions—B. Related Party Transactions—Purchase Agency Services and Sales of Materials".

Our Products

The Ternium companies produce mainly finished and semi-finished steel products and iron ore, which are sold either directly to steel manufacturers and steel processors or to end-users after different value-adding processes. We also produce electricity and sell unused balances to the Mexican and Brazilian electric grids.

In the steel segment, steel products include slabs, billets and round bars (steel in its basic, semi-finished state), hot-rolled coils and sheets, bars and stirrups, wire rods, cold-rolled coils and sheets, tin plate, hot dipped galvanized and electrogalvanized sheets and pre-painted sheets, steel pipes and tubular products, beams and roll formed products. Galvanized and pre-painted sheets can be further processed into a variety of corrugated sheets, trapezoidal sheets and

other tailor-made products to serve Ternium's customer requirements. Other products in the steel segment include electricity and pig iron.

In the mining segment, iron ore is sold as concentrates (fines) and pellets.

Steel products

Slabs, billets and round bars: These products are semi-finished steel forms with dimensions suitable for its processing into specific product types. Slabs are processed into hot-rolled flat products. The use of slabs is determined by their dimensions and by their chemical and metallurgical characteristics. Billets are processed into long steel products, such as wire rods, bars and other shapes. Round bars are processed into seamless tubes.

Hot-rolled products: Hot-rolled flat products are used by a variety of industrial consumers in applications such as the manufacturing of wheels, auto parts, pipes, gas cylinders and containers. They are also directly used for the construction of buildings, bridges and railroad cars, and for the chassis of trucks and automobiles. Hot-rolled flat products can be supplied as coils, strips or as sheets cut to a specific length. These products also serve as inputs for the production of cold-rolled products. Merchant bars include specific shape features, such as rounds, flats, angles, squares and channels, which are used by customers to manufacture a wide variety of products such as furniture, stair railings and farm equipment. Reinforcing bars (rebars) and stirrups, obtained from the mechanical transformation of rebars, are used to strengthen concrete highways, bridges and buildings. Rods are commonly drawn into wire products or used to make bolts and nails. Wire rod can be produced in different qualities according to customers' demands.

Cold-rolled products: Cold-rolled products are applied mainly to the automotive, home appliance and capital goods industries, as well as to galvanizers, drummers, distributors and service centers. Cold-rolled coils are sold as coils or cut into sheets or blanks to meet customers' needs. These products also serve as inputs for the production of coated products.

Coated products: Galvanized sheets are produced by adding a layer of zinc to cold-rolled coils, which are afterwards cut into sheets. Galvanized sheets are used in the automotive, construction and home appliances industries. Galvanized coils can also be further processed with a color coating to produce pre-painted sheets, resulting in a product that is mainly sold for building coverings, manufacturing of ceiling systems, panels, air conditioning ducts, refrigerators, air conditioners, washing machines and several other uses. Ternium also offers a distinctive type of galvanized product with coating composition that contains approximately 55% aluminum and 44% zinc to improve product performance for the construction industry, including rural, industrial and marine sites. Tinplate, given its resistance to corrosion and its mechanical and chemical characteristics, is mainly sold to the packaging industry for food canning, sprays and paint containers. Tinplate is produced by coating cold-rolled coils with a layer of tin.

Roll-formed and tubular products: These products include tubes for general use, structural tubes, tubes for mechanical applications, conduction tubes, conduction electrical tubes, oil tubes and pre-engineered metal building systems. Tubular products, uncoated or galvanized, have applications in several sectors including home accessories, furniture, scaffolding, automotive, bicycles, hospital equipment, posts for wire mesh garden and poultry tools, handrails, guard-rails, agricultural machinery, industrial equipment, conduction of water, air, gas, oil, high-pressure liquids and special fluids and internal building electrical installations. Beams, including C and Z section steel profiles (purlings) and tubular section beams, are obtained by roll-forming of steel strips and have applications in window frames, stilts, mainstays, crossbeams, building structures, supports, guides and crossbars for installing windows, doors, frames and boards. Other products include insulated panels, roofing and cladding, roof tiles and steel decks. Obtained from the mechanical transformation of flat steel, uncoated, galvanized or pre-painted, these products are used mainly in the construction industry in warehouses, commercial and industrial refrigeration installations, grain storage, poultry and porcine confinement facilities, roofing and side walls for buildings, and terraces and mezzanine floorings. Pre-engineered metal building systems are steel construction systems designed for use in low-rise non-residential buildings, and are constructed from the mechanical transformation of flat steel such as frames, secondary steel members, roofs and walls panels, as well as finishing and accessories.

Other products: Other products include mainly electricity and pig iron. Pig iron is a semi-finished product obtained in the blast furnace that is mostly used as metallic charge in the steel shop for the production of crude steel, and also marketed to other steel producers and to manufacturers of iron-based cast products.

Within each of the basic product categories, there is a range of different "items" of varying qualities and prices that are produced either to meet the particular requirements of end users or sold as commodity items.

Iron ore products

Concentrates (fines) and pellets: These products are raw materials used for the production of steel. Iron ore concentrates are iron ore fines with high iron content. Iron ore pellets are produced from iron ore concentrates. Ternium ships most of the pellets to its own steel manufacturing operations and it also markets the surplus portion of its iron ore pellets and concentrates, if any, to other steel manufacturers.

Production Facilities and Processes

Ternium has steel production facilities, service centers, distribution centers, or DCs, and mining operations in Mexico, steel production facilities and service centers in the Southern Region, and steel production facilities, service centers and DCs in other markets, specifically Brazil, Colombia, the United States and Central America.

Ternium's aggregate production capacity of crude steel as of December 31, 2019, calculated based on management estimates of standard productivity, product mix allocations, the maximum number of possible working shifts and a continued flow of supplies to the production process, was approximately 12.4 million tons. Ternium's aggregate production capacity of finished steel products, calculated based on the same criteria as for crude steel production, was approximately 11.4 million tons. Ternium's aggregate production capacity of iron ore pellets as of December 31, 2019, was 4.0 million tons. Such iron ore products are mainly sold intercompany for the production of steel products by our steel segment.

Steel production facilities, service centers and distribution centers

The assets described in this section are owned by Ternium's operating subsidiaries. The following table provides an overview, by type of asset, of Ternium's production capacity as of December 31, 2019:

Production asset	Quantity	Nominal capacity (thousand tons per year) ¹				
		Mexico	Brazil	Argentina	Other	Total
Coke Plant	7		1,800	1,040		2,840
Sinter Plant	2		5,700	1,480		7,180
Direct Reduced Iron Plant	3	2,710				2,710
Blast Furnace	4		5,300	3,220		8,520
Electric Arc Furnace	5	4,190			210	4,400
Basic Oxygen Furnace	5		5,200	3,500		8,700
Vacuum Degassing	3	840	3,200	1,200		5,240
AHF Plant	1		3,000			3,000
Thin Slab Continuous Caster	1	2,460				2,460
Slab Continuous Caster	4		5,000	5,630		10,630
Billet Continuous Caster	3	1,640			210	1,850
Hot-rolling Mill (flat products)	4	6,480		2,890		9,370
Skin-Pass Mill	4	2,770		990		3,760
Hot-rolling Mill (long products)	4	1,190			220	1,410
Pickling Line	9	5,390		1,910		7,300
Cold-Rolling Mill (Tandem or Reversing)	9	3,670		1,840		5,510
Electrolytic Cleaning	5	1,940		230		2,170
Annealing Line	5	1,590		1,330		2,920
Temper Mill	7	2,040		2,020		4,060
Tension-Leveling / Inspection Line	10	1,480		1,150		2,630
Electro-Tinplating line	1			160		160
Hot Dip Galvanizing Line	13	2,390		630	370	3,390
Electro-Galvanizing Line	1			110		110
Color-Coating Line	9	810		120	200	1,130
Slitter	32	2,090		500	310	2,900
Cut to length	36	570		1,000	220	1,790
Roll forming Line	34	510		540	230	1,280
Panel Line	4	80				80
Profile Line	15	140		80	110	330
Tube Line	20	520		190	60	770
Wire drawing Lines	12				100	100
Wire Mesh Lines	2				40	40
Rebar Processing Lines ²	48				190	190

¹ In this annual report, annual production capacity is calculated based on management estimates of standard productivity, product mix allocations, the maximum number of possible working shifts and a continued flow of supplies to the production process.

² Includes shears, straighteners, stirrup benders and shaping centers.

Mexico. Ternium has 12 steel production and/or processing units in Mexico, consisting of three integrated steel-making plants (two of which produce long steel products and one of which produces flat steel products and includes two steel service centers); five downstream flat steel processing plants, combining hot-rolling, cold-rolling and/or coating facilities (two of which include steel service centers); and four steel service centers. In addition, Ternium has twelve distribution centers in this region, aimed at serving customers mainly in the construction sector.

The following table sets forth key items of information regarding Ternium’s principal production units in Mexico:

Unit	Type of plant			Location
	Integrated ¹	Downstream ²	Service center	
Guerrero	X		X	San Nicolás d.I.G., Nuevo León
Apodaca	X			Apodaca, Nuevo León
Puebla	X			Puebla, Puebla
Juventud		X	X	San Nicolás d.I.G., Nuevo León
Churubusco		X	X	Monterrey, Nuevo León
Monclova		X		Monclova, Coahuila
Universidad		X		San Nicolás d.I.G., Nuevo León
Pesquería		X		Pesquería, Nuevo León
Apodaca Industrial			X	Apodaca, Nuevo León
Apodaca Comercial			X	Apodaca, Nuevo León
Edificios Metálicos			X	Ciénaga de Flores, Nuevo León
San Luis			X	San Luis, San Luis Potosí
DC Chihuahua				X Chihuahua, Chihuahua
DC BC				X Tijuana, Baja California
DC Norte				X Escobedo, Nuevo León
DC Puebla				X Puebla, Puebla
DC Guadalajara				X Guadalajara, Jalisco
DC México				X Tultitlán, Estado de México
DC Culiacán				X Culiacán, Sinaloa
DC Veracruz				X Veracruz, Veracruz
DC Mérida				X Mérida, Yucatán
DC Tuxtla				X Tuxtla Gtz, Chiapas
DC León				X León, Guanajuato
DC Villahermosa				X Villahermosa, Tabasco

¹ “Integrated” refers to a type of steel plant that includes at least steelmaking and hot-rolling facilities.

² “Downstream” refers to a type of steel plant that includes hot-rolling, cold-rolling and/or steel coating facilities.

Guerrero unit: Located in the metropolitan area of Monterrey, Nuevo León, Mexico, the Guerrero unit produces hot-rolled and cold-rolled coils for the industrial, construction and home appliance sectors and for further processing in other Ternium Mexico’s units. It also produces slitted and cut-to-length products for the industrial sector, and profiles and tubes for the industrial and construction sectors. This unit includes two steel service centers, a slab-rolling mill, and an integrated facility based on direct reduced iron (“DRI”), mini-mill steelmaking and thin-slab casting/rolling mill technologies that uses iron ore pellets and steel scrap as main raw materials. The facility sources all of the iron ore from Ternium Mexico’s mining operations. In addition, the facility sources its net requirements of slabs from Mexican and international producers, and from Ternium Brasil. Ternium’s procurement policy for these products is described in greater depth in “—B. Business Overview—Raw Materials, Slabs, Energy and Other Inputs.”

Apodaca unit: Located in Nuevo León, Mexico, the Apodaca unit produces billets and rebar for the construction industry. It is an integrated facility based on mini-mill steelmaking technology that uses steel scrap as its main raw material. Ternium’s procurement policy for scrap is described in greater depth in Item 4. “Information on the Company —B. Business Overview—Raw Materials, Slabs, Energy and Other Inputs.”

Puebla unit: Located in Puebla, Mexico, the Puebla unit produces rebar, wire rod and round bar mainly for the construction and industrial sectors, including high-carbon, low-carbon and micro-alloyed wire rod. It is an integrated facility based on DRI and mini-mill steelmaking technologies that uses iron ore pellets and steel scrap as main raw materials. The facility sources all of the iron ore from Ternium Mexico’s mining operations. Ternium’s procurement policy for these products is described in greater depth in “—Raw Materials, Slabs, Energy and Other Inputs.”

Juventud unit: Located in Nuevo León, Mexico, the Juventud unit produces galvanized and color-coated coils for the construction, home appliance and other industries; and has a steel service center that produces slitted and roll-formed products, panels and tubes for the construction and industrial sectors. This plant processes hot-rolled and cold-rolled coils received from Ternium Mexico's units in Nuevo León.

Churubusco unit: Located in Nuevo León, Mexico, the Churubusco unit produces hot-rolled and cold-rolled coils for the industrial, construction and home appliance sectors and for further processing in other Ternium Mexico's units. It also has a steel service center that produces slitted and cut-to-length products for the industrial sector. The facility sources its requirements of slabs from Ternium Brasil, from third party Mexican producers and from the international markets. Ternium's procurement policy for slabs is described in greater depth in "—Raw Materials, Slabs, Energy and Other Inputs."

Monclova unit: Located in Coahuila, Mexico, the Monclova unit produces galvanized and color-coated sheets for the home appliance industry. This plant processes cold-rolled coils mainly received from Ternium Mexico's units in Nuevo León.

Universidad unit: Located in Nuevo León, Mexico, and across the street from the Guerrero unit, the Universidad unit produces galvanized and color coated coils for the construction, home appliance and industrial sectors. This plant, which also has a cold-rolling mill, processes hot-rolled coils received from Ternium Mexico's units in Nuevo León.

Pesquería industrial center: Located in Nuevo León, Mexico, the Pesquería industrial center produces cold-rolled, galvanized and color coated coils for the automotive and home appliance industries, among other industrial sectors. The cold-rolling mill processes hot-rolled coils sourced from Ternium Mexico's Churubusco and Guerrero units, as well as from third parties. Tenigal purchases hot-rolled coils mainly from NSC; hot-rolled coils are processed at the Pesquería cold-rolling mill and then used in the production of galvanized and pre-painted products.

During 2019, Ternium inaugurated new hot-dip galvanizing and painting lines in this unit with an annual production capacity of 350,000 and 120,000 tons, respectively, targeting the household appliances, lighting and metal-mechanic industries in Mexico.

Ternium is building a new hot-rolling mill in this unit with an expected annual production capacity of 4.4 million tons and a total investment estimated at \$1.1 billion. The current plan includes the option to increase the line's production capacity in the future by an additional 0.3 million tons. The new state-of-the-art facility will target the growing industrial and commercial markets, improving customer service and reducing lead-times. The investment will constitute a significant technological upgrade to the country's steel production capacity, enabling the expansion of Ternium's product range to encompass a broader dimensional offering and the most advanced steel grades, with the aim at replacing high-value-added steel imports. For further information on Ternium's capital expenditures, see "—B. Business Overview—Capital Expenditure Program."

Apodaca Industrial unit: Located in Nuevo León, Mexico, the Apodaca Industrial unit is a steel service center that produces slitted and cut-to-length products for industrial customers. This plant processes coated coils mainly received from Ternium Mexico's units in Nuevo León.

Apodaca Comercial unit: Located in Nuevo León, Mexico, the Apodaca Comercial unit is a steel service center that produces slitted and roll-formed products, profiles and tubes for the construction industry. This plant processes coated coils mainly received from Ternium Mexico's units in Nuevo León.

Edificios Metálicos unit: Located in Nuevo León, Mexico, the Edificios Metálicos unit is a steel service center that produces metal building systems for commercial construction. This plant processes heavy plates procured from the local and international markets and coils received from Ternium Mexico's units in Nuevo León.

San Luis unit: Located in San Luis Potosí, Mexico, the San Luis unit is a steel service center that produces slitted and cut-to-length products for the home appliance and other industries. This plant processes coated coils received from Ternium Mexico's units in Nuevo León.

Southern Region. Ternium's Southern Region covers Argentina, Bolivia, Chile, Paraguay and Uruguay. Ternium has eight steel production and/or processing units in this region, all of which are located in Argentina, consisting of one integrated flat steel-making plant; four downstream flat steel processing plants, comprising cold-rolling, coating or tube-making facilities (three of which include steel service centers); and three additional steel service centers.

The following table sets forth key items of information regarding Ternium's principal production units in Argentina:

Unit	Type of plant				Location
	Integrated	Downstream	Service center	Distribution center	
San Nicolás	X				Ramallo, Buenos Aires
Canning		X	X		Canning, Buenos Aires
Haedo		X	X		Haedo, Buenos Aires
Florencio Varela		X	X		Florencio Varela, Buenos Aires
Ensenada		X			Ensenada, Buenos Aires
Rosario			X		Rosario, Santa Fe
Serviacero III			X		Ramallo, Buenos Aires
Sidercrom			X		Ramallo, Buenos Aires

San Nicolás unit: Located in the Province of Buenos Aires, Argentina, the San Nicolás unit produces slabs, hot-rolled, cold-rolled and tinplate coils for the construction, industrial, packaging and naval sectors, and for further processing in other Ternium Argentina units. The San Nicolás unit includes an integrated facility based on blast furnace and basic oxygen furnace technologies, supplemented with a sinter plant, coking batteries, a co-product plant and a power plant. It uses metallurgical coal and iron ore lumps, pellets and fines as main raw materials. The facility sources all of its coal and iron ore needs from the international markets, shipped to its own port on the banks of the Paraná river. In addition, the facility sources its net requirements of steel products from the international market and Ternium Brasil. Ternium’s procurement policy for these products is described in greater depth in “—B. Business Overview—Raw Materials, Slabs, Energy and Other Inputs.”

Canning and Haedo units: Located in the Province of Buenos Aires, Argentina, the Canning and Haedo units produce galvanized sheets, slitted and roll-formed products and profiles for the construction and home appliance sectors. In addition, the Canning facility produces color coated sheets for such markets. Both plants process cold-rolled coils received from Ternium Argentina’s San Nicolás and Ensenada units.

Florencio Varela unit: Located in the Province of Buenos Aires, Argentina, the Florencio Varela unit produces electrogalvanized sheets, blanks and slitted products for the automotive, construction and other industries. This plant processes cold-rolled coils received from Ternium Argentina’s San Nicolás and Ensenada units.

Ensenada unit: Located in the Province of Buenos Aires, Argentina, the Ensenada unit produces cold-rolled coils for the construction and industrial sectors and for further processing in Ternium Argentina’s own facilities. This plant processes hot-rolled coils received from Ternium Argentina’s San Nicolás unit.

Rosario unit: Located in the Province of Santa Fe, Argentina, the Rosario unit is a steel service center that produces tubes for the construction industry. This plant processes hot-rolled coils received from Ternium Argentina’s San Nicolás unit.

Serviacero III unit: Located in the Province of Buenos Aires, Argentina, the Serviacero III unit is a steel service center that produces cut-to-length products for the construction and industrial sectors. This plant processes hot-rolled coils received from Ternium Argentina’s San Nicolás unit.

Sidercrom unit: Located in the Province of Buenos Aires, Argentina, the Sidercrom unit is a steel service center that produces cut-to-length and slitted products for the packaging sector. This plant processes tinplate coils received from Ternium Argentina’s San Nicolás unit.

Other Markets. Ternium has 12 steel production and/or processing units in Brazil, Colombia, Central America and the United States, consisting of two integrated steel-making plants (one of which produces flat steel products and the other long steel products); two downstream flat steel processing plants, comprising coating facilities (one of which includes a steel service center); and eight steel service centers. In addition, Ternium has eight steel retail distribution centers aimed at serving customers mainly in the construction sector.

The following table sets forth key items of information regarding Ternium’s principal production locations and production units:

Unit	Country	Type of plant			Distribution Center	Location
		Integrated	Downstream	Service Center		
Rio de Janeiro	Brazil	X				Santa Cruz, Rio de Janeiro
Shreveport	USA		X			Shreveport, Louisiana
Manizales Steel	Colombia	X				Manizales, Caldas
Barranquilla	Colombia			X		Malambo, Atlántico
Bogotá	Colombia			X		Bogotá, Cundinamarca
Cali	Colombia			X		Puerto Tejada, Cauca
Itagüí	Colombia			X		Itagüí, Antioquia
Manizales Services	Colombia			X		Manizales, Caldas
DC Montería	Colombia				X	Montería, Córdoba
DC Bucaramanga	Colombia				X	Bucaramanga, Santander
DC Medellín	Colombia				X	Medellín, Antioquia
Villa Nueva	Guatemala		X	X		Villa Nueva, Guatemala
DC Norte	Guatemala				X	Guatemala, Guatemala
DC Occidente	Guatemala				X	Mazatenango, Suchitepéquez
DC Petén	Guatemala				X	Petén, Guatemala
DC Huehuetenango	Guatemala				X	Huehuetenango, Guatemala
DC Jutiapa	Guatemala				X	Jutiapa, Guatemala
San Salvador	El Salvador			X		San Salvador, San Salvador
Managua	Nicaragua			X		Managua, Managua
San José	Costa Rica			X		San José, Costa Rica

Rio de Janeiro unit: Located in the State of Rio de Janeiro, Brazil, this unit produces slabs for further processing in other Ternium units in Mexico and Argentina, and for sale to third parties. The Rio de Janeiro unit includes an integrated facility based on blast furnace and basic oxygen furnace technologies, supplemented with a sinter plant, coking batteries and a power plant. It uses metallurgical coal and iron ore pellets, lumps and fines as main raw materials. The facility sources all of its coal needs from the international markets (shipped to its own port on the Atlantic ocean coastline), and its iron ore needs from the local market (shipped to its own yards through a railroad system). Ternium’s procurement policy for these products is described in greater depth in “—B. Business Overview—Raw Materials, Slabs, Energy and Other Inputs.”

Shreveport unit: Located in Louisiana, United States, the Shreveport unit produces galvanized and color coated sheets. It processes cold-rolled coils procured mainly from Ternium Mexico or the U.S. market.

Manizales Steel unit: Located in Caldas, Colombia, the Manizales Steel unit produces billets and rebar for the construction industry. It is an integrated facility based on mini-mill steelmaking technology that uses steel scrap as its main raw material. The facility sources all of its scrap and electricity needs from local suppliers. Ternium’s procurement policy for these products is described in greater depth in “—B. Business Overview—Raw Materials, Slabs, Energy and Other Inputs.”

Barranquilla unit: Located in Atlántico, Colombia, the Barranquilla unit is a steel service center that produces slitted, cut-to-length, drawn wire, wire mesh and customized rebar-based products for the construction industry. This plant processes wire rod purchased in the international market, rebar received from the Manizales unit and rebar purchased in the international markets. Hot-rolled and cold-rolled coils are received mainly from the units in Nuevo León.

Bogotá and Manizales Services units: The Bogotá unit in Cundinamarca and the Manizales Services unit in Caldas are steel service centers located in Colombia that produce customized rebar-based products for the construction industry. These plants process rebar received from the Manizales Steel unit and rebar purchased in the international markets.

Cali unit: Located in Cauca, Colombia, the Cali unit is a steel service center that produces profiles, tubes, structural beams and rebar-based customized products for the construction industry. This plant processes hot-rolled and cold-rolled coils received mainly from units in Nuevo León and purchased in the international markets.

Itagüí unit: Located in Antioquía, Colombia, the Itagüí unit is a steel service center that produces drawn wire, wire mesh and customized rebar-based products for the construction industry. This plant processes wire rod purchased in the international markets, rebar received from the Manizales Steel unit and rebar purchased in the international markets.

Villa Nueva unit: Located in Guatemala, Guatemala, the Villa Nueva unit produces galvanized sheets for the construction industry and for further processing in other units in Central America. It also has a steel service center that produces slitted, roll-formed and cut-to-length products, and profiles for the construction industry. This plant processes hot-rolled, cold-rolled and coated coils received from Ternium Mexico’s units in the Nuevo León area and from the international markets.

San Salvador and Managua units: The San Salvador unit in San Salvador, El Salvador, and the Managua unit in Managua, Nicaragua, are steel service centers that produce roll-formed products for the construction industry. These plants process coated coils received mainly from the Villa Nueva unit.

San José unit: Located in San José, Costa Rica, this is a steel service center that produces roll-formed products and profiles for the construction industry. This plant processes hot-rolled, cold-rolled and coated coils received from Ternium Mexico’s units in Nuevo León and from the Villa Nueva unit.

In addition, Ternium is building a steel bar and coil mill in Palmar de Varela, Atlántico, Colombia. With annual production capacity of 520,000 tons and total investment of approximately \$90 million, the new steel bar and coil mill will increase Ternium’s upstream integration in the country. The new mill will enable us to expand our market share in Colombia’s dynamic construction sector by offering an alternative to imports in the country’s northern region. For further information on Ternium’s capital expenditures, see “—B. Business Overview—Capital Expenditure Program.”

Mining Production Facilities

Ternium has iron ore production facilities in Mexico. We have a 100% interest in Las Encinas, and a 50% interest in Consorcio Peña Colorada, and conduct our mining activities through these companies. In 2019, the substantial majority of our iron ore production was consumed internally at Ternium’s steelmaking facilities in Mexico. The following table provides an overview of Ternium’s active mining operations:

Company	Mine	Location	Type of Mine
Las Encinas	Aquila	Aquila, Michoacán	Open pit
Las Encinas	Palomas	Pihuamo and Tecalitlán, Jalisco	Open pit
Consorcio Peña Colorada	Peña Colorada	Minatitlán, Colima	Open pit

In addition, Las Encinas owns two other mines which are substantially exhausted: El Encino and Cerro Nahuatl.

The following table provides an overview, by type of facility, of Ternium’s production capacity as of December 31, 2019:

Production facility	Las Encinas		Consorcio Peña Colorada ⁽¹⁾	
	Quantity	Capacity ⁽²⁾	Quantity	Capacity ⁽²⁾
Crushing Plant ⁽³⁾	2	4,500	1	18,000
Concentration Plant ⁽³⁾	1	3,500	1	16,300
Pelletizing Line	1	1,900	2	4,100

(1) Figures correspond to total capacity. Ternium has a 50% interest in Consorcio Peña Colorada.

(2) In thousands of tons per year. Crushing capacity for Las Encinas includes crushing lines located close to the Aquila and El Encino mines.

(3) The capacity figures for the crushing and concentration plants refer to the plants’ iron ore processing capacity. The plants’ actual iron ore concentrate production depends on the iron ore grade of the processed material.

The following table provides a description of Ternium’s tailings dams as of December 31, 2019:

Dam / section	Las Encinas			Consortio Peña Colorada ⁽¹⁾		
	Cerro Náhuatl	Alzada / 1	Alzada / 2	Guásimas	Arrayanal / 1	Arrayanal / 2
Type of structure	Downstream	Combined ⁽³⁾	Downstream	Combined ⁽⁴⁾	Downstream ⁽⁵⁾	Downstream
Status	Idled	Operative	Operative	Closing procedure	Operative	Operative
Deposits volume ⁽²⁾	9	11	0	51	18	4

- (1) Figures correspond to total capacity. Ternium has a 50% interest in Consortio Peña Colorada.
- (2) In million cubic meters.
- (3) Three out of six embankments were built upstream. These three embankments were reclassified from downstream to upstream in a joint decision with third party consultants as a result of recent studies concluded in late 2019 and early 2020. As part of the definitive closure procedure, Ternium has launched a project to reinforce these upstream embankments with downstream support.
- (4) Six out of a total 14 embankments were built upstream. Four embankments were built centerline and another four were built downstream. Following new studies concluded in late 2019 and early 2020 by third party consultants, new reinforcements were recommended in order to reduce risks of collapse under stricter seismic standards. Consortio Peña Colorada is planning to carry out those reinforcements, the completion of which could demand approximately two years. Ternium has indicated Consortio Peña Colorada that it supports Consortio Peña Colorada's efforts to mitigate those risks.
- (5) Includes upstream embankments in non-relevant zones.

Las Encinas

Las Encinas produces iron ore pellets and magnetite concentrate in Mexico. At present, Las Encinas operates the Aquila and Palomas open pit mines located in Michoacán and Jalisco, respectively.

Las Encinas facilities include two crushing plants (located close to each of the Aquila and El Encino mines), and a concentration and pelletizing plant located in Alzada, Colima, approximately 160 kilometers from the Aquila mine. Its major processing facilities (crushing, concentration and pelletizing facilities) include two primary crushers and a dry cobbing plant located close to the Aquila mine, and horizontal and vertical ball mills and several stages of magnetic separation in the Alzada facilities. Las Encinas has two operational tailings dams in Alzada and an idled tailings dam located in Cerro Náhuatl.

The iron ore pre-concentrate is transported from the Aquila mine to a transfer station at Tecoman, Colima, by truck and from Tecoman to the Alzada facilities by rail and truck for processing in the concentration plant. The iron ore extracted from the Palomas mine is currently transported by truck to El Encino to be processed in our crushing facility. In addition, El Encino and our plant located in Alzada may receive, from time to time, magnetite iron ore purchased by Las Encinas from other local concessionaires. The crushed iron ore is transported from El Encino to the Alzada facilities by truck for processing in the concentration plant in Alzada. The iron ore pellets produced in the Alzada facilities are transported by rail to Ternium Mexico's integrated facilities in Monterrey and Puebla, Mexico. The Aquila and El Encino operations and the Alzada facilities receive electrical power from the *Comisión Federal de Electricidad* ("CFE"), the Mexican state-owned electric utility company.

Active mines

At the Aquila site, Las Encinas holds all the mining rights for the extraction of iron ore. The Aquila operations (including an open pit mine and crushing facilities) stand on 586 hectares, which are leased to Las Encinas by the local community of San Miguel de Aquila. The lease agreement allows Las Encinas to perform all mining activities, including the extraction of iron ore, necessary to exploit the ore located in mining rights granted to Las Encinas by the Mexican federal authorities until the permanent closure of the mine. Las Encinas has operated this mine since 1998.

Aquila is a mine composed predominantly of magnetite with a hematite roof and sulphides and silicates gangue. The form of mineralization is massive and disseminated (mineralized hornfels, endoeskarn), with mineralized gaps. The mine site is hosted along a large failure line and between the contact of an intrusive diorite and limestone, and the shape of the deposit is slightly amorphous, crossed by a countless number of dams and mainly controlled by geological structures.

At the Pihuamo-Tecalitán site, Las Encinas holds mining rights for the extraction of iron ore over 376 hectares. The Palomas operations (an open pit mine) stand on an area owned by Las Encinas, which started operating this mine in 2017.

Palomas is a skarn mine with calcareous-pelitic ferrous type. It is formed by massive, and bordered by disseminated mineral. The bodies are disposed in concordant tabular horizons with a northwest and southeast-oriented pseudo stratification and northeast-oriented dip. The mineralization is predominantly magnetite and the gangue mineral is composed of garnet, pyrite and calcite. The surrounding rocks are skarn (calcareous protolyte, clayey calcareous and Cretaceous sandy) or hornfels (clayey protolyte). The stratigraphic sequence is affected by dyke intrusions of monzonitic and granite composition.

Mines under exploration

Las Encinas holds mining rights over other areas scattered throughout Michoacán, Jalisco and Colima, Mexico. Las Encinas has developed and may continue pursuing the development of small to mid-sized mining operations similar to Palomas, as a way to diversify its sources of iron ore and to make effective use of its mining rights in the region.

Exhausted mines

The El Chilillo open pit mine was operated until 2015. The El Chilillo core reserves were exhausted, the mine's operations were suspended and the land returned to the owners. Ternium has already completed the requisite restoration works and is seeking closure approval from the applicable environmental authorities.

The El Encino open pit and underground mine was operated until 2011. The El Encino core reserves were exhausted and the mine's operations have been suspended. Ternium is currently evaluating the steps required to proceed with its permanent closure. The crushing and transfer facilities at El Encino are still in operation and will remain active to receive, process and transfer to the Alzada pelletizing plant iron ore that Las Encinas buys from time to time from other local concessionaires.

The Cerro Nahuatl open pit mine located in Colima, Mexico, operated until 2008. The Cerro Nahuatl core reserves were exhausted and the mine's operation has been suspended. Ternium is currently following the steps required to proceed with its permanent closure.

Consortio Peña Colorada

Consortio Peña Colorada, a company owned 50% by Ternium and 50% by ArcelorMittal S.A. ("ArcelorMittal"), produces iron ore pellets and magnetite concentrate in Mexico. Consortio Peña Colorada operates the Peña Colorada open pit mine as well as a concentrating facility and a two-line pelletizing facility. Consortio Peña Colorada owns part of the property where its mine and processing facilities stand, and leases 1,204 hectares adjacent to the mine to deposit removed material and, in the future, to exploit ore reserves as part of the regular short-term and long-term life of mine plan.

Consortio Peña Colorada has operated since 1974 and holds mining rights over 39,980 hectares. The Peña Colorada mine is a complex polyphase iron ore deposit. Several magmatic and hydrothermal events produced iron mineralization as skarns or skarnoids, and late dikes and faults that crosscut the mineralized bodies. The main mineralization events are a massive ore body and a disseminated ore body, within polymictic breccia zones.

The concentration plant is located at the mine in Minatitlán, Colima, and the pelletizing plant is located near the Manzanillo seaport on the Pacific coast in Colima, 50 kilometers from Minatitlán. Consortio Peña Colorada's major processing facilities include a primary crusher, a dry cobbing plant, one autogenous mill, horizontal and vertical ball mills, several stages of magnetic separation and two pelletizing lines. The concentrate is sent as a pulp through a pipeline from the mine and mineral processing plant in Minatitlán to the pelletizing plant in Manzanillo. Consortio Peña Colorada has an operational tailings dam in Arrayanal, Colima, and a tailings dam in the process of closure located in Guásimas, Colima, with limited use. In July 2019, a new paste plant was started up near the Arrayanal dam, to increase the efficiency and speed of water recovery from the dam tailings. With this initiative, Ternium expects to increase the solid content of tailings from 45% to 68%, freeing space for additional tailings and increasing the stability of the dam. The Peña Colorada mine and the pelletizing plant receive electrical power from CFE. Peña Colorada is doing the preparatory works necessary to extract iron ore from new iron ore bodies at the mine.

Ternium is required to buy from Consortio Peña Colorada half of the mine's annual production. For further information, see “—Raw Materials, Slabs, Energy and Other Inputs—Mexico—Iron Ore.” Iron ore concentrate and

pellets sold to Ternium are shipped by rail from the mine to Ternium's facilities in Mexico or exported to third parties through the Manzanillo port.

Iron ore reserves

The table below details Ternium's estimated proven and probable iron ore reserves as of December 31, 2019. The classification of the iron ore reserve estimates as proven or probable is based on drill hole spacing and reflects the variability in the mineralization at the selected cut-off grade, the mining selectivity and the production rate and ability of the operation to blend the different ore types that may occur within each deposit. Reserves are reported as Run of Mine (ROM). Tonnage is reported on a wet metric ton basis.

Iron ore reserves ⁽¹⁾ as of	December 31, 2019						December 31, 2018	
	Proven		Probable		Total		Total	
	Million tons	% Fe	Million tons	% Fe	Million tons	% Fe	Million tons	% Fe
Las Encinas ⁽²⁾	28	38	—	—	28	38	20	40
Peña Colorada ⁽³⁾	97	22	104	21	201	22	209	22

- (1) In Peña Colorada, proven iron ore reserve estimates are based on drill hole spacing ranging from 25m x 25m to 100m x 100m, and probable iron ore reserve estimates are based on drill hole spacing ranging from 50m x 50m to 300m x 300m. In Las Encinas, drill hole spacing may be greater.
- (2) Includes exclusively the Aquila and the Palomas mines.
- (3) Reported figures represent the total reserves at the Peña Colorada mine. Ternium has a 50% interest in Consorcio Peña Colorada.

The table below provides additional information on iron ore production and average estimated mine life.

Operations/Projects	% Ownership	In Operation Since	2019 Run of Mine Production (Million tons)	2019 Saleable Production (Million tons) ⁽¹⁾	Estimated Mine Life (Years) ⁽²⁾
Las Encinas ⁽³⁾	100	1970	2.3	1.9	9
Consorcio Peña Colorada ⁽⁴⁾	50	1974	7.8	3.9	13

- (1) Saleable production consists of a mix of direct shipped ore (DSO), concentrate, pellet feed and pellet products which have an iron content of approximately 65% to 66%.
- (2) Mine life is derived from the life of mine plans and corresponds to the duration of the mine production scheduled from ore reserve estimates only. The production varies for each operation during the mine life and, as a result, the mine life is not necessarily the total reserve tonnage divided by the 2019 production. Both the Aquila and Palomas mines may extend their life beyond the estimated mine life indicated above as a result of iron resources not yet included as proven or probable reserves.
- (3) Includes exclusively the Aquila and Palomas mines.
- (4) Reported figures represent the total production of Consorcio Peña Colorada, in which Ternium has a 50% interest.

Changes in iron ore reserve estimates (2019 versus 2018)

Las Encinas's iron ore reserve estimates as of December 31, 2019 were 28 million tons on a run-of-mine basis (with a 38% average iron grade), increasing by 8 million tons compared to those recorded as of the end of 2018. The increase in tonnage was mainly due to the incorporation of reserves at the Palomas mine, reflecting the availability of new environmental permits for land use, partially offset by the depletion of reserves during 2019.

Peña Colorada's iron ore reserve estimates as of December 31, 2019 were 201 million tons on a run-of-mine basis (with a 22% average iron grade), decreasing by 7 million tons compared to those recorded as of the end of 2018. The decrease in tonnage was principally due to the depletion of reserves during the year and changes in our mining plan.

The estimates of proven and probable ore reserves at our mines and the estimates of the mine life included in this annual report have been prepared by Ternium’s experienced engineers and geologists. Ternium has not commissioned an independent verification of the methods and procedures used to determine reserves, nor has it commissioned independent audits on iron ore reserve estimates.

The reserve calculations were prepared in compliance with the requirements of SEC Industry Guide 7, under which:

- Reserves are the part of a mineral deposit that could be economically and legally extracted or produced at the time of the reserve determination.
- Proven reserves are reserves for which (a) quantity is computed from dimensions revealed in outcrops, trenches or working or drill holes; grade and/or quality are computed from the results of detailed sampling; and (b) the sites for inspection, sampling and measurement are spaced so closely and the geologic character is so well defined that size, shape, depth and mineral content of reserves are well established.
- Probable reserves are reserves for which quantity and grade and/or quality are computed from information similar to that used for proven reserves, but the sites for inspection, sampling and measurement are farther apart or are otherwise less adequately spaced. The degree of assurance, although lower than that for proven reserves, is high enough to assume continuity between points of observation.

The demonstration of economic viability is established through the application of a life of mine plan for each operation or project providing a positive net present value on a cash forward-looking basis. Economic viability is demonstrated using forecasts of operating and capital costs based on historical performance, with adjustments based on planned process improvements, changes in production volumes and in fixed and variable proportions of costs, and forecasted fluctuations in costs of raw material, supplies, energy and wages. Ore reserve estimates are updated annually in order to reflect new geological information and current mine plan and business strategies. Our reserve estimates are of in-place material after adjustments for mining depletion and mining losses and recoveries, with no adjustments made for metal losses due to processing. For a description of risks relating to reserves and reserve estimates, see Item 3. “Key Information—D.Risk Factors—Risks Relating to Ternium's Mining Activities—Ternium's reserve estimates may differ materially from actually recoverable mineral quantities, or its estimates of mine life may prove inaccurate; and market price fluctuations and changes in operating and capital costs may render certain ore reserves uneconomical to mine in the future or cause Ternium to revise its reserve estimates.”

Our mining leases are of sufficient duration (or convey a legal right to renew for sufficient duration) to enable all ore reserves on the leased properties to be mined in accordance with current production schedules. Our ore reserves may include areas where some additional approvals remain outstanding but where, based on the technical investigations we carry out as part of our mine planning process and our knowledge and experience of the approvals process, we expect that such approvals will be obtained as part of the normal course of business and within the timeframe required by the current life of mine schedule.

Our tailings dams stability was assessed taking into consideration international standards and seismic design recommendations of CFE's 2015 civil works design manual. In late 2019 and early 2020, Ternium and Consorcio Peña Colorada concluded new stability studies in certain of their tailings dams that are closed or stand-by, in order to proceed to final closure with stricter and more conservative standards for seismic areas. As a result of those studies, performed by recognized consultant companies, and in order to meet those new stability standards and mitigate risks, Ternium and Consorcio Peña Colorada are planning to build certain reinforcements in certain stand by and closed tailings dam sections in Alzada and Guasimas, respectively. For a description of risks, see Item 3. “Key Information-D.Risk Factors-Risks Relating to Ternium's Mining Activities-Unexpected natural and operational catastrophes may impact the environment or cause exposure to hazardous substances, adversely impact Ternium's operations and profitability, and result in material liabilities to Ternium.”

Property, Plant and Equipment

The table below details Ternium’s mining segment property, plants and equipment value as of December 31, 2019.

<i>In millions of U.S. dollars</i>	Property, Plant and Equipment
Las Encinas	147.4
Consorcio Peña Colorada	237.9

Production process

Ternium specializes in manufacturing and processing finished steel products. In addition, Ternium extracts and processes iron ore and produces electricity.

Ternium's facilities use different technologies and have different levels of integration. The basic inputs for steel production are iron ore and energy. Iron ore is used in three different formats: fines and lumps, which are purchased in the marketplace, and pellets, which are partly purchased in the marketplace and partly produced by Ternium. Ternium's steel production processes consume energy mainly in the form of natural gas, coal and electricity.

Iron ore extraction and processing. The iron ore pellet production process begins with the extraction of iron ore from open pit mines owned and operated by Ternium in Mexico. The extraction process consists of removing waste and ore from the surface with explosives, loading it and transporting it by truck to the crushing facilities where it is resized to a specified size.

After crushing, the ore goes through several grinding and concentration stages. Grinding reduces the size and changes the shape of the ore while concentration, through magnetic drums, separates the iron from the sterile material to obtain an iron ore concentrate with high iron content. This process is carried out using water as an auxiliary element. Excess water is afterwards eliminated through a filtering process, leaving only the necessary humidity for the formation of pellets using pelletizing disks. Pellets are separated according to their size and are then hardened in ovens and shipped to the steel producing facilities.

Steel production. Ternium produces semi-finished steel in the form of thin slabs, slabs, billets and round bars through the blast furnace and the electric arc furnace methods.

Under the blast furnace method, which is used in Brazil and Argentina, iron ore pellets, lumps, sinter (a mixture of iron ore fines and limestone produced in sinter facilities) and coke (a solid residue obtained from the distillation of coal produced in coking batteries) are mixed in the blast furnaces in a process that melts and reduces the iron ore, obtaining pig iron. The molten pig iron is then mixed with steel scrap and other products in a basic oxygen furnace through a process that removes impurities from the pig iron by injecting pure oxygen at high pressure into the molten metal, burning-off carbon and other elements. The molten steel is then cast using the continuous casting method, into slabs.

Under the electric arc furnace method, which is used in Mexico and Colombia, the iron metal charge is heated with other elements to obtain molten steel. The molten steel is then cast, using the continuous casting method, into billets and thin slabs. The iron metal charge in the Apodaca and Manizales plants is steel scrap, and the iron metal charge in the Monterrey and Puebla plants is a mix of DRI and steel scrap. The DRI results from the conversion of pellets in the DRI modules. One of Monterrey's DRI plants includes Hytemp® technology, which permits the hot discharge of the DRI to the electric arc furnace, generating significant energy savings and improving productivity.

Steel processing. Semi-finished steel is then processed into finished products using hot-rolling, cold-rolling, coating, tubing, paneling, slitting and cut-to-length facilities among other processes. In Mexico and Argentina, Ternium has been processing steel slabs produced in Ternium Brazil and/or purchased in the marketplace as in Mexico its steel processing capacity is higher than its steel production capacity, and in Argentina its steel processing capacity utilization has been higher in recent years than its steel production capacity. Ternium may purchase hot-rolled, cold-rolled and coated products as well for further processing in its lines.

Thin-slabs, slabs and billets are processed in the hot-rolling mills in Mexico, Argentina and Colombia to obtain hot-rolled products using different technologies. In the case of flat products, hot-rolled coils are obtained from thin or conventional slabs. Thin slab hot-rolling, a technology Ternium uses only in Mexico, requires less energy than conventional slab hot-rolling, as it does not require a roughing section at the mill and does not need to be reheated from room temperature to reach rolling temperature. In the production of long products, which is carried out in Mexico and Colombia, billets are reheated and taken to rolling temperature. The softened steel is processed in the rolling trains to obtain wire rods and rebars as finished long products and, depending on their final use, rebars can be further processed into stirrups and other customized shapes in our service centers in Colombia.

Depending on its final use, the hot-rolled coils are then tempered and/or pickled, both in Mexico and Argentina, before being sent for sale as coils or cut into steel sheets. Alternatively, the hot-rolled coils may be sent to a cold-rolling mill where they are put under a deformation process at room temperature to reduce their thickness and obtain cold-rolled coils. Cold-rolled coils can be sold in crude form to the market (full hard) or processed in the reheating ovens, annealing bays and temper lines to modify their metallurgic and physical characteristics. The tempered products can be sold as coils or sheets or further processed by adding coatings.

Cold-rolled coils can be further processed into tin plate at Ternium Argentina’s facility (by adding a thin layer of tin), into galvanized or electrogalvanized sheets at several of Ternium’s facilities in Mexico, the United States and Guatemala and at Ternium Argentina’s facility (by adding a thin layer of zinc to the products through different processes) or into pre-painted products. Some of these products can be further processed into slitted, cut-to-length and tailor-made products according to customers’ needs at Ternium’s service centers, which are located in several countries. In addition, coated, cold-rolled and hot-rolled coils can be further processed into tubular products, such as welded pipes, insulated panels and architectural panels, among other products.

Sales

Net Sales

Ternium is organized into two reportable segments: Steel and Mining. The Steel segment includes the sales of steel products and other products like electricity and pig iron. The Mining segment includes the sales of iron ore products, which are primarily consumed internally. We report steel shipments under three geographical regions: Mexico, the Southern Region and Other Markets. For further information on our reportable operating segments and geographical information, see note 5 to the consolidated financial statements included elsewhere in this annual report. Ternium primarily sells its steel products in Latin America and the United States, where it can leverage its strategically located manufacturing facilities to provide specialized products, delivery services to its customers and reduced freight costs. In 2019 the substantial majority of our iron ore production was consumed at Ternium’s steelmaking facilities in Mexico.

Ternium's total consolidated net sales of steel and mining products amounted to \$10.2 billion in 2019, \$11.5 billion in 2018 and \$9.7 billion in 2017. For further information on our net sales of steel and mining products, see Item 5. “Operating and Financial Review and Prospects—A. Results of Operations.”

The prices of our steel products generally reflect international market prices for similar products. We adjust prices for our products periodically in response to changes in the import prices of foreign steel, export prices, and supply and demand. For further information, see Item 5. “Operating and Financial Review and Prospects—Overview.” The actual sales prices that we obtain for our products are also subject to the specifications, sizes and quantity of the products ordered.

The following table shows Ternium’s net sales by reportable operating segment, Steel and Mining, for the years indicated:

<i>In millions of U.S. dollars</i>	For the year ended December 31,		
	2019	2018	2017
Mexico	5,326.7	6,134.0	5,378.6
Southern Region	1,696.6	1,933.4	2,313.6
Other Markets	2,866.7	3,023.6	1,699.0
Total steel products net sales	9,890.1	11,091.0	9,391.2
Other products (1)	296.1	362.4	309.1
Total steel segment net sales	10,186.2	11,453.4	9,700.3
Total mining segment net sales	364.0	282.0	271.5
Intersegment eliminations	(357.4)	(280.6)	(271.4)
Total Net Sales	10,192.8	11,454.8	9,700.3

(1) The item “Other products” primarily includes Ternium Brasil’s and Ternium Mexico’s electricity sales.

The following table shows, where applicable, Ternium’s shipment volumes by reportable operating segment, Steel and Mining, for the years indicated:

<i>In thousands of tons</i>	For the year ended December 31,		
	2019	2018	2017
Mexico	6,305.0	6,544.8	6,622.8
Southern Region	1,938.3	2,301.1	2,456.0
Other Markets	4,268.0	4,105.2	2,517.7
Total steel products sales volumes	12,511.3	12,951.1	11,596.6
Total mining segment sales volumes	3,575.9	3,616.3	3,551.1

Steel

Mexico

Sales to customers in Mexico accounted for 54% of Ternium’s net sales of steel products during 2019, 55% during 2018 and 57% during 2017. For further information, see Item 5. “Operating and Financial Review and Prospects—A. Results of Operations—Fiscal Year Ended December 31, 2019 compared to Fiscal Year Ended December 31, 2018—Net Sales” and “—Fiscal Year Ended December 31, 2018 compared to Fiscal Year Ended December 31, 2017—Net Sales.”

Most of Ternium’s Mexican customers are located near its plants. Flat steel non-coated products are mainly sold in Mexico to construction companies, industrial customers in the automotive, packaging, electric motors and service center industries, as well as distributors. The principal segments in the Mexican coated steel market are construction, automotive, home appliances and manufacturing (air conditioning, lamps and furniture). Ternium serves industrial customers, who require high-quality specifications, as well as commercial customers through service centers and warehouses. Rebar and wire rod markets in Mexico are characterized by a large number of orders of small volume, and competition is largely based on price. The customer base for bar and rod products in Mexico consists primarily of independent dealers and distributors, who in turn retail the products to their customers in the construction industry. Ternium markets its tubular products mainly through Mexican independent distributors, and the balance is sold directly to industrial customers.

Southern Region

Sales to customers in the Southern Region accounted for 17% of Ternium’s net sales of steel products during 2019, 17% during 2018 and 25% during 2017. The vast majority of sales in the Southern Region are made to customers in Argentina. For further information, see Item 5. “Operating and Financial Review and Prospects—A. Results of Operations—Fiscal Year Ended December 31, 2019 compared to Fiscal Year Ended December 31, 2018—Net Sales” and “—Fiscal Year Ended December 31, 2018 compared to Fiscal Year Ended December 31, 2017—Net Sales.”

Ternium’s sales in this region are oriented toward the construction and agriculture sectors, the automotive industry, the packaging sector (for food, paints, sprays and petrochemicals), the tube and pipe sector (related to liquids and gas transportation and distribution networks), the capital goods sector and the home appliances sector.

The customer base in the Southern Region consists primarily of independent small and medium-sized companies and distributors, which in turn process or retail products to their customers in different market sectors. In addition, Ternium serves large industrial customers, such as customers in the automotive industry, which require customized products and services that Ternium can provide through its service centers and finishing facilities.

Ternium’s principal customers in the Southern Region are located near Ternium Argentina’s production facilities in Argentina. Ternium’s net sales in Argentina represent approximately 16% of our total net sales. We also sell a small portion of our production to customers in Bolivia, Chile, Paraguay and Uruguay.

Other Markets

Sales to customers in other markets, which include mainly shipments to the United States, Brazil, Colombia and Central America, accounted for 29% of Ternium’s consolidated net sales of steel products during 2019, 27% during 2018 and 18% during 2017. For further information, see Item 5. “Operating and Financial Review and Prospects—A. Results of Operations—Fiscal Year Ended December 31, 2019 compared to Fiscal Year Ended December 31, 2018—Net Sales” and “—Fiscal Year Ended December 31, 2018 compared to Fiscal Year Ended December 31, 2017—Net Sales.”

Following the acquisition of Ternium Brasil and related transactions in September 2017, we started shipping steel slabs to tkAG's former re-rolling facility in Calvert, Alabama, United States, and to Usiminas in Brazil. For further information on the acquisition of Ternium Brasil see note 3 to the consolidated financial statements included elsewhere in this annual report.

Finished steel customers in the United States are served directly through the Shreveport plant and through Ternium Internacional's Houston, TX, commercial office. The Gulf Coast and a large portion of the West Coast in particular, are regions for which our Mexican facilities have distribution advantages. Ternium's main markets in the United States are the construction industry and the energy related sectors.

Customers in Colombia are served directly through Ternium Colombia. Ternium offers a variety of customized products through its various service centers in the country. Our main local markets are the construction industry and the energy related sectors.

Customers in Central America are served directly through Ternium's facilities in Guatemala, El Salvador, Nicaragua and Costa Rica. Ternium offers a variety of customized products through its various service and distribution centers in the region. Ternium's main market in Central America is the construction industry.

Mining

Ternium's shipments of iron ore mainly include those made by Las Encinas and 50% of those made by Consorcio Peña Colorada. Iron ore shipments are destined mainly for internal consumption within Ternium's Steel segment and surpluses, if any, are destined for the export market. For further information, see Item 5. "Operating and Financial Review and Prospects—A. Results of Operations—Fiscal Year Ended December 31, 2019 compared to Fiscal Year Ended December 31, 2018—Net Sales" and "—Fiscal Year Ended December 31, 2018 compared to Fiscal Year Ended December 31, 2017—Net Sales."

Marketing

Steel

Ternium's marketing strategy in the steel segment is to expand higher margin value-added products and services in Ternium's sales mix. Over time, Ternium expects to increase its offerings of value-added products, such as cold-rolled sheets and coated and tailor-made products, and services, such as just-in-time deliveries and inventory management. In order to do so, Ternium will increase processing capacity and will continue to work with its customers to anticipate their needs and develop customized products for particular applications and maintain a strategic presence in several steel markets through its network of commercial offices. A principal component of Ternium's marketing strategy is establishing lasting and close relationships with customers. This allows Ternium to provide assistance to its customers in their use of steel products and to obtain downstream information that can be applied to future product development.

Ternium adapts its marketing strategy according to the different regions it serves. Its sales force specializes in different regional requirements, ranging from product specifications to transport logistics.

In order to strengthen Ternium's positioning in regional markets and offer services to customers, Ternium manages its exports from countries where it has manufacturing facilities through a network of commercial offices. Ternium operates through strategically located subsidiaries, providing customers with services and support. Ternium has extensive experience promoting steel products. Its marketing expertise helps us expand our position in current markets and to develop new ones.

Mexico

Several local and foreign steel producers direct part of their sales efforts to the Mexican market and, as a result, Ternium engages significant marketing efforts in this country. Ternium's steel customers in Mexico are in the construction, automotive, metal-mechanic and home appliances sectors, among other industries. In Mexico, we offer customized services through our network of service and distribution centers.

Through its service centers, located in northern and central Mexico, Ternium can cut and roll-form its products to specific client requirements. Customized products include metallic roofing, sheets and strips used in the automotive industry and cut-to-length products used in the home appliance and construction industries. Ternium has several distribution centers and commercial offices in the country, which provide services such as logistics, stock management and customer assistance, as well as analysis of businesses opportunities in their respective markets.

Ternium Mexico has a department focused on the development of small and medium-sized companies in Mexico under a program created by the Techint Group, a group of international companies controlled by San Faustin, for the development of its local customers and suppliers named Propymes. The objective of the program is to improve their competitiveness, to increase their exports and to allow them to substitute imports with local products. Approximately 850 companies are part of this program in Mexico, which provides support for industrial, training, and institutional requirements of the participating companies.

Ternium's experienced sales force specializes in the needs of each market sector and focuses on value-added products and services. In this competitive and end-user oriented market, the extensive use of well-known commercial brands allows customers to clearly recognize Ternium's products. Ternium seeks to increase its competitive advantage by providing value-added services, including the technical assistance related to steel use and production, and developing new steel products.

Southern Region

Ternium's sales efforts in this region are oriented toward serving the specific needs of different market sectors, such as the construction industry, the automotive industry, the home appliances sector, the packaging sector (for food, paints, sprays and petrochemicals), the agricultural equipment and capital goods sector, the tube and pipe sector (related to liquids and gas transportation and distribution), and steel processors.

Through Ternium Argentina's service centers, Ternium can cut, paint or roll-form its products to specific client requirements. Customized products include metallic roofing, blanks for vehicles, steel for agricultural machinery, different types of tin used to produce sprays and food containers and cut-to-length products used in the home appliance and construction industries.

In this region, Ternium has commercial offices in Argentina and Uruguay. These offices provide services such as market development, analysis of businesses opportunities, and customer support in their respective countries. Propymes was implemented in Argentina in 2002, with the objective of promoting the local industry. Approximately 920 companies are part of this program, which provides support for industrial, training, commercial, financial and institutional requirements of the participating companies.

Other Markets

Following the acquisition of Ternium Brasil and related transactions in September 2017, Ternium started shipping steel slabs to third parties, including tkAG's former re-rolling facility in Calvert, Alabama, United States, under an agreement to supply a total of 3.5 million tons of slabs through December 2020, and Usiminas in Brazil. For further information on the acquisition of Ternium Brasil see note 3 to the consolidated financial statements included elsewhere in this annual report.

Ternium's finished steel customers in Other Markets are mainly in the construction and energy-related industries in Colombia, the United States and Central America. In Colombia and Central America, we offer customized services through our network of service and distribution centers.

Through Ternium's facilities and service centers located in Colombia, Costa Rica, El Salvador, Guatemala, Nicaragua and southern United States, Ternium can cut, paint or roll-form its products to specific client requirements mainly in the construction industry. In addition, Ternium has a commercial office in Houston, TX, which enables Ternium to offer differentiated services to various customers.

A small share of Ternium's shipments is destined for steel markets outside the Americas. Sales to Europe, Asia and Africa are carried out mainly through Ternium's commercial office in Spain. This office is focused on trading activities, including the development of commercial and marketing activities.

Mining

Ternium's mining activities are mainly aimed at securing the supply of iron ore for our steel-making facilities in Mexico. Surplus production of iron ore, if any, is commercialized to third parties. We export iron ore through the Manzanillo port that is located on Mexico's Pacific coast, mainly to customers in the Chinese iron ore market.

Competition

Steel

The steel industry operates predominantly on a regional basis, with large industry participants selling the bulk of their steel production in their home countries or regions, where they have natural advantages and are able to more effectively market value-added products and provide additional customized services. Despite the limitations associated with transportation costs, as well as the restrictive effects of protective tariffs and other trade restrictions, international trade of steel has increased in the last two decades with production shifting towards low-cost production regions. Historically, several large steel manufacturers have merged with each other or acquired steel companies in other parts of the world. This wave of consolidation has resulted in a number of large, global producers with significant operations in several regions and/or continents, contributing to the increasing globalization of the steel industry. Considered as a whole, however, the steel industry still remains considerably fragmented, compared with market conditions characterizing certain of our suppliers and customers, e.g. iron ore suppliers and the automotive industry.

Steel consumption has historically been centered in developed economies, such as the United States, Western Europe and Japan. However, in the last two decades steel consumption in Asia, and in particular China, has increased significantly.

There has been a trend toward steel industry consolidation among Ternium's competitors. Below is a summary of the most significant transactions:

- June 2006: Mittal Steel Company, N.V. and Arcelor S.A. merge to create ArcelorMittal, the world's largest steel company.
- March 2007: Votorantim S.A. acquires Colombia's Acerias Paz del Rio S.A., or Acerias Paz del Rio.
- April 2007: Tata Steel Limited, or Tata Steel completes the acquisition of Corus Group Plc.
- July 2007: Gerdau Ameristeel Corporation acquires Chaparral Steel Company.
- August 2007: United States Steel Corporation, or US Steel, acquires Stelco Incorporated.
- March 2008 to May 2008: OAO Severstal acquires WCI Steel Incorporated, Esmark Incorporated and a mill located in Sparrows Point (subsequently, during 2011, it divests Sparrows Point, Warren and Wheeling facilities).
- October 2012: Nippon Steel Corporation and Sumitomo Metal Industries Limited merge to form NSC, the world's second largest steel company at the time.
- February 2014: ArcelorMittal and NSC acquire ThyssenKrupp Steel USA LLC, a steel processor based in Alabama, through a 50/50 joint venture.
- September 2014: AK Steel Holding Corporation and Steel Dynamics Incorporated acquire OAO Severstal's U.S. Dearborn and Columbus operations, respectively.
- June 2016: Hebei Iron and Steel Group, or HBIS Group, acquire Serbian Zelezara Smederevo steel mill, becoming the world's third largest steel producer.
- December 2016: Baosteel Group Corporation and Wuhan Iron and Steel Corporation merge to create China Baowu Steel Group Corporation, or Baowu Steel Group, which became the world's second largest steel producer.
- March 2017: NSC acquires a majority stake in Nisshin Steel Company Limited, a Japanese steel company.
- May 2018: Tata Steel acquires a controlling stake in bankrupt Indian steel company Bhushan Steel Limited.
- June 2018: tkAG and Tata Steel signed a 50/50 joint venture to combine European steel activities, creating the second largest flat steel supplier in Europe.
- November 2018: ArcelorMittal announced the acquisition of a 94.4% ownership interest in Ilva S.p.A.
- October 2019: US Steel announced the acquisition of a 49.9% ownership interest in Big River Steel and the right to acquire the remaining 50.1% of the shares within the next four years.
- December 2019: ArcelorMittal announced the acquisition of Essar Steel India Limited, or ESIL, and the establishment of a 60/40 joint venture with NSC that will own and operate ESIL.
- March 2020: Cleveland-Cliffs Inc. announced the acquisition of AK Steel Holding Corporation.

Despite this trend, the global steel market remains highly fragmented. In 2018, the most recent year for which statistics are available, the five largest steel producers, ArcelorMittal, China Baowu Group, NSC, HBIS Group and Posco Iron and Steel Company, or Posco, accounted for 17% of total worldwide steel production, compared to 15% for the five largest steel producers in 2000.

Historically, steel prices have exhibited significant volatility. Since 2009, a number of events have contributed to continuously volatile steel price cycles, such as spikes and depressions in raw material prices, new steelmaking capacity additions (at a pace higher than steel demand growth), the idling and restart of steelmaking capacity, adverse economic conditions in Europe in 2012 and decreasing apparent steel use in China in 2014 and 2015. In the US, for instance, during most of 2018 and 2019 steel prices trended down after peaking during the first half of 2018, reflecting a combination of softer steel consumption, increased steel production and, in 2019, lower costs of steel scrap. During the fourth quarter of 2019, steel prices recovered some ground due to higher costs of steel scrap and decreased steel production.

Mexico

Ternium competes in the Mexican steel market with domestic, United States and other foreign steel producers. According to the Mexican chamber of the iron and steel industry (*Cámara Nacional de la Industria del Hierro y el Acero*, or "Canacero"), imports of finished flat steel products into Mexico accounted for approximately 8.2, 8.0 and 8.6 million tons in 2019, 2018 and 2017, respectively.

Our largest Mexican competitor in the flat products market is Altos Hornos de México S.A.B. de C.V., or AHMSA, an integrated steel producer located in Monclova, Coahuila, which produces a wide variety of steel products. AHMSA focuses on low-value-added products such as plate and commercial quality hot-rolled and cold-rolled coils. Other competitors, which are also customers, with facilities in the country are Galvasid S.A. de C.V. (controlled by Grupo LM), a producer of galvanized coils; Zincacero S.A. de C.V. (controlled by Grupo Villacero), a producer of galvanized and pre-painted coils; Posco, a Korean steel company with a galvanizing facility; and Talleres y Aceros S.A. de C.V., or TYASA, which has a flat steel Castrip® mill and has commenced works in order to start up the galvanizing and painting facilities.

Our largest foreign competitors in the flat products market are ArcelorMittal, which has commenced works in order to start up a new hot-rolling mill in Mexico during 2021; Nucor Corporation, which has announced it expected to start operations of a new steel galvanizing facility in 2020 through a joint venture with JFE Steel Corporation; and US Steel. In addition, Steel Dynamics Incorporated has officially announced plans to build a new steel mill in southern United States including hot-rolling, cold-rolling, galvanizing and painting facilities; and Big River Steel LLC has also officially announced plans to build a new steel mill in southern United States including hot-rolling, cold-rolling and galvanizing facilities.

In the rebar market, Ternium's largest competitor is ArcelorMittal. To a lesser extent, Ternium also faces competition from Deacero S.A. de C.V., or Deacero, and from Grupo Simec S.A.B. de C.V., or Simec, controlled by Grupo ICH, and Gerdaul Cosa. In the low-carbon wire rod market, Ternium's main competitors are Deacero, ArcelorMittal and, to a lesser extent, TYASA and Simec.

In the small diameter welded pipe market, Ternium's main competitors, which are also customers, are Productos Laminados de Monterrey S.A. de C.V., or Prolamsa and Grupo LM. Orders in this market are usually small and cover a wide range of product specifications.

Southern Region

Ternium's most significant market in the Southern Region is Argentina, which in 2019 accounted for approximately 93% of sales in the Southern Region. Ternium Argentina is the main producer of flat-rolled steel products in Argentina. Its main competition in the Argentine flat steel market are imports, particularly from Brazil. The main Brazilian producers of flat steel value-added products are Usiminas, Companhia Siderúrgica Nacional and ArcelorMittal. Ternium maintains a leading position in the flat steel market of Paraguay and is present in the flat steel markets of Bolivia, Chile and Uruguay, where the location of Ternium's facilities in neighboring Argentina provides a logistical advantage to supply these markets vis-à-vis its foreign competitors.

Other Markets

Within the Other Markets region, Ternium's most significant markets for finished steel products are Colombia, the southern United States and Central America. In addition, Ternium sells steel to steel companies including ArcelorMittal and NSC's Calvert facility in the United States, and other steel companies in Brazil.

Our subsidiary Ternium Colombia is the main flat steel processor in Colombia and is also a long steel producer. Its main competitors in the Colombian steel market are Acerías Paz del Río, Gerdau Diaco, Acerías de Colombia, Siderúrgica Nacional and Siderúrgica del Occidente, and it also faces competition from imports.

Ternium has a very small participation in the U.S. steel market in comparison with U.S. domestic steel manufacturers and importers. It successfully competes in the Gulf Coast and a large portion of the West Coast where its facilities have logistical advantages.

Ternium maintains a significant position in the coated flat steel market of Central America, supported by logistical advantages provided by nearby facilities located in Costa Rica, El Salvador, Guatemala, Nicaragua and Mexico. Despite these advantages, Ternium has been facing strong competition in Central America from importers in an oversupplied steel market.

In addition, Ternium keeps a presence in other markets in the Americas where it has also been facing strong competition from other importers.

Mining

The majority of iron ore supplies to the international seaborne market come from Australia and Brazil, from the major global miners Vale, Rio Tinto and BHP Billiton, as well as from iron ore junior companies in these countries. In Mexico, the main iron ore producers are AHMSA, ArcelorMittal and Ternium, which are, at the same time, major steel-making companies and iron ore consumers. Only a small portion of the iron ore obtained by these three companies is made available for sale in the Mexican or export market. There are also other small iron ore mining concessionaries that sell their production mostly to local steel-making operations.

Capital Expenditure Program

The main objectives of Ternium's current capital expenditure program are to:

- increase steel processing capacity;
- increase product range;
- reduce production costs;
- replace equipment;
- improve product quality, equipment reliability and productivity;
- comply with applicable safety and environmental standards; and
- provide enhanced customer services.

Capital expenditures in Ternium's facilities during 2019 amounted to \$1.1 billion. The current status of the most significant projects is described below.

Steel

Mexico. During 2019, Ternium's capital expenditures in the steel segment in Mexico amounted to \$691.3 million and were mostly related to the following projects:

- *New hot-dipped galvanizing and painting lines.* During 2019, Ternium inaugurated new hot-dipped galvanizing and painting lines in its Pesquería unit. The new lines have an annual production capacity of 350,000 and 120,000 tons, respectively.
- *New hot-rolling mill.* During 2019, Ternium made progress on its project to build a new hot-rolling mill in its Pesquería unit. The new line will have an annual production capacity of 4.4 million tons.
- *Environmental and safety projects.* During 2019, Ternium advanced various environmental and safety projects mainly in the Guerrero, Puebla and Apodaca units. In the Guerrero unit, Ternium made progress, among other

projects, in the improvement of the management system of the direct reduction facilities, the treatment of DRI sludge, the replacement of a pickling line's tanks and cleaning equipment and the improvement of slag processing and handling. In the Puebla unit, Ternium concluded the construction of a new bag filter for the fume and dust capturing system in the electric arc furnace.

Southern Region. During 2019, Ternium's capital expenditures in Argentina amounted to \$74.6 million, mostly related to the progress on several projects aimed at further improving environmental and safety conditions. In the Ensenada unit, Ternium concluded the construction of a new acid regeneration plant for a pickling line, that resulted in increased acid processing capacity and the incorporation of new technology for the recycling, in the upstream facilities, of ferrous material generated in the process. In addition, the Company made progress in the revamping of an acid vapours capturing system, which is expected to reduce emissions and better preserve nearby equipment and infrastructure. In the San Nicolás unit, Ternium concluded improvements in the steel shop's fume and dust capturing systems, and the construction of a new runoff water pumping station for the coal and coke yards, the coking batteries sector, the co-products facilities and nearby areas. In addition, Ternium made progress, among other projects, in the replacement of a pickling lines's tanks and its steam temperature system, the construction of a wastewater treatment plant in the continuous casting facilities and improvements in fire extinguishing pump stations. In the Rosario unit, the Company made progress, among other projects, in the revamping of a building's structure to accommodate new cranes, which is expected to enhance logistics in the line.

Other Markets. During 2019, Ternium's capital expenditures in our facilities located in other countries amounted to \$177.8 million and were mostly related to the following projects:

- *New steel bar and coil mill in Colombia.* During 2019, Ternium made progress in the construction of a new steel bar and coil mill in Palmar de Varela, Atlántico, Colombia. The new facility will have an annual production capacity of 520,000 tons of reinforcing bars.
- *Several projects in Ternium Brasil's facilities.* During 2019, Ternium made progress on several projects aimed at improving product quality and equipment reliability, reducing costs and improving environmental and safety conditions. These projects included, among others, the expansion of pulverized coal injection capacity in the blast furnace to reduce the consumption of purchased coke, the pavement of roads to improve air quality, the installation of new safety devices and maintenance works in the electrostatic precipitator of the sinter facilities.

Mining

During 2019, Ternium's capital expenditures in its mining segment in Mexico were \$108.6 million. Las Encinas' capital expenditures amounted to \$50.0 million in the year, mainly related to the conclusion of the construction of a new tailings dam with a 62-hectare pond, and progress in the construction of an emissions capture system and a new desulphurisation plant in the Alzada unit.

Ternium's share in Consorcio Peña Colorada's capital expenditures amounted to \$58.6 million, mainly related to preparation works at a new iron ore body in the Peña Colorada mine and maintenance activities.

2020 Capital Expenditures

In order to mitigate the impact of expected lower sales resulting from COVID-19 pandemic, Ternium has slowed or postponed several capital expenditure projects across its facilities. The specific reduction will depend on the pace at which economic activity and steel market demand return. For further information on the effects of COVID-19 see Item 5. "Operating and Financial Review and Prospects-G. Recent Developments-Effect of COVID-19 outbreak on Ternium's activities." The main capital expenditure projects during 2020 will relate to the following:

- progress on the construction of the above-mentioned new hot-rolling mill in the Pesquería unit in Mexico, with an estimated total investment of approximately \$1.1 billion;
- completion of the construction of the above-mentioned new steel bar and coil mill in Palmar de Varela in Colombia, with total investment of approximately \$90 million;
- progress in the expansion of pulverized coal injection capacity to the blast furnaces at the Rio de Janeiro unit in Brasil, with total investment of approximately \$46 million;
- projects aimed at further improving environmental and safety conditions throughout our main facilities; and
- the expansion of service center capacity in several locations.

Raw Materials, Slabs, Energy and Other Inputs

The main inputs for Ternium's facilities are the following: in Mexico, slabs, iron ore, steel scrap, electricity and natural gas; in Brazil and Argentina, iron ore and metallurgical coal; and in Colombia, steel products, steel scrap and electricity. Below is a more complete description of the supply conditions for raw materials, slabs, billets, energy and other inputs at Ternium's facilities in these countries. For a description of some of the risks associated with Ternium's access to raw materials, energy and other inputs, see Item 3. "Key Information—D. Risk Factors—Risks Relating to the Steel Industry—Price fluctuations or shortages in the supply of raw materials, energy and other inputs could adversely affect Ternium's profitability."

Mexico

In Mexico, Ternium's manufacturing of finished steel products relies on the supply of crude steel from its steelmaking facilities, which are based on the mini-mill technology, and on the purchase of crude steel slabs from third parties or from other Ternium subsidiaries. The mini-mill technology melts a variable combination of DRI and steel scrap to produce thin slabs, billets and round bars. Ternium's production process in Mexico requires extensive use of natural gas and electricity. Purchased slabs are the largest component of production costs; iron ore, scrap, electricity and natural gas costs are also significant.

Slabs. Ternium's Mexican subsidiaries have some non-integrated steel processing facilities that consume large quantities of slabs purchased from third-party suppliers or from other Ternium subsidiaries. Currently, slabs are purchased both in Mexico (primarily from ArcelorMittal) and in the international markets, including from Ternium Brasil and, from time to time, Ternium Argentina. Slab consumption could vary significantly from year to year in accordance with market conditions. Our Mexican subsidiaries purchased, either from third parties or from other Ternium facilities, 3.1 million, 3.3 million and 3.7 million tons of slabs in 2019, 2018 and 2017, respectively. Slab purchase prices are market-based.

Iron ore. As described under "—Production Facilities and Processes—Mining Production Facilities" above, Ternium's subsidiaries own interests in two mining companies in Mexico: 100% of the equity of Las Encinas and a 50% equity stake in Consorcio Peña Colorada. In 2019, Ternium's Mexican facilities sourced 100% of their iron ore pellet requirements from these two companies. Under our arrangement with Consorcio Peña Colorada, effective since January 1, 2013, we are committed to off-take 50% of the annual production of the Peña Colorada mine. In 2019, the substantial majority of the iron ore production available to Ternium went to our own direct reduction plants. On average, we consume approximately 0.9 tons of iron ore to produce one ton of crude steel at our mini-mill facilities in Mexico.

Steel scrap. In 2019, approximately 63% of Ternium's scrap requirements was obtained in the Mexican market through its own steel scrap collecting and processing operations and approximately 37% was purchased in the United States. Scrap is purchased at market prices. On average, we consume approximately 0.5 tons of scrap to produce one ton of crude steel at our mini-mill facilities in Mexico.

Electricity. Electric arc furnaces consume large quantities of electricity. In Mexico, Ternium purchases electricity from Techgen S.A. de C.V., or Techgen, CFE and Iberdrola Energía Monterrey, S.A. de C.V., or Iberdrola.

Techgen owns a natural gas-fired combined cycle power plant in the Pesquería area of the State of Nuevo León, Mexico. Techgen is a joint venture company in which Ternium participates and contracts 78% of Techgen's capacity of approximately 900 megawatts, or MW. As the capacity contracted by Ternium is significantly higher than the capacity currently required, Ternium resells unused electricity to the Mexican market. For further information on the Techgen investment, see "—C. Organizational Structure—Other investments—Techgen".

Ternium purchases electricity from Iberdrola under supply contracts, with electricity purchases under these contracts being made at market prices less certain agreed discounts. For further information on Ternium's commitments with Iberdrola, see note 25(ii) (e) to the consolidated financial statements included elsewhere in this annual report. On average, we consume approximately 0.7 megawatts-hour, or MWH of electricity to produce one ton of crude steel at our mini-mill facilities in Mexico.

Natural gas. Natural gas is mainly used as a reducing agent for the production of DRI and for the reheating of slabs and billets before the hot-rolling process. In the past, Ternium could purchase natural gas in Mexico solely from Petroleos Mexicanos S.A. de C.V., or Pemex, the Mexican state-owned oil and gas company. Based on new Mexican rules and regulations effective since July 1, 2017, Ternium secured with *Centro Nacional de Control del Gas Natural*, the Mexican national center for natural gas control, natural gas transportation capacity on *Sistema de Transporte y*

Almacenamiento Nacional Integrado de Gas Natural, the Mexican natural gas transportation grid. Ternium has also natural gas distribution agreements with Gas Industrial de Monterrey S.A. de C.V., or GIMSA, Compañía Mexicana de Gas S.A. de C.V. and Naturgy Mexico S.A. de C.V.

In addition, Ternium has a renewable one-year natural gas supply agreement with BP Energía México S. de R.L. de C.V., or BPEM, a subsidiary of British Petroleum. Natural gas prices in Mexico are mainly based on the Houston Ship Channel reference price plus transportation, distribution and service costs depending on the location of the delivery points in Mexico. On average, we consume approximately 7.9 million btu of natural gas to produce one ton of crude steel at our mini-mill facilities in Mexico.

For additional information regarding inputs affecting our operations in Mexico, see Item 3. “Key Information—D. Risk Factors—Risks Relating to the Countries in Which Ternium Operate—Mexico” and “—Risks Relating to Ternium's Mining Activities.”

Brazil and Argentina

In Brazil and Argentina, Ternium produces crude steel through the use of blast furnace technology. The principal raw materials used to produce steel are iron ore, metallurgical coal and, in Ternium Brasil, pulverized coal. The manufacturing process also requires significant quantities of electricity and natural gas.

Iron ore. Iron ore is purchased under long-term agreements from suppliers in Brazil. Prices under these contracts are determined in accordance with market conditions. Our main suppliers of iron ore, in the form of lumps, pellets and sinter feed fines, are Vale and Vetria Mineração S.A. Our geographic location in Brazil provides favorable access to high quality iron ore pellets, lumps and fines produced in Brazil's iron ore mines in the Southeast Region mainly, and our geographic location in Argentina provides favorable access to high quality iron ore lump and fines produced in Brazil's iron ore mines in the Pantanal Region (Mato Grosso do Sul state). In addition, Ternium Argentina's steelmaking facility receives iron ore pellets and fines from ports located on Brazil's ocean coast. We consume approximately 1.5 tons of iron ore to produce one ton of crude steel in Brazil and approximately 1.3 tons of iron ore to produce one ton of crude steel in Argentina.

Metallurgical coal and related materials. Ternium Brasil and Ternium Argentina obtain their coke through the distillation in their coke ovens of metallurgical coal and petroleum coke. The facilities require different types of coal to produce coke. In addition, Ternium Brasil purchases other coal qualities to inject in the blast furnace. Coal is purchased under short-term contracts and on the spot market from several major international suppliers based mainly in Australia, the United States and Russia. Prices under contracts are determined in accordance with market conditions. Ternium purchases petroleum coke produced by oil companies in Argentina and Brazil. The volume purchased from each supplier mainly depends on the technical quality requirements of the blast furnace operations. We consume approximately 0.6 tons of metallurgical coal, pulverized coal and petroleum coke to produce one ton of crude steel in Brazil and 0.5 tons of metallurgical coal and petroleum coke to produce one ton of crude steel in Argentina.

Electricity. Ternium Brasil and Ternium Argentina consume large quantities of electricity for their manufacturing activities. The electricity required by Ternium Brasil is self-generated on site by its thermoelectric plant with an installed power capacity of 490 MW, with excess electricity production sold in the Brazilian wholesale market. Part of the electricity required by Ternium Argentina's San Nicolás facility is self-generated on site by a wholly-owned thermoelectric plant with an installed power capacity of 108 MW that operates with an utilization rate of approximately 75%. These thermoelectric plants use steam primarily generated from co-product gases obtained in the steelmaking process (blast furnace and coke oven gases).

Additional fuel requirements for steam production are covered with natural gas purchased from different market vendors and/or, in the case of Ternium Argentina, fuel oil bought at market prices. Ternium Argentina covers electricity shortfalls or sells surpluses, as the case may be, at spot prices with CAMMESA, the Argentine wholesale electricity market manager. Over the course of the last several years, demand for electricity in Argentina increased substantially, outpacing supply and resulting in shortages of electricity to residential and industrial users during periods of high demand. During these periods, Ternium Argentina's energy purchases to cover its energy shortfalls suffered restrictions. However, in the last three years new power facilities came online and investments in new distribution capacity increased, reducing the structural electricity deficit. During 2016, Argentina promulgated Law No. 27.191 (as amended, supplemented and modified from time to time, the "New Energy Law"), providing for mandatory minimum shares of renewable energy in total electricity consumption. The New Energy Law requires large energy consumers to increase the share of renewable energy consumption to 8% by 2019 and 20% by 2025. CAMMESA is responsible for meeting the law's renewable energy consumption targets. We purchase approximately 0.1 MWH of electricity to produce one ton of crude steel in Argentina.

Natural gas. Ternium Brasil and Ternium Argentina also consume substantial volumes of natural gas, particularly to operate their steel plants and power generation facilities. Ternium Brasil purchases natural gas at market prices from Companhia Distribuidora de Gás do Rio de Janeiro, or CEG. Ternium Brasil has a natural gas transportation and distribution agreement with CEG that expires in December 2020. We consume approximately 0.5 million btu of purchased natural gas to produce one ton of crude steel in Brazil.

Ternium Argentina purchases natural gas at market prices mainly from Tecpetrol S.A., a company in which San Faustin holds a controlling interest, Pluspetrol S.A., and natural gas traders, including MetroEnergía S.A., Rafael G. Albanesi S.A., Natural Energy S.A., Energy Traders S.A., Gas Patagonia S.A. and Gas Meridional S.R.L. Over the course of the past several years, natural gas demand in Argentina increased significantly, outpacing supply and thus the provision of natural gas to industrial users (including Ternium Argentina) suffered restrictions during periods of high demand. However, in the last three years natural gas supply increased, and the restrictions were reduced.

For its San Nicolás facility, Ternium Argentina has a long-term natural gas transportation agreement with Transportadora de Gas del Norte S.A., or TGN, and a renewable one-year natural gas distribution agreement with Litoral Gas S.A., or Litoral Gas. TGN and Litoral Gas are companies in which San Faustin holds significant but non-controlling interests. For its other facilities Ternium Argentina's natural gas transportation and distribution needs are covered by the corresponding regional distributors Camuzzi Gas Pampeana S.A., Metrogas S.A. and Naturgy BAN S.A. We consume approximately 3.7 million btu of purchased natural gas to produce one ton of crude steel in Argentina.

Other inputs. Ternium Brasil and Ternium Argentina have on-site oxygen, nitrogen and argon separation plants in order to extract these gases for use in the steelmaking process. Ternium Brasil's separation plants are managed by a consortium formed by Air Liquide Brasil Ltda., AirSteel Ltda., White Martins Gases Industriais Ltda., White Martins Steel Ltda. and ThyssenKrupp MinEnergy GmbH under a long-term contract for the supply of air, oxygen, nitrogen and argon. Ternium Argentina's separation plants are managed by Air Liquide Argentina S.A. under a long-term contract for the supply of oxygen, nitrogen and argon.

Colombia

In Colombia, Ternium's manufacturing of finished steel products relies on two sources: (a) the production of steel in its steelmaking facilities, which are based on the electric arc furnace technology; and (b) the purchase of steel products, both from our overseas subsidiaries and from third parties. The electric arc furnace technology melts steel scrap to produce steel billets, which are then rolled into various long products. Ternium's production process requires extensive use of electricity. Steel products are the largest component of production costs; scrap and electricity costs are also significant.

Steel products. Ternium's operations in Colombia include non-integrated facilities that process steel supplied by Ternium's overseas subsidiaries and steel purchased from third-party suppliers procured in the domestic and international markets. We purchased from third parties approximately 200,000 tons of steel products in 2019, 240,000 tons of steel products in 2018 and 280,000 tons of steel products in 2017.

Steel scrap. Scrap is the main raw material for producing steel in our steelmaking facilities in Colombia. Ternium sources 100% of its steel scrap needs from the local scrap market. We consume approximately 1.1 tons of scrap to produce one ton of crude steel in Colombia.

Electricity. Manizales is our main electricity consuming unit in Colombia, mainly due to its electric arc furnace-based steel production operations. Manizales purchases electricity from Isagen S.A. E.S.P., a Colombian power company, under a supply contract expiring in December 2021. The electricity price is based on a fixed rate adjusted by the wholesale price index with certain pre-set premiums or discounts in the event prevailing market prices reach a level above or below certain thresholds. We consume approximately 0.6 MWH of electricity to produce one ton of crude steel in Colombia.

Product Quality Standards

Ternium develops its products and services with a philosophy of continuous improvement and seeks to excel in its internal quality control of its products and processes. Ternium's products are manufactured in accordance with proprietary standards and the requirements of customers, and within the specifications of recognized international standardization entities including the International Organization for Standardization, or ISO, the American Society for Testing and Materials, the European Standards, the Japanese Industrial Standards, the Society of Automotive

Engineers, and the standards of the American Petroleum Institute. Ternium also has product certifications based on international or local standards depending on the markets served.

Ternium established and implemented a Quality Management System, or QMS, and continuously improves its effectiveness in compliance with the requirements of the applicable ISO 9001:2015 and IATF 16949:2016, intended for production of automotive supplies, and other specific requirements. Ternium's QMS operates with aligned strategies, objectives and criteria throughout Ternium's subsidiaries. To keep its ISO multisite certification, the QMS is audited annually by Lloyd's Register Quality Assurance.

Ternium Mexico's and Ternium Argentina's metallurgical testing laboratories are accredited for the performance of various relevant technical tests in accordance with ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories or equivalent standards. During 2019, Ternium made progress on the project to upgrade its laboratories' accreditation to the newest version of ISO/IEC 17025:2017, under the time span defined by ISO/IEC, through national accreditation bodies recognized by the International Laboratory Accreditation Cooperation.

Research and Development; Product Development

Steel is a highly versatile metal, offering a wide space for product innovation. For example, over 70% of the structural steel parts used to build a car today involve solutions that did not exist 20 years ago. Ternium's production strategy is based on offering a complete range of value-added, high-end products, with an emphasis on creating and manufacturing increasingly sophisticated steel products for new applications and industries.

The properties of the steel products required by our customers are usually the result of a combination of their metal composition and the way metal gets processed into finished steel products. Ternium has identified synergies in collaborating with its customers in the early stages of their projects. Anticipating our customers' upcoming steel product requirements, through our participation in joint development projects, is key not only to build customer relationships but also to plan and develop new processes, which may sometimes require the incorporation of new equipment and technology.

At Ternium, we carry out applied research efforts in different ways. We develop steel products through in-house programs, joint projects with leading industrial customers, joint efforts together with recognized universities or research centers, or through our participation in international consortia. Ternium's research programs are open to a broad-based international network of industry consortia. Approximately 50 universities and research laboratories from both the public and private sectors collaborate with us. The goal is to find and develop the best solutions to support an agenda aimed at achieving better and more sustainable steel. The research spans the entire production cycle, from primary steelmaking and metallurgy, to rolling and galvanizing. Ternium is a member of WorldAutoSteel, an organization comprising some of the world's major steel producers. Under the auspices of worldsteel, the group regularly updates the automotive industry on upcoming new steel capabilities available to meet their design and manufacturing requirements.

Ternium has over 120 ongoing product development projects in partnership with industrial customers, and over 50 ongoing research projects including our in-house developments and those involving university researchers and students from some of the world's most prestigious institutions. We have been increasingly engaging universities in our research efforts in order to expand and further diversify Ternium's research network and capabilities. This initiative fosters the development of fundamental knowledge and know-how at participating universities while enabling the optimization of Ternium's in-house research resources. In 2019, approximately thirty undergraduate and postgraduate students pursuing degrees in engineering, materials science and metallurgy took part in the program.

Investing to Incorporate New Equipment and Technologies

The inauguration of the Ternium Industrial Center in Pesquería, Mexico, in 2013, led to an intensive product development period. We widened our product range offering to include sophisticated high-end steel products required by the manufacturing industry, particularly automotive manufacturers. These developments were made possible with the incorporation of new production technologies to our industrial system through the new Pesquería unit. Furthermore, the installation in 2015 of state-of-the-art cooling technology in our hot strip mill in our Churubusco unit, Mexico, has allowed developing and processing new advanced high-strength steel grades, including dual phase, ferrite-bainite, martensitic and complex phase grades. Based on these new capabilities, we have further widened our high-end product portfolio for customers in the automotive, metal-mechanic, home appliance, oil & gas and electric motors industries.

Regulations

Environmental Regulation

Ternium's operations (including mining activities in Mexico) are subject to a broad range of environmental laws, regulations, permit requirements and decrees relating to the protection of human health and the environment, including laws and regulations relating to land use; air emissions; wastewater treatment and discharges; the use, handling and disposal of hazardous or toxic materials and the handling and disposal of solid wastes. Laws and regulations protecting the environment have become increasingly complex and more stringent and expensive to implement in recent years. International environmental requirements may vary. Ternium's corporate environmental and energy policy commits each of its business units to comply with all applicable environmental laws and regulations, and aims to achieve the highest standards of environmental performance as a basis to enhance sustainable development. Compliance with environmental laws and regulations, and monitoring regulatory changes, is addressed primarily at the regional level.

Ternium reports carbon dioxide emissions data on an annual basis to worldsteel to contribute to the association's initiative to collect emissions data from member companies. We support the steel industry's ongoing effort to develop innovative solutions to reduce GHG emissions over the life cycle of steel products. According to the Intergovernmental Panel on Climate Change, the steel industry makes for approximately 8% of all human-made GHG emissions.

The ultimate impact of complying with existing and expected laws and regulations is not always clearly known or determinable since regulations under some of these laws have not yet been promulgated or are undergoing revision. The expenditures necessary to remain in compliance with these laws and regulations, including site or other remediation costs, or costs incurred from potential environmental liabilities, could have a material adverse effect on our financial condition and profitability. While we incur and will continue to incur expenditures to comply with applicable laws and regulations, there always remains a risk that environmental incidents or accidents may occur that may negatively affect our reputation or our operations.

Ternium has not been subject to any material penalty for any environmental violations in 2019, and we are not aware of any current material legal or administrative proceedings pending against Ternium with respect to environmental matters which could have an adverse material impact on Ternium's financial condition or results of operations. Below is a summary of relevant legislation applicable to Ternium.

Mexico:

Mexican environmental laws establish the "polluter pays" principle, pursuant to which the individual that causes an environmental breach is responsible for restoring the environment to its pre-pollution condition and face economic and, in some cases, criminal liabilities. Mexican regulations also establish an annual report scheme of GHG emissions.

In addition, Mexican regulations provide for carbon dioxide emission taxes. Several fuels are subject to taxes, with rates reviewed annually, depending on their efficiency in terms of carbon dioxide emission per unit of energy obtained. The carbon dioxide emission tax for natural gas is currently zero. Mexico is also in the process of creating a trade market for carbon dioxide emissions and implemented a pilot program in 2020. Ternium Mexico is a large consumer of natural gas. For further information see "—Raw Materials, Slabs, Energy and Other Inputs."

Brazil:

The Company's activities are subject to wide-ranging Brazilian environmental legislation at the federal, state and municipal levels that govern, among other aspects, effluents, atmospheric emissions and the handling and final disposal of hazardous waste, as well as the obligation to obtain operating licenses for the installation and operation of potentially polluting activities.

Brazilian environmental legislation imposes criminal and administrative penalties on natural persons and legal entities that commit environmental crimes or infractions, as well as for the obligation to repair the environmental damage caused. Environmental crimes or infractions could subject the Company to penalties that include:

- fines that at the administrative level could reach as high as BRL50 million, depending on the violator's economic capacity and past record, as well as the severity of the facts and prior history, with the amounts potentially doubled or tripled in the case of repeat offenders;

- suspension of or interference in the activities of the respective enterprise; and
- loss of benefits, such as the suspension of government financing and the inability to qualify for public bidding processes and tax breaks.

In addition, strict liability is applicable to environmental crimes for both natural persons and legal entities. Environmental legislation also provides for disregarding the legal status of a company's controlling shareholders whenever such status represents an impediment to receiving restitution for environmental damages.

In the civil sphere, environmental damage results in joint and several liability as well as strict liability. This means that the obligation to repair the environmental damage may affect all those directly or indirectly involved, regardless of any proof of who is to blame. As a result, the hiring of third parties to intervene in its operations to perform such services as final disposal of solid waste does not exempt the Company from liability for any environmental damage that may occur.

Argentina:

Argentine environmental laws and regulations require the renewal of environmental licenses and emission permits every two or four years, depending on the activity. Although such renewals may take longer than expected and the renewal process may extend beyond the due date of the then current licenses and permits, no shut down orders against the Company have ever been issued while the renewal processes are ongoing. In addition, Argentine environmental laws and regulations require mandatory environmental insurance to cover facilities that use hazardous materials. Based on the outcome of a revision of environmental regulations during 2019, it is expected that more stringent air quality standards will be gradually imposed.

During 2016, Argentina issued new legislation providing for mandatory minimum shares of renewable energy in total electricity consumption. For further information see “—Raw Materials, Slabs, Energy and Other Inputs—Brazil and Argentina—Electricity”.

In December 2017, the Argentine Congress approved a new tax on carbon emissions. The tax does not apply to metallurgical coal and natural gas provided that these products are used as raw materials in the production process, as is the case of Ternium Argentina.

Mining regulations in Mexico

Because our operations in Mexico include mining, we are also subject to Mexican regulations relating to mining and mining concessions. Under Mexican law, mineral resources belong to the Mexican nation and a concession from the Mexican federal government is required to explore for or exploit mineral reserves. Pursuant to Mexico's Mining Law, mining concessions may only be granted to Mexican individuals and to legal entities incorporated under Mexican law. Foreign investors may hold up to 100% of the shares of such entities.

A mining concession allows its holder to perform both exploration works (including identifying mineral deposits and quantifying and evaluating economically minable reserves) and exploitation works (including detaching and extracting mineral products from such deposits). Mining concessions are granted for a 50-year period from the date of their recording in the Public Mining Registry; following the expiration of the initial concession term, the concessions are renewable for an additional 50-year term in accordance with, and subject to, the procedures set forth in the Mining Law.

Mining concessions grant several specified rights to the concessionaire, including:

- the right to dispose freely of mineral products obtained as a result of the exploitation of the concession;
- the right to obtain the expropriation of, or an easement with respect to, the land where the exploration or exploitation will be conducted; and
- the use of water in the mine to facilitate extraction.

In addition, a holder of a mining concession is obligated, among other things, to explore or exploit the relevant concession (including the achievement of minimum investment targets), to pay for any relevant mining rights, to comply with all environmental and safety standards, and to provide information to and permit inspections by the Secretariat of Economy. Mining concessions may be terminated if the obligations of the concessionaire are not satisfied.

A company that holds a concession must be registered with the Public Mining Registry. In addition, mining concessions and permits, assignments, transfers and encumbrances must be recorded with the Public Mining Registry to be enforceable. We believe that our material mining concessions are duly registered in the Public Mining Registry.

For information regarding amendments to the Mining Law and regulations in Mexico, see Item 3. “Key Information—D. Risk Factors—Risks Relating to Ternium's Mining Activities—Required governmental concessions could be subject to changes or termination, permits and rights of use and occupancy could be difficult to obtain or maintain and taxes or royalties applicable to the mining industry could increase, all of which could adversely affect Ternium's mining activities and operating costs.”

Trade regulations

Intense global competition in the steel industry lead many countries, from time to time, to increase duties or impose restrictions on steel product imports to protect their domestic industries from trades that are not made under market conditions or that are otherwise unfair. Such measures protect domestic producers from increased imports sold at dumped or subsidized prices.

During a period of intense competition in 2001, the national governments in some markets such as the United States and Europe implemented these measures as well as other measures known as safeguards. While safeguards were lifted in December 2003, antidumping and countervailing duties remain in place. In recent years, a new wave of protective measures emerged due to increased steel imports from many countries, mainly China. Moreover, during 2018, under Section 232 of the Trade Expansion Act of 1962, the U.S. President imposed a 25% tariff on steel imports; however, Australia, Canada and Mexico are exempted from the tariff; although Argentina, Brazil and South Korea were also exempted, they were subject to quota system agreements covering steel imports from those countries. At the same time, bilateral or regional free trade agreements have liberalized trade among some countries, providing for reduced or zero tariffs for many goods, including steel products. The entry into force of various free trade agreements and certain countries' imposition of trade remedy measures can and have both benefited and adversely affected Ternium's home markets and export sales of steel products, as described below. For further information, see also Item 3. “Key Information—D. Risk Factors—Certain Regulatory Risks and Litigation Risks—International trade actions or regulations and trade-related legal proceedings could adversely affect Ternium's sales, revenues and overall business.” Relevant free trade agreements and trade remedy measures, by country, are described below:

Mexico

Imports of steel products to Mexico:

The Mexican government has imposed certain antidumping measures on imports of steel products that are similar to the ones produced by Ternium Mexico. The following is a description of measures currently in effect and ongoing investigations:

- *Hot-rolled products:* On March 28, 2000, the Mexican government imposed antidumping duties on the Russian Federation and Ukraine of 30.31% and 46.66%, respectively, on hot-rolled products. The measure was extended three times for five years each, on March 17, 2006; on September 8, 2011 (modifying the duties to 21% and 25% for Russia and Ukraine respectively) and on January 28, 2016. On July 19, 2013, the Mexican government initiated an anti-circumvention investigation on imports of boron-alloyed hot-rolled products from Russia. On March 21, 2014, Mexico's Secretariat of Economy published the final resolution on the investigation, by which boron-alloyed hot-rolled products from Russia are now subject to a 21% antidumping duty. Furthermore, on December 22, 2015, the Mexican government published the final antidumping resolution imposing definitive and specific antidumping duties on China (\$354.92 per ton, except for imports from Tangshan Iron and Steel Group Company Limited, which were fixed in \$335.60 per ton), Germany (\$166.01 per ton, except for imports from ArcelorMittal Bremen GmbH, which were fixed in \$137 per ton) and France (\$75.59 per ton, except for imports from ArcelorMittal Méditerranée S.A.S., which were fixed in \$67.54 per ton), on hot-rolled products.
- *Plate in coils:* Since June 1996, an antidumping duty of 29.3% has been in place on imports from Russia. The measure has been extended four times, in June 2003, June 2007, November 2012 and May 2017. On July 5, 2013, the Mexican government initiated an anti-circumvention investigation on imports of boron-alloyed plate in coil imports from Russia. On February 19, 2014, Mexico's Secretariat of Economy published the final resolution on the investigation by which boron-alloyed plate in coil imports are now subject to a 29.3% antidumping duty. Such resolution has been appealed and judicial procedures are ongoing in Mexican courts.

- *Cold-rolled products*: In June 1999, Mexico imposed antidumping duties on cold-rolled steel sheets from the Russian Federation and Kazakhstan of 15% and 22% respectively. The measure has been extended three times, in December 2005, December 2010 and July 2015. The Mexican authorities initiated a new sunset review of the measure on June 20, 2019. In addition, on October 1, 2012, the Mexican government initiated a dumping investigation on cold-rolled steel imports from South Korea. On December 26, 2013, Mexico's Secretariat of Economy published a suspension agreement under which Korean exporters, Posco and Hyundai Hysco Company Limited, or Hyundai, voluntarily undertook to limit their cold-rolled products exports to the Mexican market. On May 25, 2016, the Mexican authorities initiated a changed circumstances review of this suspension agreement, and on June 13, 2017, the Secretariat of Economy issued a final determination increasing Posco's and Hyundai's quotas for 2017 and 2018. On August 23, 2018, the Mexican government initiated a sunset review of the agreement and issued a final affirmative determination on November 1, 2019. On May 14, 2019, Mexico initiated a second changed circumstances review of the suspension agreement for Posco and on December 26, 2019, a preliminary determination was issued provisionally increasing Posco's quota for the years 2019 to 2023. Furthermore, on June 19, 2015, Mexico imposed antidumping duties on cold-rolled steel products from China of between 65.99% and 103.41%, with rates depending on the Chinese exporting company. On December 2015, Mexico initiated a circumvention inquiry against cold rolled steel products with boron added from China. On July 11, 2016, the Mexican government issued a final determination confirming China's circumvention practice and thus, extending the antidumping duties.
- *Coated flat products*: On December 17, 2015, the Mexican government initiated an antidumping investigation on coated flat products from China and Taiwan. On July 29, 2016, Mexico imposed provisional antidumping duties on Chinese exports of between \$192 and \$438 per ton, and of \$563 per ton on Taiwanese products. On June 5, 2017, Mexico imposed final antidumping duties on Chinese exports of between 22.22% and 76.33%, and of between 22.26% and 52.57% on Taiwanese products. On November 21, 2017, Mexico amended final antidumping duties applicable to products sold by Chinese companies, one of which was imposed duties for \$187 per ton, while others face duties ranging between 22.26% and 76.33% of the products' price.
- *Reinforcing bars*: Since 1995, imports of reinforcing bars from Brazil are subject to an antidumping duty of 57.69%. Subsequent sunset reviews determined the continuation of the antidumping duty for additional five-year periods. On July 31, 2015, the fourth sunset review was initiated, and on September 9, 2016, the Mexican authority determined the continuation of the antidumping duty for an additional five-year period.
- *Wire rod*: Since September 2000, imports of wire rod from Ukraine are subject to an antidumping duty. The initial antidumping margin was 30.52%. In June 2006, the first sunset review resolution determined the continuation of the antidumping duty for five more years. On September 7, 2010, a second sunset review was initiated, and on March 7, 2012, the Mexican government increased the antidumping duty to 41% until September 2015. The Mexican government initiated the third sunset review on September 4, 2015, and extended the measures for an additional five-year period on September 2, 2016. In addition, on September 2, 2015, the Mexican government initiated an antidumping investigation on wire rod from China. After a preliminary determination published on December 22, 2015, on July 28, 2016 the Mexican government imposed a specific antidumping duty of US\$0.49 per kilogram for five years.
- *Welded Tubes*: On December 7, 2016, the Mexican government initiated an antidumping investigation on welded tubes of circular, square or rectangular cross section from China. On March 8, 2018, Mexico imposed final antidumping duties on Chinese exports of between \$356 and \$618 per ton.

On February 9, 2010, the Mexican Government issued a decree reducing the import tariffs on several steel product groups. The tariff for finished products was set at 0% starting in 2012 (from 3% in 2011, 5% in 2010 and 7% in 2009). The tariff for semi-finished products was set at 0% starting in 2012 (from 3% in 2011 and 2010, and 5% in 2009) and the tariff for welded pipe products was set in a range from 0% to 5% starting in 2012 (from 7% in 2011 and 2010, and 10% in 2009). Three companies (including Ternium) and an industry related labor union sought an injunction (*acción de amparo*) against these government decisions in early 2012 when the tariffs went to 0%. The legal action taken by the companies was rejected by the courts, but the legal action taken by the labor union had a positive preliminary outcome. As a result, the government reestablished on August 1, 2012, a 3% tariff on some semi-finished, flat, long and pipe and tube steel products. At the beginning of May 2015, the tariffs were removed again. However, on October 7, 2015, the Mexican Government issued a decree imposing a temporary 15% import tariff on several steel product groups for a period of six months. The measure has been renewed several times for subsequent six-month periods. On September 20, 2019, the Mexican Government renewed the 15% temporary import tariff on steel products other than semi-finished products, including plate, hot-rolled, cold-rolled, coated, tubular, structural and wire rod. Such tariff will

be gradually reduced until lifted on August 21, 2024. In addition, on October 15, 2019, the Mexican Government renewed the 15% temporary import tariff on semi-finished products, including slabs, for a period of six months.

Exports of steel products from Mexico:

U.S. authorities have imposed a number of measures on steel import products from Mexico, thereby restricting Ternium's exports to the U.S. The following is a description of measures currently in effect and ongoing investigations:

- *Carbon and alloy steel wire rod:* Ternium Mexico's wire rod exports are subject to an antidumping duty of 40.52% pursuant to the latest administrative review on the antidumping duty order on carbon and certain alloy steel wire rod. On July 3, 2014, as a result of the most recent sunset review, such duty was extended for five more years. The measure is under a sunset review initiated on June 3, 2019.
- *Pipe and tube:* During 2007, U.S. authorities initiated an antidumping investigation of light-walled rectangular pipe and tube, or LWRPT, from, among other countries, Mexico. On June 13, 2008, the authorities made a final determination of sales at less than fair value in the investigation of LWRPT from Mexico and, consequently, imposed antidumping duties. On February 18, 2011, the authorities published the final results of the first administrative review by which Mexican LWRPT exports were subject to an antidumping duty of 6.13% until May 23, 2014, when U.S. authorities made a final affirmative sunset review of 2.40% for Maquilacero and 3.76% for certain other companies subject to the review, including Ternium Mexico. On March 12, 2018, U.S. authorities published the final results of the 2015-2016 administrative review, which did not impose any antidumping duties on Prolamsa and Aceros Cuatro Caminos S.A. de C.V., but imposed an antidumping duty of 3.76% on other exporters. On April 22, 2019, the U.S. authorities imposed a duty range of between 8.32% and 17.65% for certain Mexican producers or exporters as a result of the 2016-2017 administrative review. The measure is under a sunset review initiated on May 1, 2019. On August 10, 2015, U.S. authorities initiated an antidumping investigation on imports of heavy-walled rectangular pipe and tube, or HWRPT, from Korea, Turkey and Mexico. On September 13, 2016 the authorities issued an antidumping duty order on imports of HWRPT, imposing an antidumping duty range of between 2.34% and 3.82% for Korea, 17.83% and 35.66% for Turkey, and in the case of Mexico 3.83% for Maquilacero, 5.21% for Productos y Laminados de Monterrey and 4.91% for Ternium Mexico and others. On July 10, 2019, the U.S. authorities issued the final results of the 2016-2017 administrative review imposing duties of 1.43%, 8.09% and 6.13% on Maquilacero, Prolamsa and other exporters including Ternium, respectively.
- *Welded pipes:* Since 1992, pursuant to an antidumping duty order on circular welded non-alloy steel pipe -or standard pipe- from various countries, including Mexico, standard pipes manufactured by Hylsamex and Grupo Imsa were subject to antidumping duties. In 2007, such measures were extended for five more years. In August 2009, U.S. authorities published the final results of a changed circumstances review, concluding that Ternium Mexico is the successor-in-interest to Hylsamex for purposes of determining antidumping duty liability. In accordance with the latest administrative review, the applicable duty for Ternium Mexico is 24.17%. The measure has since been extended two more times, in 2012 and February 2018.
- *Reinforced bars:* On November 6, 2014, U.S. authorities made a final determination on reinforced bar imports from Mexico, imposing antidumping duties between 20.58% and 66.70%. As a result of the 2016-2017 administrative review, the U.S. Government imposed a duty of 3.65% on Mexican producers, including Ternium Mexico. The measure is currently under a sunset review initiated on October 1, 2019.
- *Fabricated Structural Steel:* On February 26, 2019, the U.S. authorities announced the initiation of antidumping and countervailing duty investigations of imports of fabricated structural steel from Mexico. On February 25, 2020, the U.S. authorities determined that these imports were not materially injuring or threatening with material injury the domestic industry. As a result of this negative injury determination, no antidumping or countervailing duties will be imposed on imports from Mexico.

Trade agreements:

Mexico has signed trade agreements with several countries or trade blocs aimed at liberalizing trade between them:

NAFTA was signed among Canada, Mexico and the United States and came into effect on January 1, 1994. NAFTA provided for the progressive elimination over a 10-year period of duties on, among other things, steel products traded between or among Mexico, the United States and Canada. As a result, zero tariffs applied to steel products traded within NAFTA countries, with the exception of the application of the above-mentioned imposition of a 25% tariff on steel imports under Section 232 of the Trade Expansion Act of 1962 to Mexico and Canada during 2018 and 2019.

During 2019, Mexico and the United States agreed to waive such tariff, subject to an agreed premise of continuous monitoring for surges in steel imports and transshipment of non-NAFTA material into the United States. Mexico, the United States and Canada recently ratified the United States-Mexico-Canada Agreement, or USMCA, a new trade agreement that will become effective and replace the current NAFTA once uniform regulations are adopted and local legislation is passed. In addition, during 2019 the United States, Mexico and Canada agreed to modify the definition of "North American steel" (with such amendment becoming effective after the seventh anniversary of USMCA), for purposes of vehicles being awarded preferential treatment under USMCA, restricting the defined term to steel melted and poured within the three countries.

The Mexican-European Free Trade Agreement, or MEFTA, became effective on July 1, 2000. MEFTA provided for the phase-out and eventual elimination of Mexican and European duties on all industrial goods, including finished steel products. The European Union eliminated all import duties on Mexican industrial goods, including finished steel products, as of January 1, 2003, while Mexico eliminated all import duties on European industrial goods, including finished steel products, as of January 1, 2007. During April 2018, the European Union and Mexico concluded negotiations to bring the MEFTA up to date. The amended agreement, which is not yet effective, does not provide for changes in steel trade conditions.

The Economic Partnership Agreement between Japan and Mexico came into force on April 1, 2015. The new agreement provides for a phase-out and eventual elimination of Mexican and Japanese duties on all industrial goods within a ten-year period. Beginning on April 1, 2015, all duties on steel products were eliminated. Until March 31, 2015, an import duty of 3% was applicable to Japanese steel imports.

In November 2003, Mexico and Argentina signed an Economic Complementation Agreement, or ACE 6, whereby reciprocal tariff preferences were granted. In 2006, Mexico and Argentina modified the ACE 6 Agreement, reducing to zero import duties on imports of certain steel products from the other country. Zero import duties included exports from Mexico to Argentina and from Argentina to Mexico for up to 90,000 tons per year of slabs, 60,000 tons per year of cold rolled coils and 30,000 tons per year of corrosion resistant coils, including hot dip galvanized and pre-painted sheets.

Mexico is also a party to trade agreements with Colombia, Japan, Chile, Bolivia, Nicaragua, Costa Rica, Uruguay and the European Free Trade Association, an intergovernmental organization set up by Liechtenstein, Norway, Iceland and Switzerland among others. In addition, on March 8, 2018, Mexico, together with Australia, Brunei, Canada, Chile, Japan, Malaysia, New Zealand, Peru, Singapore and Vietnam, signed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, or CPTPP, which became effective in December 2018. The CPTPP incorporates by reference most of the provisions of the Trans-Pacific Partnership Agreement, or TPPA. The TPPA was signed on February 4, 2016, but did not enter into force given the withdrawal of the United States.

Argentina

Imports of steel products to Argentina:

In the past, the Argentine government imposed various antidumping measures on imports of certain flat steel products that compete directly with Ternium's sales in Argentina. After several subsequent revisions of such cases, there are currently no measures in place.

Trade agreements:

Argentina has signed free trade agreements with several countries or trade blocs aimed at liberalizing trade between them, including the following:

In early 1991, Argentina entered, together with Brazil, Uruguay and Paraguay, into the Treaty of Asunción, creating the *Mercado Común del Sur* (Southern Common Market, or "Mercosur"), a common market organization that aimed to bring about the free movement of goods, capital, services and people among its member states. In 2004, the Mercosur members entered into the Protocol of Ouro Preto, creating a customs union among them. On January 1, 2013, Venezuela became a full member of Mercosur but was suspended in December 2016. Over time, Mercosur has eliminated or significantly reduced import duties, tariffs and other trade barriers among member states. Since January 1, 2000, zero tariffs apply to steel products traded among them.

Applicable steel import tariffs to Mercosur member countries from non-member countries currently range between 2% and 16%. However, every six months, Mercosur members may exempt from tariffs a limited number of products imported from non-member countries. Uruguay has elected to exempt certain steel products, including cold-rolled

sheets and galvanized flat steel products. This exemption regime is expected to be in force until December 31, 2022, but has been extended in the past and, if agreed by Mercosur member countries, could again be extended in the future.

In 2004, Mercosur and the *Comunidad Andina de Naciones* (Andean Community, or "CAN"), currently including Bolivia, Colombia, Ecuador and Peru, signed a free trade agreement aimed at reducing and eventually eliminating tariffs on steel products traded among member countries. While all tariffs on steel products traded between Argentina and Bolivia and between Argentina and Peru have been eliminated, the elimination of tariffs on steel products traded between Argentina and Ecuador and Argentina and Colombia are subject to a pending agreement on rules of origin specifications. Mercosur entered into a trade agreement with Chile in 2005. As a result, all tariffs on steel products traded between Mercosur and Chile have been eliminated. In addition, Mercosur is negotiating a free trade agreement with the European Union. On June 28, 2019, the parties reached an agreement in principle that is not yet effective.

In November 2003, Argentina and Mexico signed the ACE 6. For further information, see “—Regulations—Trade Regulations—Mexico.”

Colombia

Imports of steel products to Colombia:

The Colombian government has imposed certain antidumping and safeguard measures on imports of steel products. The following antidumping measures are currently in effect:

- *Low-carbon wire rods*: On October 8, 2013, the Colombian government imposed provisional safeguard duties of 21.29% on imports of low-carbon wire rods from countries belonging to the World Trade Organization (WTO), with the exception of Cuba, Ecuador, the United States and Venezuela. On April 30, 2014, Colombia imposed final safeguard duties of 21.29% on imports of low-carbon wire rod from WTO members with the exception of Argentina, Chile, Ecuador, Costa Rica, the United States and Canada, to remain in force for a period of one year that ended on March 31, 2015. On October 2015, the Colombian government imposed provisional antidumping duties on imports of low-carbon wire rod from China, consisting on a duty calculated based on a price of \$541.06 per ton less the actual FOB import price for such product, in force until the end of March 2016. On May 11, 2016, Colombia imposed final antidumping duties of \$419 per ton less the actual FOB import price, for a five-year period.
- *Steel “L” and “U” profiles*: On August 24, 2018, the Colombian government imposed provisional antidumping duties on imports of steel “L” and “U” profiles from China, consisting on a duty calculated based on a price of \$473.28 per ton less the actual FOB import price for such product, for a two-year period.
- *Galvanized flat steel products*: On March 5, 2014, Colombia imposed final antidumping measures on imports of galvanized flat steel products from China, to remain in force for a period of three years, consisting of a duty calculated based on a price of \$824.57 per ton less the actual FOB import price for such product. On December 19, 2017, Colombia renewed the antidumping measure for a period of three years, changing the duty to 47.62%.

On March 13, 2018, the Colombian government imposed a temporary 8.5% import tariff on steel reinforced bars for a period of two years.

Trade agreements:

Most steel imports to Colombia from countries with whom Colombia does not have a free trade agreement in place, are subject to import tariffs of between 5% and 10%.

Colombia has entered into free trade agreements with several countries or trade blocs aimed at liberalizing trade between them.

CAN is a trading bloc, currently including Bolivia, Colombia, Ecuador and Peru, established during 1993 and approved in 1994 for the purpose of promoting trade relations among its members and between CAN and the rest of the world. The treaty formalized a customs union among CAN’s member states. Over time, CAN has eliminated or significantly reduced import duties, tariffs and other trade barriers among member states. In particular, zero tariffs have applied to steel products imported from other member states since January 1, 2000. CAN and Mercosur have signed a free trade agreement. For further information, see “—Regulations—Trade Regulations—Argentina.”

During June 1994, Colombia and Mexico signed a free trade agreement. For further information on this agreement see “—Regulations—Trade Regulations—Mexico.”

On August 9, 2007, Colombia, El Salvador, Guatemala and Honduras established the Triángulo Norte (North Triangle), or TN, free trade agreement. Members of the TN signed multilateral agreements related to funds transfers and local and most favored nation statuses, and signed bilateral agreements aimed at reducing trade duties. Colombia's free trade agreement with Guatemala started on November 12, 2009; with El Salvador on February 1, 2010; and with Honduras on March 27, 2010. Under TN, zero tariffs apply to several steel products imported from other member states.

Colombia's free trade agreement with the United States became effective in October 2011. Under this agreement, steel import tariffs from Colombia to the United States will remain at 0% and steel import tariffs from the United States to Colombia will decrease from a range of between 5% and 10% in 2011 to 0% in one, five or 10 years according to the product category. In particular, wire rods import tariffs became 0% beginning in 2012 and rebar import tariffs will decrease gradually, reaching 0% in 2021. On March 8, 2018, the U.S. president imposed a 25% tariff on steel imports, in force since March 23, 2018. See Item 4. "Information on the Company—B. Business Overview—Regulations—Trade Regulations—United States."

In addition, Colombia has signed free trade agreements with Chile, Canada, Costa Rica, the European Union and South Korea, in effect since May 2009, August 2011, August 2016, August 2013 and July 2016, respectively, and has signed free trade agreements with Israel, Panama and the U.K., which are not yet effective. Colombia is currently negotiating free trade agreements with Japan and Turkey.

United States

U.S. authorities have imposed a number of measures on steel import products. Below is a description of measures currently in effect and ongoing investigations:

Imports of steel products to the United States:

- *Hot-rolled products:* On July 1999, the U.S. authorities imposed antidumping duties on hot-rolled products from Russia, currently of up to 184.56%. During October 2016, the measure was extended for five more years. During November 2001, the U.S. government imposed antidumping and countervailing duties on certain hot-rolled carbon steel flat products from China, India, Taiwan, Thailand, Russia, Indonesia and Ukraine. Current antidumping duties range between 12.34% and 90.83% for China, 36.53% and 44.40% for India, 47.86% for Indonesia, 20.28% and 29.14% for Taiwan, 4.41% and 20.30% for Thailand and 90.33% for Ukraine, with rates depending on the exporting company. Current countervailing duties range between 336.62% and 360.23% for India and are set at 10.21% for Indonesia and 2.38% for Thailand. These measures were last confirmed in August 27, 2019. These measures were confirmed in February 2014 and are currently under sunset review. In addition, on September 24, 2015, the U.S. government initiated antidumping and countervailing investigations on hot-rolled products from Australia, Brazil, Japan, Korea, the Netherlands, Turkey and the United Kingdom. On October 3, 2016, the government issued antidumping and countervailing duty orders for a five-year period. Antidumping duties were imposed at the following rates: 29.58% for Australia; between 33.14% and 34.28% for Brazil; between 4.99% and 7.51% for Japan; between 4.61% and 9.49% for Korea; 3.73% for the Netherlands; between 4.15% and 6.77% for Turkey; and 33.06% for the United Kingdom. Countervailing duties were imposed on imports as follows: between 29.07% and 30.51% for Brazil; and between 0% and 9.49% for Korea.
- *Cold-rolled products:* On July 14, 2016, the U.S. government imposed antidumping duties on cold-rolled steel products, of 265.79% for China and 71.35% for Japan, and countervailing duties of 256.44% for China. On September 20, 2016, the U.S. government imposed countervailing duties on cold-rolled steel products of between 11.09% and 11.31% from Brazil, 10% from India and between 3.89% and 59.72% from Korea. In addition, on September 20, 2016, the U.S. government imposed antidumping duties on cold-rolled products of between 19.58% and 35.43% from Brazil, 6.78% from India, 7.60% from Korea, and between 5.40% and 25.17% from the United Kingdom.
- *Corrosion-resistant flat products:* On July 25, 2016, the U.S. government imposed countervailing duties on corrosion-resistant flat products of 39.05% to 241.07% on imports from China, of 8% to 29.49% on imports from India, of a *de minimis* to 38.51% on imports from Italy, and of a *de minimis* to 1.19% on imports from Korea. In addition, on July 25, 2016, the U.S. government imposed antidumping duties on corrosion-resistant flat products of 209.97% from China, between 3.05% and 4.43% from India, 12.63% and 92.12% from Italy, 8.75% and 47.80% from Korea, and 10.34% from Taiwan.
- *Wire rod:* On October 29, 2002, the United States imposed antidumping duties to wire rod imports from Brazil (from 74.35% to 94.73%), Indonesia (4.05%), Moldova (369.10%) and Trinidad and Tobago (11.40%), and

countervailing duties to Brazilian wire rod imports of between 2.31% and 6.74%. These measures are under a sunset review initiated on June 3, 2019. On January 8, 2015, the United States imposed antidumping duties (between 106.19% and 110.25%) and countervailing duties (between 178.46% and 193.31%) on wire rod from China, with rates depending on the exporting company. This measure is under sunset review. On January 24, 2018, the United States imposed antidumping duties on wire rod from Russia (between 436.80% and 756.93%), Belarus (280.02%) and the United Arab Emirates (84.10%). On March 14, 2018, the United States imposed antidumping duties on wire rod from South Africa (between 135.46% and 142.26%) and Ukraine (between 34.98% and 44.03%). On March 19, 2018, the U.S. Department of Commerce published its final antidumping and countervailing determinations on imports of wire rod from Italy (antidumping duties of between 12.41% and 18.89% and countervailing duties of between 4.16% and 44.18%), South Korea (antidumping duties of 41.10%), Spain (antidumping duties of between 11.08% and 32.64%), Turkey (antidumping duties of between 4.74% and 7.94% and countervailing duties of between 3.81% and 3.86%) and the United Kingdom (antidumping duties of 147.63%).

U.S. authorities have imposed a number of measures on steel product imports from Mexico, including carbon and alloy steel wire rod, pipe and tube, and welded pipes. For further information, see “—Regulations—Trade Regulations—Mexico.”

In April 2017, the U.S. government initiated an investigation under Section 232 of the U.S. Trade Expansion Act. The investigation analyzed the effects of imports of steel products on national security. Based on the result of such investigation and on the resulting Commerce Secretary recommendations, on March 8, 2018, the U.S. president imposed a 25% tariff on steel imports, which entered into force on March 23, 2018. However, the U.S. administration temporarily exempted imports from Argentina, Australia, Brazil, Canada, the European Union, Mexico and South Korea. Currently, Australia, Canada and Mexico are exempt from the tariff; although Argentina, Brazil and South Korea are also exempt, they are subject to a quota system that limits steel imports from those countries. Under the exclusion procedure, implemented by the United States authorities, Ternium has filed multiple exclusions requests that were denied by the U.S. Department of Commerce.

Insurance

Our subsidiaries carry insurance policies covering accidental loss or physical damage to its property and equipment (including machinery breakdown and business interruption arising from an insured event), general liability (including third party, employer, product, sudden and accidental pollution and port liability) and other insurance, including marine cargo, construction all risk, life and workers' compensation and automobile insurance. These insurance policies have coverage, limits and conditions, that we believe are customary in the steel products industry and in line with legal and domestic market requirements. Nevertheless, the limits, deductibles and/or self insured retentions of these insurance policies could not be sufficient to recover all losses suffered from such events. In addition, some particular events could not be covered under these insurance policies.

Disclosure Pursuant to Section 13(r) of the Exchange Act

The Iran Threat Reduction and Syria Human Rights Act of 2012, created a new subsection (r) in Section 13 of the U.S. Securities Exchange Act of 1934, as amended (the “Exchange Act”), which requires a reporting issuer to provide disclosure if the issuer or any of its affiliates engaged in certain enumerated activities relating to Iran, including activities involving the Government of Iran. Ternium is providing the following disclosure pursuant to Section 13(r):

Tenaris

Tenaris is indirectly controlled by San Faustin and, accordingly, is deemed an “affiliate” of Ternium, as such term is defined in Exchange Act Rule 12b-2. In response to our inquiry, Tenaris provided the disclosure included below.

The Iran Threat Reduction and Syria Human Rights Act of 2012 (“ITRA”), created a new subsection (r) in Section 13 of the U.S. Securities Exchange Act of 1934, as amended (the “Exchange Act”), which requires a reporting issuer to provide disclosure if the issuer or any of its affiliates knowingly engaged in certain enumerated activities relating to Iran, including activities involving the Government of Iran. Tenaris is providing the following disclosure pursuant to Section 13(r) of the Exchange Act.

In July 2015, the Islamic Republic of Iran entered into the Joint Comprehensive Plan of Action (“JCPOA”) with China, France, Germany, Russia, the United Kingdom and the U.S., which resulted in the partial lifting in January 2016 of certain sanctions and restrictions against Iran, including most U.S. secondary sanctions against such country. On May 8, 2018, the U.S. announced that it would cease participation in the JCPOA and would begin re-imposing

nuclear-related sanctions against Iran after a wind-down period. Following the U.S. withdrawal from the JCPOA, the European Union updated Council Regulation (EC) No. 2271/96 of 22 November 1996 (the “EU Blocking Statute”), to expand its scope to cover the re-imposed U.S. nuclear-related sanctions. The EU Blocking Statute aims to counteract the effects of the U.S. secondary sanctions.

As previously reported, Tenaris ceased all deliveries of products and services to Iran by the end of October 2018, that is, during the wind-down period and before the full reinstatement of U.S. secondary sanctions on November 5, 2018. Tenaris has not, directly or indirectly, delivered any goods or services to Iran or Iranian companies during 2019 and does not intend to explore any commercial opportunities in Iran, nor does it intend to participate in tender offers by, or issue offers to provide products or services to, Iranian companies or their subsidiaries.

During 2019 Tenaris collected certain payments for sales of goods or services in connection with past commercial activities relating to Iran, as further described below. Tenaris believes that such activities do not violate any U.S. or foreign law. In addition, in all cases, Tenaris collected amounts owed for sales of goods or performance of services in accordance with OFAC regulations. Tenaris has procedures in place designed to ensure that such activities comply with all applicable U.S. and other international export control and economic sanctions laws and regulations.

Previous pending payments:

- In May 2016, TGS was awarded by Toos Payvand Co., a Tehran-based company, a spot purchase order for carbon steel pipes for the Esfahan Oil Refinery Project (end user National Iranian Oil Company or “NIOC”), for a total value of EUR3.5 million (approximately \$4.0 million). TGS delivered most of the items requested under such purchase order, for which the customer made advance payments, during 2017 and during the wind-down period associated with the reinstatement of U.S. secondary sanctions. Shipments under this purchase order were suspended as of October 2018. As of December 31, 2019, TGS recorded an advance payment from Toos Payvand Co. for undelivered goods for approximately EUR 0.04 million (approximately \$0.04 million).
- During 2018, Dalmine was awarded spot orders from Mapna International FZE for a total value of EUR4.1 million (approximately \$4.7 million) of which EUR 4.0 million (approximately \$4.5 million) were collected as of December 31, 2018. By October 2018, Dalmine had delivered all ordered items. On April 18, 2019, Dalmine collected the outstanding balance of approximately EUR0.1 million (approximately \$0.1 million) in compliance with OFAC regulations. No obligations are outstanding, and no amounts are due to Dalmine in connection with these purchase orders.
- During 2018, Dalmine received an order from U.K.-based company BP Exploration Operating Co. Ltd. for EUR0.2 million (approximately \$0.2 million) for the provision of casing and coupling to be used in the Rhum Gas Oilfield (located in the U.K.). At the time of the order, the partners in the Rhum Gas Oilfield are BP Exploration Operating Co Ltd. (50%) and Iranian Oil Co UK Ltd (50%), a subsidiary of NIOC. All items were delivered by October 2018. On May 21, 2019, Dalmine collected the outstanding balance of approximately EUR0.2 million (approximately \$0.2 million) from BP Exploration Operating Co. Ltd. in compliance with OFAC regulations. No obligations are outstanding, and no amounts are due to Dalmine in connection with this purchase order.

The aggregate amount collected during 2019 in connection with past commercial activities relating to Iran amounted to approximately \$0.3 million. All revenue and profit in connection of these sales was recorded in the fiscal year in which such sales were performed and, therefore, no revenue and profit has been reported in connection with commercial activities related to Iran for the year ended December 31, 2019.

Tenova

Tenova S.p.A., or Tenova, an Italian supplier of equipment for the mining and the steel-making industry, is indirectly controlled by San Faustin and, accordingly, is deemed an “affiliate” of Ternium, as such term is defined in Exchange Act Rule 12b-2. In response to our inquiry, Tenova informed us that:

- During 2019, Tenova or its subsidiaries provided engineering services for the steel-making and raw material handling industries to Iranian customers for agreements entered prior to 2018. As a result of the reinstatement of U.S. secondary sanctions, Tenova has terminated/suspended all commercial activities related to contracts involving Iranian entities. In addition, Tenova has informed that, as of May 2019, it has formally required its employees to stop any travel to Iran and that it does not intend to explore any commercial opportunities in Iran,

nor does it intend to participate in tender offers by, or issue offers to provide products or services to, Iranian companies or their subsidiaries.

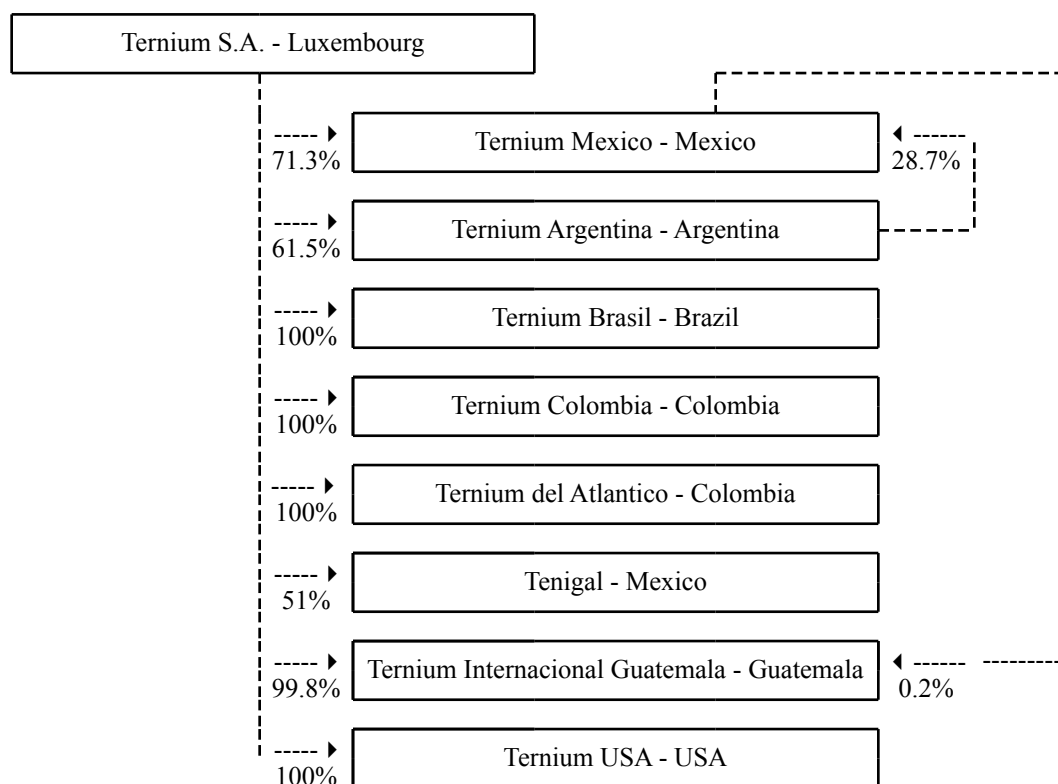
- None of the services provided to Iranian customers is connected to the activities described in Sections 5(a) or (b) of the Iran Sanctions Act of 1996, or Sections 104(c)(2), 104(d)(1) or 105A(b)(2) of the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010. In addition, no such activities were performed in favor of persons whose property and interests in property are blocked pursuant to Executive Order 13224 (terrorists and terrorist supporters) or 13382 (weapons of mass destruction proliferators and supporters), nor in favor of any person or entity identified under Section 560.304 of Title 31, Code of Federal Regulations (relating to the definition of the Government of Iran).

Tenova reported total revenue for 2019 derived from services provided to Iranian customers for an amount of approximately \$7.8 million; and estimated that net profits from such transactions, after direct project cost allocation and taxes, were approximately \$3.3 million.

No other consulted affiliate reported any Iran-related activity.

C. Organizational Structure

Below is a simplified diagram of Ternium's corporate structure as of February 29, 2020.



For a detail of the companies whose financial statements have been consolidated and accounted for interest, see note 2 to the consolidated financial statements included in this annual report.

Subsidiaries

Ternium operates entirely through subsidiaries. For a complete list of its subsidiaries and a description of its investments in other companies, see note 2 to the consolidated financial statements included elsewhere in this annual report.

Ternium Mexico. Ternium Mexico is a leading flat and long steel manufacturer in Mexico, with total annual finished steel production capacity of approximately 7.6 million tons. Ternium Mexico's subsidiaries operate all of Ternium's mining and steel production facilities in Mexico, except for Tenigal's facilities. Ternium Mexico and its subsidiaries produce steel products mainly for the construction and industrial sectors.

Ternium Argentina. Ternium Argentina is the main integrated manufacturer of flat steel products in Argentina with total annual finished steel production capacity of approximately 3.0 million tons. The shareholders of Ternium Argentina as of February 29, 2020 are set out in the following table, together with the share percentage owned by each such shareholder as of that date:

Ternium Argentina's Shareholders	Number	Percent
Ternium	2,778,947,288	61.52%
ANSeS	1,175,806,541	26.03%
Public	562,340,194	12.45%
Total shares issued and outstanding	4,517,094,023	100.00%

Ternium Brasil. Ternium Brasil is a high-end steel slab producer in Brazil, with annual production capacity of approximately 5.0 million tons. Ternium Brasil produces steel slabs mainly for Ternium's operations in Mexico, for Ternium Argentina and for third-party steel processors.

Ternium Colombia. Ternium Colombia is a leading long and flat steel products processor and distributor in Colombia and a scrap-based long steel manufacturer, with total annual finished steel production capacity of approximately 540,000 tons.

Ternium del Atlantico. Ternium del Atlantico is completing a steel bars and coils facility to serve the Colombian construction sector with total annual finished steel production capacity of approximately 520,000 tons.

Tenigal. Tenigal is a manufacturer of hot-dip galvanized and galvanized steel sheets serving the Mexican automotive industry with total annual finished steel production capacity of approximately 480,000 tons. Ternium and NSC hold 51% and 49% participations in Tenigal, respectively.

Ternium Guatemala. Ternium Guatemala and its subsidiaries operate all of Ternium's steel processing facilities in Guatemala, El Salvador, Nicaragua and Costa Rica. Ternium Guatemala and its subsidiaries produce hot-dip galvanized steel sheets and other value-added finished steel products mainly for the construction and industrial sectors. Ternium Guatemala has total annual finished steel production capacity of 110,000 tons.

Ternium USA. Ternium USA operates Ternium's steel processing activities in the United States and produces galvanized and color coated sheets in its Shreveport unit in Louisiana, United States. Ternium USA has total annual finished steel production capacity of 250,000 tons.

Other Investments

Usiminas. Usiminas is the largest flat steel producer in Brazil, with total annual crude steel production capacity of 9.5 million tons. Usiminas produces steel products mainly for the automotive, line pipe, civil construction, and electrical equipment manufacturing industries. Usiminas has iron ore mines in the Serra Azul region and industrial facilities in Ipatinga, Minas Gerais and in Cubatão, São Paulo, strategically located near the main consumers of steel in Brazil. In 2019, Usiminas shipped 4.1 million tons of steel products and 8.6 million tons of iron ore, and had net sales of BRL14.9 billion. Usiminas is a publicly-traded company listed on the São Paulo stock exchange, BM&FBOVESPA S.A - *Bolsa de Valores, Mercadorias e Futuros*.

On January 16, 2012, the Company's wholly-owned Luxembourg subsidiary Ternium Investments, together with Ternium Argentina (and its subsidiary Prosid), and the Company's affiliate TenarisConfab, joined Usiminas' existing control group through the acquisition of a total of 139.7 million ordinary shares of Usiminas, representing 27.7% of Usiminas' voting capital (22.7% corresponding to Ternium and the other 5% corresponding to TenarisConfab), and formed the T/T Group. As a result of such acquisition, Usiminas' control group, which at the time held, in the aggregate, 322.7 million ordinary shares representing approximately 63.9% of Usiminas' voting capital, was formed as follows: NSC Group, with approximately 46.1% of the total shares held by the control group; the T/T Group, with approximately 43.3% of the total shares held by the control group (35.6% corresponding to Ternium and the other 7.7% corresponding to TenarisConfab); and Previdência Usiminas, with the remaining 10.6% of the total shares held by the control group. The members of the control group entered into a shareholders' agreement dated January 16, 2012 governing their rights and obligations as shareholders of Usiminas.

On October 30, 2014, Ternium acquired 51.4 million additional ordinary shares of Usiminas. As part of a multi-round capital increase process, on June 3, 2016, Ternium (through Ternium Investments, Ternium Argentina and Prosid) was issued, in the aggregate, 8.5 million preferred shares and TenarisConfab was issued 1.3 million preferred shares; and on July 19, 2016, Ternium (through Ternium Investments, Ternium Argentina and Prosid) was issued, in the aggregate, 76.4 million ordinary shares and TenarisConfab was issued 11.5 million ordinary shares. Following the issuance of these ordinary shares, Ternium (through Ternium Investments, Ternium Argentina and Prosid) owns a total of 242.6 million ordinary shares and 8.5 million preferred shares, representing 20.5% of Usiminas' capital, and 34.4% of Usiminas' ordinary shares, and TenarisConfab owns a total of 36.5 million ordinary shares and 1.3 million preferred shares, representing 3% of Usiminas' capital, and 5.2% of Usiminas' ordinary shares.

In 2014, a conflict arose within the Usiminas' control group and its board with respect to the governance of Usiminas, including with respect to the rules applicable to the appointment of senior managers, the application of the shareholders' agreement in matters involving fiduciary duties, and generally with respect to Usiminas' business strategy.

On February 8, 2018, Ternium Investments resolved the dispute with NSC, establishing certain new governance rules for Usiminas as well as certain undertakings for the settlement of legal disputes. Ternium Investments and NSC further agreed to implement such new governance rules by seeking the agreement of the other members of the controlling group, and on April 10, 2018, the T/T Group, NSC Group and Previdência Usiminas entered into a new shareholders' agreement for Usiminas, amending and restating the January 16, 2012 shareholders' agreement (the "New SHA").

The New SHA reflects the agreed-upon corporate governance rules for Usiminas, including, among others, an alternation mechanism for the nomination of each of the chief executive officer and the chairman of the board of directors, as well as a mechanism for the nomination of other members of Usiminas' executive board. The right to nominate Usiminas' chief executive officer and chairman will alternate between Ternium and NSC at every 4-year interval, comprising two consecutive 2-year terms. For the initial four years, Ternium was entitled to nominate the CEO and NSC was entitled to nominate the chairman. The executive board is composed of six members, including the chief executive officer and five vice-presidents, with Ternium and NSC nominating three members each.

In addition to the Usiminas shares that were bound by the January 16, 2012 shareholders' agreement, the New SHA also covers the shares subscribed for by the members of the T/T Group and the NSC Group in connection with Usiminas' 2016 capital increase. As a result, Usiminas' control group now holds, in the aggregate, 483.6 million ordinary shares subject to the New SHA, representing approximately 68.6% of Usiminas' voting capital, with the T/T Group holding approximately 47.1% of the total shares held by the control group (39.5% corresponding to Ternium and the other 7.5% corresponding to TenarisConfab); the NSC Group holding approximately 45.9% of the total shares held by the control group; and Previdência Usiminas holding the remaining 7% of the total shares held by the control group.

Finally, the New SHA incorporates an exit mechanism consisting of a buy-and-sell procedure, exercisable at any time during the term of the New SHA after November 16, 2022. Such exit mechanism shall apply with respect to shares held by the NSC Group and the T/T Group, and would allow either Ternium or NSC to purchase all or a majority of the Usiminas shares held by the other shareholder group.

The 51.4 million ordinary shares of Usiminas acquired by Ternium on October 30, 2014 and 6.7 million ordinary shares acquired by NSC prior to execution of the January 16, 2012 shareholders' agreement remain free from any transfer restrictions under the New SHA and will not be subject to the exit mechanism described above.

In connection with the execution of the New SHA, Ternium Investments, Ternium Argentina, Prosid and TenarisConfab amended and restated their separate shareholders' agreement governing their respective rights and obligations as members of the T/T Group to include provisions relating to the exit mechanism and generally to conform such separate shareholders' agreement to the other provisions of the New SHA.

As of December 31, 2019, the closing price of the Usiminas ordinary and preferred shares, as quoted on the BM&F Bovespa Stock Exchange, was BRL9.87 (approximately \$2.45) per ordinary share and BRL9.51 (approximately \$2.36) per preferred share, respectively. Accordingly, as of December 31, 2019, Ternium's ownership stake had a market value of approximately \$614.1 million and a carrying value of \$486.6 million.

Techgen. Techgen is a Mexican joint venture company owned by 48% by Ternium, 30% by Tecpetrol and 22% by Tenaris. Techgen operates a natural gas-fired combined cycle electric power plant in the Pesquería area of the State of Nuevo León, Mexico. Ternium and Tenaris currently contract 78% and 22%, respectively, of Techgen's power capacity of approximately 900 megawatts. As a result, Ternium is securing the supply of electricity to its existing and future facilities in Mexico, and sells unused energy to the Mexican market. For further information on the Company's commitments under the Techgen project, see Item 5. "Operating and Financial Review and Prospects—E. Off-Balance Sheet Arrangements" and note 25(ii)(i), (j) and (k) to the consolidated financial statements included elsewhere in this annual report.

D. Property, Plants and Equipment

For further information, see "—B. Business Overview—Production Facilities and Processes" and "—B. Business Overview—Capital Expenditure Program."

Item 4A. Unresolved Staff Comments

None.

Item 5. Operating and Financial Review and Prospects

The following discussion and analysis of our financial condition and results of operations is based on, and should be read in conjunction with, the consolidated financial statements and the related notes included elsewhere in this annual report. This discussion and analysis presents our financial condition and results of operations on a consolidated basis.

Certain information contained in this discussion and analysis is presented elsewhere in this annual report, including information with respect to our plans and strategies for our business, and includes forward-looking statements that involve risks and uncertainties. For further information, see “Cautionary Statement Concerning Forward-Looking Statements.” In evaluating this discussion and analysis, you should specifically consider the various risk factors identified in Item 3. “Key Information—D. Risk Factors”, other risk factors identified elsewhere in this annual report, including in “—G. Recent Developments - Effect of COVID - 19 outbreak on Ternium’s activities”, and other factors that could cause results to differ materially from those expressed in such forward-looking statements.

Overview

Ternium is Latin America’s leading flat steel producer with an annual crude steel production capacity of 12.4 million tons. We operate through subsidiaries in Mexico, Brazil, Argentina, Colombia, the southern United States and Central America, which own regional manufacturing facilities, service center and distribution networks. In addition, Ternium participates in the control group of Usiminas, a leading steel company in the Brazilian market. Our customers range from small businesses to large global companies in the automotive, home appliances, HVAC, construction, capital goods, container, food and energy industries across the Americas. We aim to build close relationships with our customers and recognize that our success is closely linked with theirs.

Ternium supplies a broad range of high value-added steel products and has advanced customer integration systems that enable us to differentiate ourselves from our competitors through the offering of sophisticated products and services. The company’s industrial system has varied production technologies that provide a diversified cost structure, based on different types of raw material and energy sources, and a flexible production configuration. The industrial system includes proprietary iron ore mines, steelmaking facilities, finishing facilities, service centers and a broad distribution network to offer slabs, hot-rolled products, cold-rolled products, galvanized and electro-galvanized sheets, pre-painted sheets, tinplate, welded pipes, bars and wire rods as well as slit and cut-to-length products.

We believe that Ternium is a leading supplier of flat steel products in Mexico and Argentina, a significant supplier of steel products in Colombia and in various other countries in South and Central America, and a competitive player in the international market for steel products. Through its commercial offices in Uruguay, the United States and Spain, Ternium maintains an international presence that allows it to reach customers outside its local markets, achieve improved effectiveness in the supply of its products and in the procurement of semi-finished steel, and maintain a fluid commercial relationship with its customers by providing continuous services and assistance.

Ternium’s revenues are affected by general global trends in the steel industry and more specifically by the economic conditions in the countries in which it has manufacturing operations and where its customers are located. Ternium’s revenues are also impacted by events that affect the price and availability of raw materials, energy and other inputs needed for its operations. Furthermore, due to the highly cyclical nature of the steel industry, recent results may not be indicative of future performance, and historical results may not be comparable to future results. Investors should not rely on the results of a single period, particularly a period of peak prices, as an indication of Ternium’s annual results or future performance. The variables and trends mentioned below could also affect the results of its investments in steel related companies.

For further information on Ternium’s business strategy, see Item 4. “Information on the Company—B. Business Overview—Our Business Strategy.”

Ternium’s primary source of revenue is the sale of steel products. Management expects sales of steel products to continue to be Ternium’s primary source of revenue. The global market for such steel products is highly competitive, with the primary competitive factors being price, cost, product quality and customer service. The majority of

Ternium's sales are concentrated in the Americas. Specifically, Ternium's largest markets for finished steel products are Mexico, Argentina and Colombia, and Ternium's largest markets for slabs are Brazil and the United States.

Ternium's results are sensitive to economic activity and steel consumption. Ternium's results of operations, which primarily depend on economic conditions in Mexico and Argentina, are also influenced by economic conditions in international and regional markets such as the United States, Mercosur and the Andean Community. Historically, annual steel consumption in the countries where Ternium operates has varied at a rate that is linked to the annual change in each country's gross domestic product and per capita disposable income. The 2008-2009 global economic downturn resulted in an overall decreased demand for Ternium's products. For example, apparent consumption of finished steel products decreased in 2009 by 15% in Mexico and 33% in Argentina. This economic downturn had a pronounced negative effect on Ternium's business and results of operations in 2009. Subsequently, apparent steel consumption recovered in these countries in sync with the recovery of economic activity. A protracted global recession or a depression would have a material adverse effect on the steel industry and Ternium.

Ternium's results are also sensitive to prices in the international steel markets. Steel prices are volatile and are sensitive to supply conditions and to trends in cyclical industries, such as the construction, automotive, appliance and machinery industries, which are significant markets for Ternium's finished steel products. For example, US steel prices faced a downturn during most of 2018 and 2019 after peaking during the first half of 2018, reflecting a combination of softer steel consumption, increased steel production and, in 2019, lower costs of steel scrap. After a trough during the fourth quarter of 2019, steel prices recovered some ground due to higher costs of steel scrap and decreased steel production. As a result, Ternium's operating income decreased 59% year-over-year in 2019 after increasing 45% year-over-year in 2018 and 28% year-over-year in 2017. Persistently low steel prices would have a material adverse effect on Ternium's results, as could price volatility.

Trends in the steel industry may also have an impact on Ternium's results. In addition to economic conditions and prices, the steel industry is affected by other factors such as worldwide and regional production capacity and fluctuations in steel imports/exports and tariffs. Historically, the steel industry has suffered, especially in downturn cycles, from substantial overcapacity. Currently, as a result of the 2008-2009 global downturn, slower global economic growth and the increase in steel production capacity, there is excess capacity in the global steel market that could negatively affect the industry's margins. In Mexico and the southern United States, there are several new steel making and steel processing facilities announced or under construction. For further information on Ternium's competition in the Mexican market see Item 4. "Information on the Company—B. Business Overview—Competition—Steel—Mexico". Furthermore, there has been a trend toward steel industry consolidation among Ternium's competitors, and current smaller competitors in the steel market could become larger competitors in the future. Intense competition could impact Ternium's share in certain markets and adversely affect its sales and revenue.

Ternium's production costs are sensitive to prices of raw materials, semi-finished steel and energy, which reflect supply and demand factors in the global steel industry. Ternium purchases substantial quantities of raw materials (including iron ore, coal, ferroalloys and scrap) and slabs for use in the production of its steel products. The availability and price of these and other inputs vary, sometimes significantly, according to general market and economic conditions. In addition to raw materials and slabs, natural gas is an important component of Ternium's cost structure. Ternium generally purchases these inputs at market or market-based prices; accordingly, price fluctuations in these inputs, which may also vary according to general market and economic conditions, impact Ternium's production costs.

Ternium's export revenues could be affected by trade restrictions and its domestic revenues could be affected by unfair competition from imports. During the second half of the 1990s, a period of strong oversupply, several antidumping measures were imposed in several countries in which Ternium operates (including Mexico, Argentina and the United States) to prevent foreign steel producers from dumping certain steel products in local markets. The recovery in global economic conditions during the 2003–2008 period helped normalize international steel trade conditions and, eventually, several countries reduced or eliminated protective measures established in prior years including Argentina, Ternium's second-largest steel market. However, in the face of a protracted period of oversupply since 2009, some countries have been reestablishing antidumping duties and/or other safeguards to protect their domestic markets, including Mexico, Ternium's largest steel market, adding to measures that remained in place from before. Ternium's ability to profitably access the export markets may be adversely affected by trade restrictions, including antidumping duties and countervailing measures, in those markets. In addition, Ternium's ability to sell some steel products in its principal markets could be affected by unfair competition from imports of those steel products from certain countries, if applicable trade regulations were not in force. For example, during 2018, under Section 232 of the Trade Expansion Act of 1962, the United States imposed a 25% tariff on steel imports; however, Australia, Canada and Mexico are exempted from the tariff; although Argentina, Brazil and South Korea are also

exempted, they are subject to quota system agreements covering steel imports from those countries. This trade measures could stimulate aggressive export offers elsewhere, exerting downward pressure on sales and margins of steel companies operating in other markets and regions, including those in which Ternium operates. For further information, see Item 4. “Information on the Company—B. Business Overview—Regulations—Trade Regulations.”

Changes in prevailing exchange rates could impact results from subsidiaries with net short or long positions in currencies other than their functional currencies. Since January 1, 2020, the functional currency of all Ternium's consolidated subsidiaries is the U.S. dollar. Ternium's subsidiaries record foreign exchange results on their net non-U.S. dollar positions when the other currencies appreciate or depreciate with respect to the U.S. dollar. In addition, Ternium's subsidiaries in Mexico, Brazil, Argentina and Colombia record deferred tax results when the Mexican peso, the Brazilian real, the Argentine peso or the Colombian peso appreciates or depreciates in relation to the U.S. dollar (their functional currency) as such fluctuations change, in U.S. dollar terms, the tax base used to calculate deferred tax at such subsidiaries. Fluctuations in the value of such currencies against the U.S. dollar have had, and may also have in the future, an impact on Ternium's results.

Changes in prevailing exchange rates have had an impact on Ternium's comprehensive results in the past and could impact comprehensive results from investments with a functional currency other than the U.S. dollar in the future. In accordance with IFRS, Ternium records currency translation adjustments in its consolidated statements of comprehensive income. These adjustments do not affect results but, instead, have an impact on net worth. Fluctuations in the Brazilian real (as our participation in Usiminas is denominated in Brazilian reais) against the U.S. dollar have had, and may also have in the future, an impact on Ternium's comprehensive results. Ternium's currency translation adjustments results included the effect of the devaluation of the Brazilian real on the value of Ternium's investment in Usiminas as measured in U.S. dollars, amounting to a loss of \$19.7 million in 2019, a loss of \$72.5 million in 2018 and a loss of \$8.6 million in 2017.

Argentina is a hyperinflationary economy under the terms of IAS 29 as from July 1, 2018, and, accordingly, Ternium applied IAS 29 as from such date in the financial reporting of Ternium's Argentine subsidiaries. However, since January 1, 2020, the functional currency of Ternium's Argentine subsidiaries is the U.S. dollar and, accordingly, IAS 29 will not be applied in future financial reporting.

Critical accounting estimates. This discussion of our operating and financial review and prospects is based on the consolidated financial statements included elsewhere in this annual report, which have been prepared in accordance with IFRS. The use of IFRS has an impact on our critical accounting policies and estimates.

The preparation of financial statements requires management to make estimates and judgements that affect the reported amounts of assets, liabilities, revenues and expenses, and the related disclosure of contingent assets and liabilities. Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Management makes estimates and assumptions concerning the future. Actual results may differ significantly from these estimates under different assumptions or conditions.

The principal estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below.

Goodwill impairment test. Assessment of the recoverability of the carrying value of goodwill requires significant judgment. Management evaluates goodwill allocated to the operating units for impairment on an annual basis or whenever there is an impairment indicator. Goodwill is tested at the lowest levels for which there are separately identifiable cash flows (each, a CGU). Impairment testing of the CGUs is carried out and the value in use determined in accordance with the accounting policy stated in note 4(f) to the consolidated financial statements included elsewhere in this annual report:

- Assets that have an indefinite useful life (including goodwill) are not subject to amortization and are tested annually for impairment or whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Assets that are subject to amortization and investments in affiliates are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less cost to sell and the value in use.
- To carry out these tests, assets are grouped at the level of the CGUs. When evaluating long-lived assets for potential impairment, the Company estimates the recoverable amount based on the value in use of the

corresponding CGU. The value in use of each CGU is determined on the basis of the present value of net future cash flows which will be generated by the assets tested.

- Determining the present value of future cash flows involves highly sensitive estimates and assumptions specific to the nature of each CGU's activities, including estimates and assumptions relating to amount and timing of projected future cash flows, expected changes in market prices, expected changes in the demand of Ternium products and services, selected discount rate and selected tax rate.
- Ternium uses cash flow projections for the next five years based on past performance and expectations of market development; thereafter, it uses a perpetuity rate. Application of the discounted cash flow method to determine the value in use of a CGU begins with a forecast of all expected future net cash flows. Variables considered in forecasts include the GDP growth rates of the country under study and their correlation with steel demand, level of steel prices and estimated raw material costs as observed in industry reports.
- Cash flows are discounted at rates that reflect specific country and currency risks associated with the cash flow projections.
- As a result of the above factors, actual cash flows and values could vary significantly from the forecasted future cash flows and related values derived using discounting techniques. Based on the information currently available, however, Ternium believes that it is not reasonably possible that the variation would cause the carrying amount to exceed the recoverable amount of the CGUs.

The discount rates used are based on the weighted average cost of capital, which is considered to be a good indicator of cost of capital. As of December 31, 2019 the discount rate used to test goodwill allocated to the Steel and Mining Mexico CGUs for impairment was 9.80% (as of December 31, 2018, was 11.68%).

At December 31, 2019, 2018 and 2017, no impairment charges to CGUs with allocated goodwill resulted from the impairment tests performed. Any future impairment charge could have a material adverse effect on Ternium's results of operations, financial condition and net worth.

Income taxes. Management calculates current and deferred income taxes according to the tax laws applicable to each subsidiary in the countries in which such subsidiaries operate. However, certain adjustments necessary to determine the income tax provision are finalized only after the balance sheet is issued. In cases in which the final tax outcome is different from the amounts that were initially recorded, such differences will impact the income tax and deferred tax provisions in the period in which such determination is made. Also, when assessing the recoverability of tax assets, management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies. For further information, see note 11 to the consolidated financial statements included elsewhere in this annual report.

Loss contingencies. Ternium is subject to various claims, lawsuits and other legal proceedings that arise in the ordinary course of business, including customer claims in which a third party is seeking reimbursement or indemnity. The Company's liability with respect to such claims, lawsuits and other legal proceedings cannot be estimated with certainty. Periodically, management reviews the status of each significant matter and assesses potential financial exposure. If the potential loss from the claim or proceeding is considered probable and the amount can be reasonably estimated, a liability is recorded. Management estimates the amount of such liability based on the information available and the assumptions and methods it has concluded are appropriate, in accordance with the provisions of IFRS. Accruals for such contingencies reflect a reasonable estimate of the losses to be incurred based on information available, including the relevant litigation or settlement strategy, as of the date of preparation of these financial statements. As additional information becomes available, management will reassess its evaluation of the pending claims, lawsuits and other proceedings and revise its estimates. The loss contingencies provision amounted to \$613.4 million as of December 31, 2019 and \$643.9 million as of December 31, 2018. For further information see notes 3(c) and 25(i) to the consolidated financial statements included elsewhere in this annual report.

Allowance for obsolescence of supplies and spare parts and slow-moving inventory. Management assesses the recoverability of its inventories considering their selling prices or whether they are damaged or have become wholly or partly obsolete. Net realizable value is the estimated selling price in the ordinary course of business, less the costs of completion and selling expenses. The Company establishes an allowance for obsolete or slow-moving inventory in connection with finished goods and goods in process. The allowance for slow-moving inventory is recognized for finished goods and goods in process based on management's analysis of their aging. In connection with supplies and spare parts, the calculation is based on management's analysis of their aging, the capacity of such materials to be used based on their levels of preservation and maintenance, and their potential obsolescence due to technological change.

As of December 31, 2019, and December 31, 2018, the Company recorded no allowance for net realizable value and \$62.2 million and \$55.5 million, respectively, as allowance for obsolescence.

Useful lives and impairment of property, plant and equipment and other long-lived assets. In determining useful lives, management considered, among others, the following factors: age, operating condition and level of usage and maintenance. Management conducted visual inspections for the purpose of: (i) determining whether the current conditions of such assets are consistent with normal conditions of assets of similar age; (ii) confirming that the operating conditions and levels of usage of such assets are adequate and consistent with their design; (iii) establishing obsolescence levels, and (iv) estimating life expectancy, all of which were used in determining useful lives. Management believes, however, that it is possible that the periods of economic utilization of property, plant and equipment may be different than the useful lives so determined. Furthermore, management believes that this accounting policy involves a critical accounting estimate because it is subject to change from period to period as a result of variations in economic conditions and business performance.

When assessing whether an impairment indicator may exist, the Company evaluates both internal and external sources of information, such as the following:

- whether significant changes with an adverse effect on the entity have taken place during the period, or will take place in the near future, in the technological, market, economic or legal environment in which the entity operates or in the market to which an asset is dedicated;
- whether market interest rates or other market rates of return on investments have increased during the period, and those increases are likely to affect the discount rate used in calculating an asset's value in use and decrease the asset's recoverable amount materially;
- whether the carrying amount of the net assets of the entity is more than its market capitalization;
- whether evidence is available of obsolescence or physical damage of an asset;
- whether significant changes with an adverse effect on the entity have taken place during the period, or are expected to take place in the near future, in the extent to which, or manner in which, an asset is used or is expected to be used. These changes include the asset becoming idle, plans to discontinue or restructure the operation to which an asset belongs, plans to dispose of an asset before the previously expected date, and reassessing the useful life of an asset as finite rather than indefinite;
- whether evidence is available from internal reporting that indicates that the economic performance of an asset is, or will be, worse than expected;
- whether it is becoming probable that the investee will enter bankruptcy or other financial reorganization, or is experiencing other financial difficulty;
- whether observable data indicates that there is a measurable decrease in the estimated future cash flows of the investee since the initial recognition; and
- whether the lender of the investee, for economic or legal reasons relating to the investee's financial difficulty, has granted a concession that the lender would not otherwise consider.

Considering the economic situation in Argentina, the Company tested the recoverability of its investment in Ternium Argentina as of December 31, 2019, resulting in no impairment charges to be recognized.

Considering that no impairment indicators were identified in the rest of the subsidiaries as of December 31, 2019 and 2018, Ternium tested for impairment only the goodwill value, resulting in no impairment charges being required to be recognized. Consequently, during the years 2019, 2018 and 2017, no impairment charges were recorded in connection with assets that have an indefinite useful life (including goodwill). Based on the information currently available to us, as of the date of this annual report, the Company is not aware of any factors that would lead to the recognition of future impairment charges. Any such impairment charges could have a material adverse effect on Ternium's results of operations, financial condition and net worth.

Allowances for doubtful accounts. Trade and other receivables are recognized initially at fair value, generally the original invoice amount. Since January 1, 2018, the Company applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables. To measure the expected credit losses, trade receivables are grouped based on shared credit risk characteristics and the days past due. The

Company keeps an allowance for trade receivables, recorded in an asset account to offset the trade receivables in an amount estimated sufficient to cover the losses resulting from the impossibility for the debtors to cancel the amounts owed. This allowance for trade receivables is recorded with a charge to selling expenses.

As of December 31, 2019, and December 31, 2018, allowance for doubtful accounts totaled \$13.0 million and \$14.3 million, respectively.

Historically, losses due to credit failures, aging of overdue accounts and customer claims have been within expectations and in line with the provisions established. If, however, circumstances were to materially change (e.g., higher than expected defaults), management's estimates of the recoverability of amounts due to us could be materially reduced and our results of operations, financial condition and net worth could be materially and adversely affected.

Mining reserve estimates. Reserves are estimates of the amount of product that can be economically and legally extracted from the Company's mining concessions. In order to estimate reserves, a range of geological, technical and economic factors must be considered. Estimating the quantity and/or grade of reserves requires complex and difficult geological judgments to interpret the data. Because the economic assumptions used to estimate reserves change from period to period, and because additional geological data is generated during the course of operations, estimates of reserves may change from period to period.

Changes in reported reserves may affect the Company's financial results and financial position. For example:

- Asset carrying amounts may be affected due to changes in estimated future cash flows.
- Depreciation and amortization charges may change where such charges are determined by the units of production basis, or where the useful economic lives of assets change.
- Stripping costs recognized in Mining assets or charged to results may change due to changes in stripping ratios or the units of production basis of depreciation.
- Asset retirement obligations may change where changes in estimated reserves affect expectations about the timing or cost of these activities.

Post-employment obligation estimates. The Company estimates at each year-end the provision necessary to meet its post-employment obligations in accordance with the advice from independent actuaries. The calculation of post-employment and other employee obligations requires the application of various assumptions. The main assumptions for post-employment and other employee obligations include discount rates, compensation growth rates, pension growth rates and life expectancy. Changes in the assumptions could give rise to adjustments in the results and liabilities recorded and might have an impact on the post-employment and other employee obligations recognized in the future.

Business combinations. The recognition of business combinations requires the excess of the purchase price of acquisitions over the net book value of assets acquired to be allocated to the assets and liabilities of the acquired entity. The Company makes judgements and estimates in relation to the fair value allocation of the purchase price. If any unallocated portion is positive, it is recognized as goodwill, and if negative, it is recognized in the income statement. For further information on business combinations, see note 3 to the consolidated financial statements included elsewhere in this annual report.

A. Results of Operations

The following discussion and analysis of our financial condition and results of operations are based on the consolidated financial statements included elsewhere in this annual report. Accordingly, this discussion and analysis present our financial condition and results of operations on a consolidated basis. For further information, see "Presentation of Certain Financial and Other Information—Accounting Principles" and notes 2 and 4 to the consolidated financial statements included elsewhere in this annual report. The following discussion should be read in conjunction with the consolidated financial statements and the related notes included elsewhere in this annual report.

Selected consolidated income statement data

For the year ended December 31,

<i>In thousands U.S. dollars (except number of shares and per share data)</i>	2019	2018	2017	2016	2015
Net sales	10,192,818	11,454,807	9,700,296	7,223,975	7,877,449
Cost of sales	(8,452,440)	(8,483,328)	(7,403,025)	(5,384,390)	(6,477,272)
Gross profit	1,740,378	2,971,479	2,297,271	1,839,585	1,400,177
Selling, general and administrative expenses	(897,475)	(876,764)	(824,247)	(687,942)	(770,292)
Other operating income (expenses), net	21,663	13,656	(16,240)	(9,925)	9,454
Operating income	864,566	2,108,371	1,456,784	1,141,718	639,339
Finance expense	(88,284)	(131,172)	(114,583)	(89,971)	(89,489)
Finance income	29,071	21,236	19,408	14,129	7,981
Other financial income (expenses), net	(39,756)	(69,640)	(69,915)	37,957	(17,922)
Equity in earnings (losses) of non-consolidated companies ⁽⁴⁾	60,967	102,772	68,115	14,624	(272,810)
Profit before income tax expense	826,564	2,031,567	1,359,809	1,118,457	267,099
Income tax expense	(196,519)	(369,435)	(336,882)	(411,528)	(207,320)
Profit for the year	630,045	1,662,132	1,022,927	706,929	59,779
Attributable to:					
Owners of the parent	564,269	1,506,647	886,219	595,644	8,127
Non-controlling interest	65,776	155,485	136,708	111,285	51,652
Profit for the year	630,045	1,662,132	1,022,927	706,929	59,779
Depreciation and amortization	661,112	589,299	474,299	406,890	433,788
Weighted average number of shares outstanding ⁽¹⁾	1,963,076,776	1,963,076,776	1,963,076,776	1,963,076,776	1,963,076,776
Basic earnings per share (\$) ⁽²⁾⁽³⁾	0.29	0.77	0.45	0.30	—
Basic earnings per ADS (\$) ⁽²⁾⁽³⁾	2.87	7.67	4.51	3.03	0.04
Dividends paid per share (\$)	n/a	0.12	0.11	0.10	0.09
Dividends paid per ADS (\$)	n/a	1.20	1.10	1.00	0.90

- (1) Of the 2,004,743,442 shares issued as of December 31, 2019, the Company held 41,666,666 that were repurchased from Usiminas on February 15, 2011. Such shares were not considered outstanding for purposes of the calculation of the weighted average number of shares.
- (2) International Accounting Standard N° 1 (IAS 1) (revised) requires that income for the year as shown in the income statement includes the portion attributable to non-controlling interest. Basic earnings per share and basic earnings per ADS, however, continue to be calculated on the basis of income attributable solely to the owners of the parent.
- (3) Diluted earnings per share and per ADS (expressed in \$per share or ADS), equals basic earnings per share or ADS, respectively.
- (4) Equity in earnings (losses) of non-consolidated companies include a write-down of our investment in Usiminas, as a result of the performance of an impairment test, of \$191.9 million in 2015.

<i>Selected consolidated balance sheet data</i> <i>In thousands of U.S. dollars (except number of shares and per share data)</i>	At December 31,				
	2019	2018	2017	2016	2015
Non-current assets	8,757,320	8,121,824	7,727,283	5,622,556	5,480,389
Property, plant and equipment, net	6,539,581	5,817,609	5,349,753	4,135,977	4,207,566
Other non-current assets ⁽¹⁾	2,217,739	2,304,215	2,377,530	1,486,579	1,272,823
Current assets	4,178,213	4,426,038	4,395,283	2,700,314	2,582,204
Cash and cash equivalents	519,965	250,541	337,779	183,463	151,491
Other current assets	3,656,150	4,173,348	4,054,741	2,506,603	2,419,046
Non-current assets classified as held for sale	2,098	2,149	2,763	10,248	11,667
Total assets	12,935,533	12,547,862	12,122,566	8,322,870	8,062,593
Capital and reserves attributable to the owners of the parent	6,611,665	6,393,255	5,010,424	4,391,298	4,033,148
Non-controlling interest	1,103,208	1,091,321	842,347	775,295	769,849
Non-current liabilities	3,452,535	3,236,756	3,442,521	1,324,785	1,558,979
Borrowings	1,628,892	1,637,101	1,716,337	396,742	607,237
Deferred tax liabilities	403,278	474,431	513,357	609,004	609,514
Other non-current liabilities	1,420,365	1,125,224	1,212,827	319,039	342,228
Current liabilities	1,768,125	1,826,530	2,827,274	1,831,492	1,700,617
Borrowings	559,782	399,856	1,505,570	821,893	913,786
Other current liabilities	1,208,343	1,426,674	1,321,704	1,009,599	786,831
Total liabilities	5,220,660	5,063,286	6,269,795	3,156,277	3,259,596
Total equity and liabilities	12,935,533	12,547,862	12,122,566	8,322,870	8,062,593
Number of shares	1,963,076,776	1,963,076,776	1,963,076,776	1,963,076,776	1,963,076,776

(1) Includes goodwill mainly related to the acquisition of our Mexican subsidiaries for a total amount of \$662.3 million as of December 31 of each year.

Fiscal Year Ended December 31, 2019 compared to Fiscal Year Ended December 31, 2018

Overview

During 2019, shipments in the Mexican market were 6.3 million tons, representing 50% of Ternium's total steel shipments. Apparent flat steel use decreased in the year reflecting a softer commercial market in 2019 and a strong level of shipments in the first half 2018 in anticipation of rising steel prices. Shipments in the Southern Region reached 1.9 million tons in 2019, or 15% of Ternium's consolidated shipments in the steel segment. Most of Ternium's shipments in the region are destined to the Argentine market. Apparent steel use decreased significantly in Argentina in 2019, as the country's macroeconomic situation deteriorated. Shipments in the Other Markets region reached 4.3 million tons in 2019, or 34% of Ternium's consolidated shipments in the steel segment. Our major shipment destinations in the Other Markets region were the United States, Brazil, Colombia and Central America.

Net sales in 2019 were \$10.2 billion, including steel products net sales of \$9.9 billion on steel shipments of 12.5 million tons, other products net sales of \$296.1 million and iron ore products net sales of \$364 million on iron ore shipments of 3.6 million tons. Most of the iron ore production was consumed in our steel operations. Steel revenue per ton was \$790 in 2019. Steel prices declined in North America during the year following a strong pricing environment in 2018.

EBITDA reached \$1.5 billion in 2019 with EBITDA margin of 15%, remaining at an industry-leading level of profitability. Net income attributable to Ternium's equity owners was \$564.3 million, or \$2.87 per ADS. Free cash flow was \$595.4 million, with a high level of capital expenditures being partially offset by a \$572.7 million reduction in

working capital. In 2019, the company's capital expenditures were \$1.1 billion, \$532.0 million higher than in 2018, as Ternium's investment program progresses as planned. The main investments carried out during the year included those made for new hot-rolling, hot-dipped galvanizing and painting production capacity in the company's Pesquería industrial center, a new steel bar and coil mill in Colombia, improvement of environmental and safety conditions at certain facilities, the expansion of connectivity, integration and automation of our operations, and those made in the iron ore mining operations.

Ternium's net debt position reached \$1.5 billion at the end of December 2019, with a net debt to last twelve months EBITDA ratio of 1.0 times.

Ternium's operating income in 2019 was \$864.6 million, reflecting a good level of profitability, soft steel demand in Mexico and a significant decline in steel shipments in Argentina. Operating income in 2019 decreased \$1.2 billion year-over-year, mainly due to \$66 lower revenue per ton, a \$30 increase in operating cost per ton and a 440,000-ton decrease in shipments. Revenue per ton decreased in 2019 principally as a result of declining steel prices in Ternium's North American markets in 2019 following a strong pricing environment in 2018. The increase in the steel segment's operating cost per ton mainly reflected higher raw material and energy costs, and higher depreciation of property plant and equipment, partially offset by lower labor costs and maintenance expenses. Shipments in 2019 reflected a 240,000-ton decrease in Mexico, mainly due to a softer commercial market in 2019 and a strong level of shipments in the first half of 2018 in anticipation of rising steel prices, and a 363,000-ton decrease in the Southern Region, mainly due to weaker steel demand in Argentina, partially offset by a 163,000-ton increase in Other Markets due to higher sales of slabs to third parties. The Company's net income in 2019 was \$630.0 million, compared to net income of \$1.7 billion in 2018. The \$1.0 billion year-over-year decrease was mainly due to lower operating income, partially offset by a lower income tax expense and better financial results.

Net Sales

Net sales in 2019 were \$10.2 billion, 11% lower than net sales in 2018. The following table outlines Ternium's consolidated net sales for 2019 and 2018:

	Net sales (in millions of U.S. dollars)		
	2019	2018	Dif.
Mexico	5,326.7	6,134.0	(13)%
Southern Region	1,696.6	1,933.4	(12)%
Other Markets	2,866.7	3,023.6	(5)%
Total steel products consolidated net sales	9,890.1	11,091.0	(11)%
Other products ⁽¹⁾	296.1	362.4	(18)%
Total steel segment net sales	10,186.2	11,453.4	(11)%
Total mining segment net sales	364.0	282.0	29 %
Intersegment eliminations	(357.4)	(280.6)	
Total consolidated net sales	10,192.8	11,454.8	(11)%

⁽¹⁾ The item "Other products" primarily includes Ternium Brasil's and Ternium Mexico's electricity sales.

Cost of sales

Cost of sales was \$8.5 billion in 2019, a decrease of \$30.9 million compared to 2018. This was principally due to a \$100.1 million, or 5%, decrease in other costs mainly including an \$87.8 million decrease in labor costs, a \$52.5 million decrease in maintenance expense and a \$52.4 million increase in depreciation of property plant and equipment; partially offset by a \$69.2 million increase in raw material and consumables used, mainly reflecting net higher raw material, other inputs and energy costs partially offset by a 3% decrease in steel shipment volumes.

Selling, general and administrative (SG&A) expenses

SG&A expenses in 2019 were \$897.5 million, or 9% of net sales, an increase of \$20.7 million compared to SG&A expenses in 2018 mainly due to a \$24.5 million increase in amortization of intangible assets, an \$8.9 million increase in taxes and a \$7.3 million increase in freight and transportation costs, partially offset by a \$26.1 million decrease in labor costs.

Other net operating income

Other net operating income in 2019 was a \$21.7 million gain, compared to a \$13.7 million gain in 2018.

Operating income

Operating income in 2019 was \$864.6 million, or 8% of net sales, compared to operating income of \$2.1 billion, or 18% of net sales, in 2018. The following table outlines Ternium's operating income by segment for 2019 and 2018:

<i>In millions of U.S. dollars</i>	Steel segment		Mining segment		Intersegment eliminations		Total	
	2019	2018	2019	2018	2019	2018	2019	2018
Net Sales	10,186.2	11,453.4	364.1	282.0	(357.4)	(280.6)	10,192.8	11,454.8
Cost of sales	(8,552.5)	(8,524.9)	(259.5)	(239.9)	359.6	281.5	(8,452.4)	(8,483.3)
SG&A expenses	(885.1)	(860.9)	(12.3)	(15.9)	—	—	(897.5)	(876.8)
Other operating income (expense), net	21.9	12.9	(0.3)	0.7	—	—	21.7	13.7
Operating income	770.5	2,080.6	92.0	26.9	2.2	0.8	864.6	2,108.4

Steel reporting segment

The steel segment's operating income was \$770.5 million in 2019, a decrease of \$1.3 billion compared to operating income in 2018, reflecting lower net sales and slightly higher operating cost.

Net sales of steel products in 2019 decreased 11% compared to 2018, reflecting lower revenue per ton and shipments. Revenue per ton decreased 8% mainly as a result of declining steel prices in Mexico in 2019 following a strong pricing environment in 2018. Shipments decreased 3% year-over-year mainly as a result of lower volumes in the Southern Region and Mexico.

	Net Sales (million U.S. dollars)			Shipments (thousands of tons)			Revenue/ton (\$/ton)		
	2019	2018	Dif.	2019	2018	Dif.	2019	2018	Dif.
Mexico	5,326.7	6,134.0	-13 %	6,305.0	6,544.8	-4 %	845	937	-10 %
Southern Region	1,696.6	1,933.4	-12 %	1,938.3	2,301.1	-16 %	875	840	4 %
Other Markets	2,866.7	3,023.6	-5 %	4,268.0	4,105.2	4 %	672	737	-9 %
Total steel	9,890.1	11,091.0	-11 %	12,511.3	12,951.1	-3 %	790	856	-8 %
Other products ⁽¹⁾	296.1	362.4	-18 %						
Total steel segment	10,186.2	11,453.4	-11 %						

⁽¹⁾ The item "Other products" primarily includes Ternium Brasil's and Ternium Mexico's electricity sales.

Operating cost increased 1% year-over-year as a result of higher operating cost per ton partially offset by the above-mentioned 3% decrease in shipment volumes.

Mining reporting segment

The mining segment's operating income was a gain of \$91.9 million in 2019, compared to a gain of \$26.9 million in 2018, reflecting higher iron ore sales partially offset by higher operating cost.

Net sales of mining products in 2019 were 29% higher than those in 2018, with 31% higher revenue per ton and a 1% decrease in shipments.

	Mining segment		
	2019	2018	Dif.
Net Sales (million of U.S. dollars)	364.0	282.0	29%
Shipments (thousands of tons)	3,575.9	3,616.3	-1%
Revenue per ton (\$/ton)	102	78	31%

Operating cost increased 7% year-over-year due to higher operating cost per ton partially offset by the above-mentioned 1% decrease in shipments.

Net financial results

Net financial results were \$99.0 million loss in 2019, compared to \$179.6 million loss in 2018. During 2019, Ternium's net financial interest results totaled a loss of \$59.2 million, compared with a loss of \$109.9 million in 2018, mainly reflecting lower average indebtedness and interest rates.

Net foreign exchange loss was \$136.9 million in 2019 compared to \$177.6 million in 2018, a \$40.7 million year-over-year improvement mainly related to the effect of the fluctuations of the Argentine peso against the U.S. dollar. In 2019, the Argentine peso depreciated 37% against the U.S. dollar, compared to 51% in 2018, resulting in a relatively lower negative impact in Ternium Argentina's U.S. dollar financial position in 2019 (as Ternium Argentina used the Argentine peso as its functional currency until the end of 2019).

Change in fair value of financial instruments included in net financial results was a \$10.8 million loss in 2019 compared to a \$99.3 million loss in 2018.

The effect of inflation on Ternium's Argentine subsidiaries and associates' short net monetary position, as a result of the application of IAS 29, was a gain of \$118.0 million in 2019 compared to a \$191.4 million gain in 2018.

Equity in results of non-consolidated companies

Equity in results of non-consolidated companies was a gain of \$61.0 million in 2019, compared to a gain of \$102.8 million in 2018 mainly due to lower results from Ternium's investment in Usiminas.

Income tax expense

Income tax expense in 2019 was \$196.5 million, or 24% of income before income tax, compared to an income tax expense of \$369.4 million, or 18% of income before income tax in 2018.

Net income attributable to non-controlling interests

Net gain attributable to non-controlling interest in 2019 was \$65.8 million, compared to a net gain of \$155.5 million in 2018.

Fiscal Year Ended December 31, 2018 compared to Fiscal Year Ended December 31, 2017

Overview

During 2018, shipments in the Mexican market were 6.5 million tons, representing 51% of Ternium's total steel shipments. Apparent steel demand in Mexico reached 25.9 million tons in 2018 with steady demand from the manufacturing sector and weak commercial markets, usually driven by construction activity, as a result of low public and private investment. Shipments in the Southern Region reached 2.3 million tons in 2018, or 18% of Ternium's consolidated shipments in the steel segment, decreasing 6% year-over-year. Apparent flat steel demand in Argentina decreased year-over-year in 2018 to approximately 2.6 million tons. The Argentine economy was affected during the year by weak agricultural production due to adverse weather conditions, financial market volatility and a significant increase in interest rates. Activity levels in the country's main flat steel consuming sectors experienced a significant decline during the second half of 2018. In addition, apparent flat steel demand was impacted during the fourth quarter by a destocking process in the value chain.

Shipments in the Other Markets region reached 4.1 million tons in 2018, or 32% of Ternium's consolidated

shipments in the steel segment. Shipments in this region in 2018 increased 1.6 million tons year-over-year, or 63%, including a 1.5 million-ton increase in slab shipments. On September 7, 2017, Ternium acquired from thyssenkrupp AG Ternium Brasil's slab-making facility in Rio de Janeiro, Brazil, and started consolidating Ternium Brasil's financial statements as from that month. Consequently, 2018 is the first full year reflecting the effect of the consolidation of Ternium Brasil on our shipments in the Other Markets region. Ternium Brasil ships slabs to third parties in the United States. Slabs exports from Brazil to the United States are subject to a quota system and are, therefore, exempted from the 25% tariff set on steel imports under Section 232 of the U.S. Trade Expansion Act. In addition, Ternium Brasil ships slabs to other Ternium's subsidiaries, which are eliminated in the process of consolidation, and to third parties in Brazil and other countries.

In the United States, apparent demand for finished steel increased 2.3% year-over-year in 2018, on improved manufacturing activity and healthier economic performance. Ternium's shipments of finished steel products in the country (excluding Ternium Brasil's slab shipments) decreased in 2018 as steel imports from Mexico were affected by the 25% tariff set under Section 232 of the U.S. Trade Expansion Act.

In Colombia, the steel market stabilized in 2018 following a decrease in steel demand in 2017. During the year, oil and gas activity continued recovering in the country. On the other hand, weak infrastructure investment and a slow recovery in residential building investment weighed on industry growth. Ternium's shipments in the country increased slightly in 2018.

Operating income in 2018 was \$2.1 billion, the highest on record, reflecting strong steel market prices in Mexico and the consolidation of Ternium Brasil. Ternium Brasil enabled us to integrate our operations and, at the same time, take advantage of a strong slab market in 2018. Compared to 2017, operating income in 2018 increased \$651.6 million, mainly due to 1.4 million-ton increase in steel shipments and \$47 increase in steel revenue per ton, partially offset by an \$11 increase in steel operating cost per ton, which equals steel cost of sales plus steel SG&A, divided by shipments. The increase in steel volumes was the result of higher shipments in the Other Market's region, due to the consolidation of Ternium Brasil's slab sales since September 2017, partially offset by a 155,000-ton decrease in the Southern Region and a 78,000-ton decrease in Mexico. The increase in steel cost per ton mainly reflected higher purchased slab and raw material costs, partially offset by higher integration in our operations.

Net income in 2018 was \$1.7 billion, reflecting the strength of our operations and a low effective tax rate. The effective tax rate in 2018 included a \$104.1 million tax gain due to the effect of an asset revaluation for tax purposes at Ternium's Argentine subsidiary. Compared to net income of \$1.0 billion in 2017, net income in 2018 increased \$639.2 million, mainly due to the higher operating income and low effective tax rate in 2018, and higher results from equity in earnings of Usiminas, partially offset by slightly higher net financial expenses.

Net Sales

Net sales in 2018 were \$11.5 billion, 18% higher than net sales in 2017. The following table outlines Ternium's consolidated net sales for 2018 and 2017:

	Net sales (in millions of U.S. dollars)		
	2018	2017	Dif.
Mexico	6,134.0	5,378.6	14 %
Southern Region	1,933.4	2,313.6	(16)%
Other Markets	3,023.6	1,699.0	78 %
Total steel products consolidated net sales	11,091.0	9,391.2	18 %
Other products ⁽¹⁾	362.4	309.1	17 %
Total steel segment net sales	11,453.4	9,700.3	18 %
Total mining segment net sales	282.0	271.5	4 %
Intersegment eliminations	(280.6)	(271.4)	
Total consolidated net sales	11,454.8	9,700.3	18 %

⁽¹⁾ The item "Other products" primarily includes Ternium Brasil's and Ternium Mexico's electricity sales.

Cost of sales

Cost of sales was \$8.5 billion in 2018, an increase of \$1.1 billion compared to 2017. This was principally due to a \$883.5 million, or 15%, increase in raw material and consumables used, mainly reflecting a 12% increase in steel shipments and higher raw material and purchased slab costs, partially offset by lower energy costs; and to a \$196.8 million increase in other costs, mainly including a \$108.1 million increase in depreciation of property, plant and equipment due to the full consolidation of Ternium Brasil and the effect of inflation adjustment in Argentina, a \$47.6 million increase in services and fees, and a \$39.1 million increase in maintenance expenses.

Selling, general and administrative (SG&A) expenses

SG&A expenses in 2018 were \$876.8 million, or 7.7% of net sales, an increase of \$52.5 million compared to SG&A expenses in 2017 mainly due to higher freight and transportation expenses and labor costs, partially offset by lower services and fees expenses.

Other net operating income

Other net operating income in 2018 was a \$13.7 million gain, compared to a \$16.2 million loss in 2017. Other net operating income in 2018 was mainly related to a recovery of tax credit in Ternium Brasil.

Operating income

Operating income in 2018 was \$2.1 billion, or 18.4% of net sales, compared to operating income of \$1.5 billion, or 15% of net sales, in 2017. The following table outlines Ternium's operating income by segment for 2018 and 2017.

<i>In millions of U.S. dollars</i>	Steel segment		Mining segment		Intersegment eliminations		Total	
	2018	2017	2018	2017	2018	2017	2018	2017
Net Sales	11,453.4	9,700.3	282.0	271.5	(280.6)	(271.4)	11,454.8	9,700.3
Cost of sales	(8,524.9)	(7,465.8)	(239.9)	(212.9)	281.5	275.6	(8,483.3)	(7,403.0)
SG&A expenses	(860.9)	(811.5)	(15.9)	(12.8)	—	—	(876.8)	(824.2)
Other operating (expense) income, net	12.9	(17.0)	0.7	0.8	—	—	13.7	(16.2)
Operating income	2,080.6	1,406.0	26.9	46.6	0.8	4.1	2,108.4	1,456.8

Steel reporting segment

The steel segment's operating income was \$2.1 billion in 2018, an increase of \$674.6 million compared to the operating income in 2017, reflecting higher net sales, partially offset by higher operating cost. Net sales of steel products in 2018 increased 18% compared to 2017, reflecting a 1.4 million-ton increase in shipments and a \$47 increase in steel revenue per ton. Shipments increased 12% year-over-year mainly due to higher shipments in Other Markets and the consolidation of Ternium Brasil since September 2017, partially offset by lower shipments in Southern Region, reflecting lower demand for steel products, and slightly lower shipments in Mexico. Revenue per ton in 2018 was higher than in the previous year as a result of higher steel prices in Ternium Mexico and in Other Markets. Although steel prices in the Southern Region were relatively stable in U.S. dollar terms year-over-year, revenue per ton decreased due to the effect of inflation adjustment in Argentina.

	Net Sales (million U.S. dollars)			Shipments (thousands of tons)			Revenue/ton (\$/ton)		
	2018	2017	Dif.	2018	2017	Dif.	2018	2017	Dif.
Mexico	6,134.0	5,378.6	14 %	6,544.8	6,622.8	-1 %	937	812	15 %
Southern Region	1,933.4	2,313.6	-16 %	2,301.1	2,456.0	-6 %	840	942	-11 %
Other Markets	3,023.6	1,699.0	78 %	4,105.2	2,517.7	63 %	737	675	9 %
Total steel products	11,091.0	9,391.2	18 %	12,951.1	11,596.6	12 %	856	810	6 %
Other products ⁽¹⁾	362.4	309.1	17 %						
Total steel segment	11,453.4	9,700.3	18 %						

⁽¹⁾ The item “Other products” primarily includes Ternium Brasil’s and Ternium Mexico’s electricity sales.

Operating cost increased 13% due to the above-mentioned 12% increase in shipment volumes and a 2% increase in operating cost per ton.

Mining reporting segment

The mining segment’s operating income was a gain of \$26.9 million in 2018, lower than a gain of \$46.6 million in 2017, reflecting higher operating cost, partially offset by higher iron ore sales.

Net sales of mining products in 2018 were 4% higher than those in 2017, reflecting a 2% increase in shipments and a 2% increase in revenue per ton.

	Mining segment		
	2018	2017	Dif.
Net Sales (million of U.S. dollars)	282.0	271.5	4%
Shipments (thousands of tons)	3,616.3	3,551.1	2%
Revenue per ton (\$/ton)	78	76	3%

Operating cost increased 13% year-over-year mainly due to 11% increase in operating cost per ton and the mentioned above 2% increase in shipment volumes.

Net financial results

Net financial results were \$179.6 million loss in 2018, compared to \$165.1 million loss in 2017. During 2018, Ternium’s net financial interest results totaled a loss of \$109.9 million, compared with a loss of \$95.2 million in 2017, reflecting higher average indebtedness partially offset by a lower average cost of debt.

Net foreign exchange results included a \$112.2 million negative year-over-year difference mainly related to the effect of the fluctuations of the Argentine and Mexican peso against the U.S. dollar. In 2018, the Argentine peso depreciated 51% against the U.S. dollar compared to 15% in 2017, resulting in a non-cash negative impact in Ternium Argentina’s U.S. dollar financial position (which uses the Argentine peso as its functional currency).

Change in fair value of financial instruments included in net financial results was a \$99.3 million loss in 2018 compared to a \$3.1 million gain in 2017. The loss in 2018 was mainly related to certain derivative instruments entered into to compensate for the interest rate charges derived from Ternium’s Argentine subsidiaries’ local currency denominated financial debt, as well as to currency derivatives in Mexico.

The effect of inflation on Ternium’s Argentine subsidiaries and associates’ short net monetary position was a gain of \$191.4 million as a result of the application of IAS 29 from 2018.

Equity in results of non-consolidated companies

Equity in results of non-consolidated companies was a gain of \$102.8 million in 2018, compared to a gain of \$68.1 million in 2017 mainly due to better results from Ternium’s investment in Usiminas.

Income tax expense

Income tax expense in 2018 was \$369.4 million, or 18% of income before income tax, compared to an income tax expense of \$336.9 million, or 25% of income before income tax in 2017. The unusually low effective tax rate in 2018 was mainly the result of a \$104.1 million tax gain related to the effect of an asset revaluation for tax purposes at Ternium’s Argentine subsidiary. In 2017, the effective tax rate included a non-cash gain on deferred taxes due to the 5% appreciation of the Mexican peso against the U.S. dollar during the year which reduces, in U.S. dollar terms, the tax base used to calculate deferred tax at our Mexican subsidiaries (which have the U.S dollar as their functional currency).

Net income attributable to non-controlling interests

Net gain attributable to non-controlling interest in 2018 was \$155.5 million, compared to a net gain of \$136.7 million in 2017.

Foreign Currency Fluctuations

For information related to this matter, see Item 11. “Quantitative and Qualitative Disclosures About Market Risk—Foreign Exchange Exposure Risk.”

Governmental Economic, Fiscal, Monetary or Political Policies or Factors

For information related to this matter, see Item 3. “Key Information—D. Risk Factors—Risks Relating to the Countries in Which Ternium Operates.”

B. Liquidity and Capital Resources

We obtain funds from our operations, as well as from short-term and long-term borrowings from financial institutions. These funds are primarily used to finance our working capital and capital expenditures requirements, as well as our acquisitions and dividend payments (for further information on capital expenditures, see Item 4. “Information on the Company—B. Business Overview—Capital Expenditure Program”). We hold money market investments, time deposits and variable-rate or fixed-rate securities. Our gross financial indebtedness decreased in the 2018-2019 period, from \$3.2 billion at the end of 2017 to \$2.2 billion at the end of 2019.

The following table shows the changes in our cash and cash equivalents for each of the periods indicated below:

<i>In thousands of U.S. dollars</i>	For the year ended December 31,		
	2019	2018	2017
Net cash provided by operating activities	1,647,619	1,739,265	383,859
Net cash used in investing activities	(1,196,574)	(457,012)	(2,029,958)
Net cash (used in) provided by financing activities	(150,507)	(1,322,272)	1,802,256
Increase (decrease) in cash and cash equivalents	300,538	(40,019)	156,157
Effect of exchange rate changes	(31,114)	(47,219)	(1,841)
Cash and cash equivalents at the beginning of the year	250,541	337,779	183,463
Cash and cash equivalents at the end of the year ⁽¹⁾	519,965	250,541	337,779

(1) In addition to cash and cash equivalents, at December 31, 2019, 2018 and 2017, Ternium had \$215.3, \$51.5 and \$135.9 million of other investments with maturities of more than three months, respectively, and \$0.1, \$2.2 and \$0.1 million in restricted cash, respectively.

Changes in cash and cash equivalents between December 31, 2018 and December 31, 2019

Overview

During 2019, Ternium’s primary source of funding was cash provided by operating activities. Cash and cash equivalents as of December 31, 2019 was \$520.0 million, a \$269.4 million increase from \$250.5 million at the end of the previous year. The increase was mainly attributable to net cash provided by operating activities of \$1.6 billion, partially offset by net cash used in investing activities of \$1.2 billion and net cash used in financing activities of \$150.5 million.

In addition to cash and cash equivalents, as of December 31, 2019, we held other investments with maturity of more than three months for a total amount of \$215.3 million, increasing \$163.8 million compared to December 31, 2018.

Operating activities

Net cash provided by operating activities in 2019 was \$1.6 billion. Working capital decreased by \$572.7 million in 2019 as a result of a \$511 million decrease in inventories and an aggregate \$167.6 million decrease in trade and other receivables, partially offset by an aggregate \$105.9 million decrease in accounts payable and other liabilities. The inventory value decrease in 2019 was due to a \$231.3 million lower steel volume; \$197.5 million inventory value decrease in raw materials, supplies and other; and an \$82.2 million lower cost of steel.

	Change in inventory Dec'19 / Dec'18 (in millions of U.S. dollars)		
	Price	Volume	Total
Finished steel goods	(20.9)	(61.8)	(82.7)
Steel goods to undergo processing	(61.3)	(169.5)	(230.8)
Total steel goods	(82.2)	(231.3)	(313.5)
Raw materials, supplies and allowances			(197.5)
Total			(511.0)

Investing activities

Net cash used in investing activities in 2019 was \$1.2 billion, primarily attributable to capital expenditures of \$1.1 billion and an increase in other investments, partially offset by recovery of loans from non-consolidated company Techgen for a net amount of \$24.5 million. The main investments carried out during 2019 included those made for new hot-rolling, hot-dipped galvanizing and painting production capacity in the company's Pesquería industrial center, a new steel bar and coil mill in Colombia, improvement of environmental and safety conditions at certain facilities, the expansion of connectivity, integration and automation of our operations, and those made in the iron ore mining operations.

Financing activities

Net cash used in financing activities was \$150.5 million in 2019, primarily attributable to total dividend payments of \$264.1 million (\$235.6 million to the Company's shareholders and \$28.5 million to non-controlling interest) and financial lease payments of \$38.6 million, partially offset by net proceeds from borrowings of \$152.2 million.

Changes in cash and cash equivalents between December 31, 2017 and December 31, 2018

Overview

During 2018, Ternium's primary source of funding was cash provided by operating activities. Cash and cash equivalents as of December 31, 2018 was \$250.5 million, an \$87.2 million decrease from \$337.8 million at the end of the previous year. The decrease was mainly attributable to net cash used in financing activities of \$1.3 billion and net cash used in investing activities of \$457.0 million, partially offset by net cash provided by operating activities of \$1.7 billion.

In addition to cash and cash equivalents, as of December 31, 2018, we held other investments with maturity of more than three months for a total amount of \$51.5 million, decreasing \$84.4 million compared to December 31, 2017.

Operating activities

Net cash provided by operating activities in 2018 was \$1.7 billion. Working capital increased by \$228.6 million in 2018 as a result of a \$186.4 million increase in inventories and an aggregate \$114.7 million net increase in trade and other receivables, partially offset by an aggregate \$72.6 million increase in accounts payable and other liabilities. The inventory value increase in 2018 was mainly due to \$159.5 million higher volume and price of raw materials, supplies and other; and net \$90.5 million higher costs of slabs, goods in process and finished goods principally as a result of the pass-through of higher purchased slab, scrap, coal and iron ore prices; partially offset by \$63.6 million net lower steel volume.

	Change in inventory Dec'18 / Dec'17 (in millions of U.S. dollars)		
	Price	Volume	Total
Finished steel goods	36.7	16.7	53.5
Steel goods to undergo processing	53.8	(80.3)	(26.6)
Total steel goods	90.5	(63.6)	26.9
Raw materials, supplies and allowances			159.5
Total			186.4

Investing activities

Net cash used in investing activities in 2018 was \$457.0 million, primarily attributable to capital expenditures of \$520.3 million and loans to non-consolidated company Techgen for a net amount of \$24.5 million, partially offset by a decrease in other investments. The main investments carried out during 2018 included those made for new hot-rolling, hot-dipped galvanizing and painting production lines in the company's Pesquería industrial center, improvement of environmental and safety conditions at certain facilities, the upgrade and expansion of two hot strip mills, the expansion of connectivity and equipment automation, and those made in Peña Colorada's iron ore operations. For further information on capital expenditures, see Item 4. "Information on the Company—B. Business Overview—Capital Expenditure Program".

Financing activities

Net cash used in financing activities was \$1.3 billion in 2018, primarily attributable to net repayment of borrowings of \$1.1 billion and total dividend payments of \$236.8 million (\$215.9 million to the Company's shareholders and \$20.9 million to non-controlling interest).

Principal Sources of Funding

Funding Policies

Management's policy is to maintain a high degree of flexibility in operating and investment activities by maintaining adequate liquidity levels and ensuring access to readily available sources of financing. We obtain financing primarily in U.S. dollars, Argentine pesos and Colombian pesos. Whenever feasible, management bases its financing decisions, including the election of currency, term and type of the facility, on the intended use of proceeds for the proposed financing and on costs. For information on our financial risk management, please see note 30 to the consolidated financial statements included elsewhere in this annual report.

Ternium has in place non-committed credit facilities and management believes it has adequate access to the credit markets. As of the date of this annual report, our capital and financial resources, and overall liquidity position, have not been affected by the COVID-19 pandemic. For further information see "—G. Recent Developments - Effect of COVID - 19 outbreak on Ternium's activities."

Financial Liabilities

Our financial liabilities consist mainly of loans with financial institutions. As of December 31, 2019, these facilities were mainly denominated in U.S. dollars (97% of total financial liabilities). Total financial debt (inclusive of principal and interest accrued thereon) increased by \$151.7 million in the year, from \$2.0 billion as of December 31, 2018, to \$2.2 billion as of December 31, 2019. As of December 2019, current borrowings were 26% of total borrowings, none of which corresponded to borrowings with related parties.

The following table shows Ternium's financial liabilities as of December 31 of each of the last three years:

<i>In thousands of U.S. dollars</i>	2019	2018	2017
Bank borrowings ⁽¹⁾	2,188,674	2,036,957	3,221,907
Total borrowings	2,188,674	2,036,957	3,221,907

(1) Net of debt issuance costs.

The weighted-average interest rates at December 31, each year of the last three years shown below were calculated using the rates set for each instrument in its corresponding currency and weighted using the U.S. dollar-equivalent outstanding principal amount of those instruments at December 31, each year, respectively. Such rates do not include the effect of derivative financial instruments, nor fluctuations in the exchange rate between the instrument's currencies and the U.S. dollar.

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Bank borrowings	2.9%	3.7%	4.8%

Ternium's weighted average interest rate for 2019 was 2.9%, a decrease compared to the 3.7% average interest rate in 2018. The year-over-year decrease in average interest rates was due mainly to lower participation of Argentine peso denominated debt in the currency mix, as nominal interest rates in Argentina reflect high local inflation rates.

As of December 31, 2019, the maturities of our financial liabilities were as follows:

<i>In thousands of U.S. dollars</i>	1 year	1 – 2	2 – 3	3 – 4	4 – 5	Over 5	
At December 31, 2019	Or less	Years	Years	Years	Years	Years	Total
Borrowings ⁽¹⁾⁽²⁾	559,782	308,847	659,943	136,573	520,420	3,109	2,188,674

(1) Borrowings are bank borrowings with third parties.

(2) Net of debt issuance costs.

For information on our derivative financial instruments, see Item 11. "Quantitative and Qualitative Disclosures about Market Risk" and note 22 to the consolidated financial statements included elsewhere in this annual report.

Most Significant Borrowings

Our most significant borrowings as of December 31, 2019, were those outstanding under Ternium Mexico's 2018 syndicated loan facility, Ternium Brasil's 2019 syndicated loan facility, Ternium Investments' 2017 syndicated loan facility to finance the acquisition of Ternium Brasil and related transactions, and Tenigal's 2012 syndicated loan facility.

In Millions of U.S. dollars

Date	Borrower	Type	Principal amount		Maturity
			Original	Outstanding as of December 31, 2019	
2012/2013	Tenigal	Syndicated loan	200	75	July 2022
September 2017	Ternium Investments	Syndicated loan	1,500	400	September 2022
June 2018	Ternium Mexico	Syndicated loan	1,000	875	June 2023
August 2019	Ternium Brasil	Syndicated loan	500	500	August 2024

The main covenants in our syndicated loan agreements are limitations on liens and encumbrances, limitations on the sale of certain assets and compliance with financial ratios (e.g., leverage ratio). As of December 31, 2019, we were in compliance with all covenants under our loan agreements.

For further information on our derivative financial instruments, borrowings, financial leases and financial risk management please see notes 22, 23, 24 and 30 to the consolidated financial statements included elsewhere in this annual report.

For information on Ternium's capital expenditures, see Item 4. "Information on the Company—B. Business Overview—Capital Expenditure Program."

C. Research and Development, Patents and Licenses, Etc.

For information related to this matter, see Item 4. “Information on the Company—B. Business Overview—Research and Development; Product Development.”

D. Trend Information

For information related to this matter, see “—Overview.”

E. Off-Balance Sheet Arrangements

As of year-end 2019, the Company reported the following financial commitments, consisting of guarantees relating to its participation in the non-consolidated company Techgen:

- Guarantees covering 48% of the funding of a debt service reserve account under a syndicated loan agreement between Techgen and several banks. Proceeds from the syndicated loan were used by Techgen to refinance in full all amounts owed under a previous syndicated loan between Techgen and several banks for the construction of its facilities. As of December 31, 2019, the amount guaranteed was approximately \$21.4 million.
- A corporate guarantee covering 48% of the outstanding value of transportation capacity agreements entered into by Techgen with Kinder Morgan Gas Natural de Mexico, S. de R.L. de C.V., Kinder Morgan Texas Pipeline LLC and Kinder Morgan Tejas Pipeline LLC starting on August 1, 2016 and ending during the second half of 2036. As of December 31, 2019, the outstanding value of this commitment was approximately \$236 million. Our exposure under the guarantee in connection with these agreements amounts to \$115 million, corresponding to 48% of the outstanding value of the agreements as of December 31, 2019.

In addition, Ternium Mexico issued a guarantee letter covering up to approximately \$61 million of the obligations of Techgen under the Clean Energy Certificates trading agreement between Techgen and Enel Green Power S.A. de C.V. The amount of the guarantee equals the remaining balance of Techgen's obligations if Techgen decides to terminate the agreement prior to the expiration date (and therefore decreases as the term of the contract passes). The trading agreement was signed on May 25, 2018 and terminates on June 30, 2041.

Ternium Mexico also issued a guarantee letter covering up to approximately \$25 million of the obligations of GIMSA, under the natural gas trading agreement between GIMSA and BP Energía México, or BPEM. The credit line granted by BPEM in connection with this natural gas trading agreement amounted to approximately \$25 million. As of December 31, 2019, the outstanding amount under the natural gas trading agreement was \$14 million, which is below the amount included in the guarantee letter issued by Ternium Mexico.

In addition, as described below, Ternium has various off-balance sheet commitments to purchase raw materials, energy (natural gas, electricity and steam for the production of electricity), supplies (air, oxygen, nitrogen and argon), production equipment and logistic services. Off-balance sheet commitments are discussed in note 25 (ii) to the consolidated financial statements included elsewhere in this annual report.

F. Contractual Obligations

The following table summarizes our contractual obligations at December 31, 2019, and the effect such obligations are expected to have on our liquidity and cash flow in future periods:

<i>In millions of U.S. dollars</i>	Payments Due by Period				
	as of December 31, 2019				
Contractual Obligations	Total	Less than 1 Year	1-3 Years	3-5 Years	After 5 Years
Borrowings (1)	2,188.7	559.8	968.8	657.0	3.1
Estimated interest payments (2)	168.0	60.0	82.0	25.8	0.1
Purchase obligations (3)	1,154.5	349.5	415.5	127.1	262.4
Lease liabilities (4)	338.8	40.5	82.3	67.5	148.4
Labor-related obligations (5)	489.0	38.1	59.4	68.8	322.7
Total Contractual Obligations	4,339.0	1,047.9	1,608.0	946.2	736.7

- (1) Borrowings are bank borrowings with third parties. For further information, see “—B. Liquidity and Capital Resources—Principal Sources of Funding.”
- (2) In calculating estimated interest payments for our borrowings that bear interest at a floating rate, we use the variable rates in effect in the current interest period, and assume that such rate is fixed over the period(s) measured.
- (3) Purchase obligations include mainly raw materials, energy (natural gas, electricity and steam for the production of electricity), supplies (air, oxygen, nitrogen and argon), production equipment and logistic services. For further information see note 25(ii) to the consolidated financial statements included elsewhere in this annual report.
- (4) Lease liabilities include mainly buildings and facilities, production equipment, machinery and vehicles. For further information, see note 23 to the consolidated financial statements included elsewhere in this annual report.
- (5) Labor-related obligations include post-employment and other employee benefits, asset retirement obligations and termination benefits. For further information see note 21(o) to the consolidated financial statements included elsewhere in this annual report.

G. Recent Developments

Effect of COVID-19 outbreak on Ternium's activities.

A novel strain of coronavirus (“COVID-19”) was reported to have surfaced in China in December 2019, spreading to the rest of the world in the first quarter of 2020. The COVID-19 virus is impacting economic activity worldwide.

Each jurisdiction where we operate has adopted specific measures in response to the pandemic and we are adapting our operations on a country-by-country basis to comply with applicable rules and requirements. As of the date of this annual report, the operational status of our main facilities is as follows:

- In Mexico, the company continues to operate its main production lines, meeting reduced market demand, mainly from the auto industry but also gradually from other sectors as they scale back operations.
- In Argentina and Colombia, Ternium has reduced its activity following the imposition of mandatory lockdowns in these countries, and its Argentine blast furnace and steel shop are currently operating at technical minimums. Further, the company has ceased operations in most of its other productions lines in Argentina and Colombia, with the exception of shipments to essential sectors such as food, health and energy in both countries.
- In Brazil, Ternium’s slab facility is operating at reduced levels due to lower forecasted demand.

Although in all of these countries the lockdowns or restrictions to operate are expected to end or be relaxed during April 2020, these could be extended and/or made more stringent if so decided by the appropriate authorities as the circumstances could require.

In order to safeguard the health and safety of its employees, customers and suppliers, Ternium has taken preventive measures, including remote working for the majority of white collar employees, restricting onsite access to essential operational personnel, keeping personnel levels at a minimum, implementing a special operations protocol to ensure social distancing and providing medical assistance and supplies to onsite employees. As of the date of this annual report, remote work and other work arrangements have not materially adversely affected Ternium’s ability to conduct operations. In addition, these alternative working arrangements have not adversely affected our financial reporting systems, internal control over financial reporting or disclosure controls and procedures.

Ternium has taken steps to ensure the continued strength of its financial position, the maintenance of its operations and a return to growth once economic activity normalizes. In order to mitigate the impact of expected lower sales, Ternium has slowed or postponed several capital expenditure projects across its facilities. The specific reduction will depend on the pace at which economic activity and steel market demand return. For information on Ternium’s capital expenditures, see “Item 4. Information on the Company —B. Business Overview—Capital Expenditure Program”.

Given the uncertainty around the extent and timing of the future spread of COVID-19, the imposition of additional protective measures, or the relaxation of existing protective measures, it is not possible to predict the COVID-19’s

effects on the industry, generally, or to reasonably estimate the impact on Ternium's results of operations, cash flows or financial condition. Without limiting the generality of the risks described in Item 3. "Key Information —D. Risk Factors—Risks Relating to the Steel Industry - A downturn in global or regional economic activity would cause a reduction in worldwide or regional demand for steel and would have a material adverse effect on steel industry and Ternium; Regional or worldwide excess steel production capacity may lead to unfair trade practices in the international steel markets and/or to intense competition, hampering Ternium's ability to sustain adequate profitability; and Price fluctuations or shortages in the supply of raw materials, energy and other inputs could adversely affect Ternium's profitability", the COVID-19 pandemic poses the following main risks and challenges to Ternium:

- Ternium or its employees, contractors, suppliers, customers and other business partners may be prevented from conducting certain business activities for a prolonged period of time. If that happens, our future operations may be severely affected.
- Chinese steel consumption may decrease in the future as a result of the COVID-19 crisis, stimulating aggressive Chinese steel export offers, which would exert downward pressure on sales and margins of steel companies operating in other markets and regions, including those in which Ternium operates. Similarly, a downturn in global or regional economic activity could stimulate unfair steel trade practices as has happened in the past. These practices, if resumed, may adversely affect Ternium's business and results of operations.
- A continuing spread of COVID-19 may affect the availability and price of raw materials, energy and other inputs used by Ternium in its operations. Any such disruption or increased prices could adversely affect Ternium's profitability.

As of the date of this annual report, our capital and financial resources, and overall liquidity position, have not been affected by the COVID-19 pandemic. Ternium has in place non-committed credit facilities and management believes it has adequate access to the credit markets. With net debt of \$1.5 billion as of December 31, 2019, and a manageable debt amortization schedule, Ternium has further strengthened its cash position to approximately \$1.0 billion as of the end of March 2020, after a debt raise of close to \$200 million. Considering this fact and the funds provided by operating activities, management believes that we have sufficient resources to satisfy our current working capital needs and service our debt. Management also believes that our liquidity and capital resources give us adequate flexibility to manage our revised capital spending programs and address short-term changes in business conditions, and that it is unlikely that Ternium will not be able to meet its financial covenants. For more information on liquidity and capital resources, see "—B. Liquidity and Capital Resources - Principal Sources of Funding".

In accordance with IFRS, management must test for impairment all of Ternium's assets whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Assets subject to testing include goodwill, intangible assets, investments in non-consolidated companies, long-lived assets and right-of-use assets. In addition, management must test goodwill for impairment at least once a year whether or not there are indicators of impairment. Although management expects to carry out impairment tests as of March 31, 2020, it does not anticipate it will recognize any material impairment. Similarly, management does not expect to disclose or incur any material COVID-19-related contingencies. For more information on impairment testing, see "—Overview".

Ternium's board of directors has been actively monitoring COVID-19 related risks and mitigation measures adopted by management. In light of the current economic uncertainty originated by the COVID-19 pandemic, on April 7, 2020, the Company's board of directors resolved to postpone the annual and extraordinary general meetings of shareholders, originally to be held in Luxembourg on April 27, 2020. The Company intends to convene its annual and extraordinary general meetings of shareholders to be held on June 5, 2020 and to issue new proxy materials on April 28, 2020. Ternium's board of directors will take this time to assess its liquidity needs and review its previously-announced annual dividend proposal for fiscal year 2019, which may be modified if deemed appropriate.

Item 6. Directors, Senior Management and Employees

A. Directors and Senior Management

Board of Directors

Management of the Company's is vested in a board of directors with the broadest power to act on behalf of the Company and accomplish or authorize all acts and transactions of management and disposal that are within its corporate purpose and not specifically reserved in the articles of association or by applicable law to the general

shareholders' meeting. The Company's articles of association provide for a board of directors consisting of a minimum of three and a maximum of fifteen directors; however, for as long as the Company's shares are listed on at least one regulated market, the minimum number of directors must be five. The Company's current board of directors is composed of eight directors.

The board of directors is required to meet as often as required by the interests of the Company and at least four times per year. In 2019, the Company's board of directors met six times. A majority of the members of the board of directors in office present or represented at the board of directors' meeting constitutes a quorum, and resolutions may be adopted by the vote of a majority of the directors present or represented. In case of a tie, the chairman is entitled to cast the deciding vote.

Directors are elected at the annual ordinary general shareholders' meeting to serve one-year renewable terms, as determined by the general shareholders' meeting. The general shareholders' meeting may dismiss all or any one member of the board of directors at any time, with or without cause, by resolution passed by a simple majority vote.

On January 9, 2006, Tenaris and a wholly owned subsidiary of San Faustin entered into a shareholders' agreement, pursuant to which the San Faustin subsidiary is required to take all actions in its power to cause one of the members of the Company's board of directors to be nominated by Tenaris and any directors nominated by Tenaris to be removed only pursuant to written instructions by Tenaris. Tenaris and the San Faustin subsidiary also agreed to cause any vacancies on the board of directors to be filled with new directors nominated by either Tenaris or the San Faustin subsidiary, as applicable. On April 27, 2007, the San Faustin subsidiary assigned all of its rights and obligations under the shareholders' agreement to Techint. The shareholders' agreement will remain in effect so long as each of the parties holds at least 5% of the shares of the Company or until it is terminated by either Tenaris or Techint pursuant to its terms. Carlos A. Condorelli was nominated by Tenaris and appointed as a director of the Company pursuant to such shareholders' agreement.

The Company's articles of association provide that the board of directors of the Company may, within the limits of applicable law, (a) delegate to one or more persons, whether or not members of the board of directors, the Company's day-to-day management and the authority to represent the Company, provided, however, that the delegation of the Company's day-to-day management and representation authority to a member of the board of directors shall be subject to the prior authorization of the general shareholders' meeting, (b) delegate to one or more persons, whether or not members of the board of directors, the powers necessary to carry out the Company's decisions (except for approval of material transactions with related parties), (c) confer to one or more persons, whether or not members of the board of directors, the powers deemed to be appropriate for the general technical, administrative and commercial management of the Company, and (d) constitute and determine the responsibilities, powers and authority (including without limitation an audit committee), the members of which may be selected either from among the directors or outside thereof. On May 6, 2019, the board of directors appointed the Company's chief executive as *administrateur délégué* and delegated to him the power to manage the Company's affairs within the ordinary course of business, to the full extent permitted by Luxembourg law, to direct and supervise the business activities of the Company's subsidiaries and to represent the Company in relation to such matters.

On May 6, 2019, the Company's annual general shareholders' meeting re-elected Ubaldo José Aguirre, Roberto Bonatti, Carlos Alberto Condorelli, Vincent Robert Gilles Decalf, Adrián Lajous Vargas, Daniel Agustín Novegil, Gianfelice Mario Rocca and Paolo Rocca as members of the board of directors to serve until the next annual shareholders' meeting. The board of directors subsequently reappointed Paolo Rocca as its chairman, Daniel Novegil as its vice-chairman and Máximo Vedoya as chief executive officer of the Company.

The following table sets forth the current members of the board of directors of the Company, their respective offices on the board, their principal occupation, their years of service as board members and their age.

Name	Position	Principal Occupation	Years as director	Age at December 31, 2019
Paolo Rocca ⁽¹⁾	Chairman	Chairman and CEO of Tenaris, director and vice president of San Faustin	15	67
Daniel Agustín Novegil	Vice Chairman	Vice Chairman of Ternium	15	67
Ubaldo José Aguirre	Director	Managing director of Aguirre y Gonzalez S.A.	14	71
Roberto Bonatti ⁽¹⁾	Director	President of San Faustin	15	70
Carlos Alberto Condorelli	Director	Director of Tenaris and Ternium	14	68
Vincent Robert Gilles Decalf	Director	Independent Director	4	57
Adrián Lajous Vargas	Director	President of Petrométrica, S.C.	14	76
Gianfelice Mario Rocca ⁽¹⁾	Director	Chairman of the board of directors of San Faustin, director of Tenaris, president of Humanitas Group and president of the board of directors of Tenova	14	71

(1) Paolo Rocca and Gianfelice Rocca are brothers, and Roberto Bonatti is Paolo and Gianfelice Rocca's first cousin.

Paolo Rocca. Mr. Rocca is the Chairman of the Company's board of directors. He is a grandson of Agostino Rocca. He is also the chief executive officer and Chairman of the board of directors of Tenaris, and director and vice president of San Faustin. He is a member of the executive committee of the World Steel Association. Mr. Rocca is an Italian citizen.

Ubaldo José Aguirre. Mr. Aguirre has served on the Board of Directors since 2006. He is a managing director of Aguirre y Gonzalez S.A., an Argentine financial services firm and a member of the Administrative Board of Universidad Católica Argentina. Since 2005, he also serves as chairman of the board of directors of Permasur S.A., an Argentine winery, and of Editorial Sur S.A. He is former Chairman of the board of directors of Holcim Argentina S.A. and former President of the Rotary Club of Buenos Aires. Mr. Aguirre formerly served as director and chairman of the audit committee of Ternium Argentina. Mr. Aguirre began his career at the World Bank in Washington, D.C. In addition, Mr. Aguirre has been a member of the boards of each of Argentina's Central Bank, Banco de la Nación Argentina and Banco Nacional de Desarrollo. He also served as the Republic of Argentina's financial representative for Europe in Geneva and as negotiator on behalf of the Republic of Argentina with the Paris Club. Mr. Aguirre is an Argentine citizen.

Roberto Bonatti. Mr. Bonatti is a member of the Company's board of directors. He is a grandson of Agostino Rocca, founder of the Techint Group, a group of companies controlled by San Faustin. Throughout his career in the Techint Group he has been involved specifically in the engineering and construction and corporate sectors. He was first employed by the Techint Group in 1976, as deputy resident engineer in Venezuela. In 1984, he became a director of San Faustin and since 2001 he has served as its president. He is also a member of the Board of Directors of Tenaris. Mr. Bonatti is an Italian citizen.

Carlos Alberto Condorelli. Mr. Condorelli is a member of the Company's board of directors. He is also a member of the board of directors of Tenaris. He has held several positions within Tenaris, including chief financial officer from October 2002 until September 2007, the chief financial officer position in some of the principal Tenaris group companies and member of its audit committee between November 1, 2017 and May 2, 2018. He also served as president of the board of directors of Empresa Distribuidora La Plata S.A., or Edelap, an Argentine utilities company. Mr. Condorelli is an Argentine citizen.

Vincent Robert Gilles Decalf. Mr. Decalf has served as a director of the Company since September 2015. He is also a non-executive director of various financial, insurance or commercial companies such as Covea Luxembourg or Wealins S.A. He is also a member of the board of directors of the Luxembourg Institute for Directors and Managers (*Institut Luxembourgeois des Administrateurs*). Mr. Decalf is a certified independent director since 2014. From 1989 to 2008, Mr. Decalf held executive positions in different countries within *Société Générale* and has extensive experience in the financial industry. He has been an authorized director for insurance, banking or financial companies under Luxembourg regulation for twenty years. Mr. Decalf is a French and Luxembourg citizen.

Mr. Adrian Lajous Vargas. Mr. Lajous has served as a director of the Company since 2006. Mr. Lajous currently serves as president of Petrométrica, S.C., a non-executive director of Técnicas Reunidas, S.A. and of the Colegio de México Foundation. Mr. Lajous began his career teaching economics at El Colegio de México and in 1977 was

appointed director general for energy at Mexico's Ministry of Energy. Mr. Lajous joined Petróleos Mexicanos, or Pemex, in 1983, where he held a succession of key executive positions including executive coordinator for international trade, corporate director of planning, corporate director of operations and director of refining and marketing. From 1994 until 1999, he served as chief executive officer of Pemex and chairman of the boards of the Pemex Group of operating companies. In addition, he served as non-executive director of Schlumberger, Ltd. from 2002 up to 2014, was the Chairman of the Oxford Institute for Energy Studies for 13 years and served on the Board of Trinity Industries for more than 10 years. Mr. Lajous is a Mexican citizen.

Daniel Agustín Novegil. Mr. Novegil currently is as director and vice-chairman of the Board. He served as chief executive officer of the Company from 2005 to 2018. With more than 40 years of experience in the steelmaking industry, in 1993 he was appointed managing director (CEO) of Ternium Argentina and was on the board of directors of Usiminas from 2013 until 2015. From 1993 he has also been a member of the board of directors of the World Steel Association and is currently a fellow of the Nominating Committee and former president of Alacero (Latin American Steel Association). Since 1999 to 2014 he was a member of the Advisory Board of the Sloan Masters Program at Stanford University, where he graduated as Master of Science in Management. Mr. Novegil is an Argentine citizen.

Gianfelice Mario Rocca. Mr. Rocca is a member of the Company's board of directors. He is a grandson of Agostino Rocca. He is Chairman of the board of directors of San Faustin, member of the board of directors of Tenaris, president of the Humanitas Group and president of the board of directors of Tenova. Moreover, in Italy, he is member of the Board of Bocconi University, of the advisory board of Politecnico di Milano. At international level, he is member of the Harvard Business School Advisory Board and member of ERT (European Round Table). Mr. Rocca is an Italian citizen.

At the next annual general shareholders' meeting, the Company intends to propose that the number of directors be increased to nine, that all of the current members of the board of directors be reappointed, and that Mrs. Gioia Ghezzi be appointed as new member to the board of directors, each to hold office until the next annual general shareholders' meeting that will be convened to decide on the Company's 2020 annual accounts. Below you will find Mr. Ghezzi's biographical information.

Gioia Ghezzi. Mrs. Ghezzi was a member of the Board of Ferrovie dello Stato (Italy) from May 2014 and its Chairwoman from December 2015 until July 2018. She has served as a Board Member of the Humanitas Group since 2017 and in different companies of the insurance, the infrastructure and the innovation and technology areas, in and out of Italy. She has held executive roles in the Zurich Insurance Group, Willis Group Holdings, McKinsey & Co. and IBM Research, among others. Mrs. Ghezzi is a theoretical physicist, with a London Business School Executive MBA. Mrs. Ghezzi is a British and Italian citizen.

Directors' Liability

Each director must act in the interest of the Company, and in accordance with applicable laws, regulations, and the Company's articles of association. Directors are also bound by a general duty of care owed to the Company.

Under the Luxembourg law of August 10, 1915 on commercial companies, as amended (the "Luxembourg Company Law"), directors may be liable to the Company in accordance with general law for the execution of their mandate and for any misconduct in the management of the Company's affairs. Directors are jointly and severally liable towards either the Company or any third parties from damages resulting from the violation of the Luxembourg Companies Law or the Company's articles of association. Directors shall be discharged from such liability in the case of a violation to which they were not a party, provided no misconduct is attributable to them and such violation has been reported to the first general meeting of shareholders after they have acquired knowledge thereof.

Causes of action against directors for damages may be initiated by the Company upon a resolution of the shareholders' meeting passed by a simple majority vote, irrespective of the number of shares represented at the meeting. In general, claims must be brought within five years from the occurrence of an action or omission for which liability may apply or, in case the action or omission was fraudulently concealed, from the date of discovery of the relevant action or omission. Causes of action against directors who misappropriate corporate assets or commit a breach of trust may be brought by any shareholder for personal losses different from those of the Company.

An action may also be brought against the directors on behalf of the Company by shareholders who, at the general meeting which decided upon discharge of such directors or members, owned voting securities representing at least ten per cent of the votes attaching to all such securities.

It is customary in Luxembourg that the shareholders expressly discharge the members of the board of directors from any liability arising out of or in connection with the exercise of their mandate when approving the Company's annual accounts at the annual shareholders' meeting. However, such discharge will not release the directors from liability for any damage caused by unrevealed acts of mismanagement or unrevealed breaches of Luxembourg Company Law or the Company's articles of association, nor will it release the directors from liability for any personal loss of the shareholders independent and separate from the losses suffered by the Company due to a breach either revealed and unrevealed of either the Luxembourg Company Law or the Company's articles of association.

Under Luxembourg law, unless the decision of the board of directors relates to ordinary business entered into under normal conditions, any director having a direct or indirect financial interest conflicting with that of the Company in a transaction which has to be considered by the board of directors, must advise the board thereof and cause a record of his statement to be included in the minutes of the meeting and may not take part in the deliberations. At the next following general meeting, before any other resolution is put to vote, a special report must be made on any transactions in which any of the directors may have had an interest conflicting with that of the Company.

Auditors

The Company's articles of association require the appointment of an independent audit firm in accordance with applicable law. Auditors are appointed by the general shareholders' meeting, on the audit committee's recommendation, through a resolution passed by a simple majority vote. The primary responsibility of the auditor is to audit the Company's annual accounts and consolidated financial statements and to submit a report on the accounts to shareholders at the annual shareholders' meeting. In accordance with applicable law, auditors are chosen from among the members of the Luxembourg Institute of Independent Auditors (*Institut des réviseurs d'entreprises*) and approved by the Luxembourg Financial Sector Supervisory Commission (*Commission de Surveillance du Secteur Financier*).

Auditors are appointed by the general shareholders' meeting upon recommendation from the Company's audit committee through a resolution passed by a simple majority vote, irrespective of the number of shares represented at the meeting, to serve one-year renewable terms. Auditors may be dismissed by the general shareholders' meeting at any time, with or without cause. Luxembourg law does not allow directors to serve concurrently as external auditors. As part of their duties, the auditors report directly to the audit committee.

Pursuant to its charter, the Company's audit committee is responsible for, among other things, the oversight of the independence and performance of the Company's external auditors. The audit committee is also responsible to consider and make recommendations to the board of directors, to be put to shareholders for approval at the annual general meeting of shareholders, regarding the appointment, re-appointment or removal of the Company's external auditors. In addition, the audit committee is responsible to review the appropriateness and provision of permitted non-audit fees and to review and approve any fees (whether for audit, audit-related and non-audit services) payable to the Company's external auditors. On a yearly basis, in the performance of its functions, the audit committee considers the appointment of the Company's external auditors and reviews, together with management and the external auditor, the audit plan, audit related services and other non-audit services. The audit committee requests the board of directors to submit the audit committee's recommendation for the appointment of the Company's external auditor for each fiscal year and the payment of applicable fees, for final approval by the general shareholders' meeting. The general shareholders' meeting regularly approves such audit fees and authorizes the audit committee to approve any increase or reallocation of such audit fees as may be necessary, appropriate or desirable under the circumstances. No services outside the scope of the audit committee's approval can be undertaken by the external auditor.

The shareholders' meeting held on May 6, 2019, re-appointed PwC Luxembourg as the Company's independent approved statutory auditor for the fiscal year ended December 31, 2019. At the next annual general shareholders' meeting, it will be proposed that PwC Luxembourg be reappointed as the Company's independent approved statutory auditors for the fiscal year ending December 31, 2020.

Senior Management

The following table sets forth certain information concerning our senior management:

Name	Age at December 31, 2019	Position
Máximo Vedoya	49	Chief Executive Officer
Pablo Brizzio	49	Chief Financial Officer
César Alejandro Jiménez	54	Ternium Mexico President
Martín Berardi	62	Ternium Argentina President
Marcelo Chara	59	Ternium Brasil President
Héctor Obeso Zunzunegui	55	International Business Unit President
Oscar Montero Martínez	59	Planning and Global Business Development General Director
Pablo Hernán Bassi	57	Engineering, Industrial Coordination and EHS Director
Rubén Herrera	62	Quality Director
Roberto Demidchuk	58	Chief Information Officer
Rodrigo Piña	47	Human Resources Director

Máximo Vedoya. Mr. Vedoya currently serves as our Chief Executive Officer. Prior to that, he served as President of Ternium Mexico. He has held several other executive positions since joining the Techint Group in 1992, such as chief executive officer of Ferrasa, director of Ternium Mexico's international and steel purchase operations, commercial director and export manager of Sidor and commercial planning manager of Ternium Argentina. He was also director of Fedemetal (the Colombian Federation of Metallurgical Industries), AIMM (Venezuelan Association of Metallurgical and Mining Industry) and is currently president of Canacero (Mexican steel association), president of Alacero, vice-president of Caintra (Nuevo León Industrial Chamber), vice-president of CONCAMIN (Mexican Industrial Chamber) and general counsellor of UDEM (University of Monterrey, Mexico). Mr. Vedoya is an Argentine citizen.

Pablo Brizzio. Mr. Brizzio currently serves as our Chief Financial Officer, a position he assumed in 2010. He began his career in 1993 in Ternium Argentina. Since then, he has held several positions within the Company, such as finance director of Ternium from 2005 to 2007 and in 2009, and chief financial officer of Sidor in 2008. Mr. Brizzio holds a degree in industrial engineering from ITBA (Buenos Aires Institute of Technology) and a Master on Business Administration from Duke University. Mr. Brizzio is an Argentine citizen.

César Alejandro Jiménez. Mr. Jiménez currently serves as President of Ternium Mexico. He assumed the position in 2018. Prior to that, he served as commercial vice president of Ternium Mexico since 2014. He has held other executive positions since joining the company in 2007, such as CEO of Tenigal (2010-2014) and industrial sales director of Ternium Mexico (2008-2009). In addition, he is member of the board of directors of Tenigal. He holds a BS in computer science from UANL (Autonomous University of Nuevo León), a master degree in information systems management from ITESM (Monterrey Institute of Technology and Higher Education) and general management program studies at Harvard Business School. Mr. Jiménez is a Mexican citizen.

Martín Berardi. Mr. Berardi currently serves as President of Ternium Argentina. In addition, he is the Chairman of the board of directors of Ternium Argentina. He began his career in the Techint Group in 1980 as a trainee in Propulsora Siderúrgica. He has held several positions within the Techint Group including in Propulsora Siderúrgica, Siat S.A., or Siat (an Argentine welded steel pipe manufacturer which is a Tenaris's subsidiary) and Siderca S.A.I.C., or Siderca (Argentine producer of seamless steel pipe products, which is a Tenaris's subsidiary). He served as managing director of Siat (1992-1995), managing director of Mexican steel company Tubos de Acero de México S.A., or Tamsa (1995-2000), president and chief executive officer of Venezuelan steel company Sidor (2000-2004) and became managing director (October 2004), executive vice president and President of Ternium Argentina. He was president of the IVES (Venezuelan Steel Institute) between 2002 and 2004, president of Grupo Mercofer between 2006 and 2009, vice-president of CAA (Argentine Steel Chamber) between 2014 and 2015, and president of Alacero between 2013 and 2015. He is currently president of CAA and a member of the board of directors of Alacero and a member of the board of directors of ITBA. Mr. Berardi holds an industrial engineering degree from ITBA and a M.S. in management from Stanford University. Mr. Berardi is an Argentine citizen.

Marcelo Chara. Mr. Chara currently serves as Ternium Brasil President. He began his career in the Techint Group in 1983. He has held several executive positions within the Techint Group in Argentina, Brazil and Venezuela, including rolling operations director, central maintenance director and industrial director of Ternium Argentina (2006-2011 and 2015-2017), a position that he held until he assumed his current position at the Company. Mr. Chara also worked at Usiminas as industrial vice president (2012-2014). He holds a degree in metallurgical engineering from *Universidad*

Católica de Córdoba and a Master of Science in metallurgy from Birmingham University. He is a board member of IABr (Brazil Steel Institute) and of Alacero. Mr. Chara is an Argentine citizen.

Héctor Obeso Zunzunegui. Mr. Obeso currently serves as our International Business Unit President. He assumed his current position in 2012, then named international area manager. He has held several other executive positions since joining the Company in the year 2007, such as quality & product director of Ternium Argentina, industrial sales director of Ternium Mexico and commercial director of Ternium Mexico. Mr. Obeso is a Mexican citizen.

Oscar Montero Martínez. Mr. Montero currently serves as our Planning and Global Business Development General Director. He began his career with the Company in 1984 as a commercial analyst in Ternium Argentina. Since then, he has held several positions within Ternium Argentina in the planning, commercial and procurement areas. In 1998 he assumed the position of strategic planning director in Sidor and in 2005 he assumed the position of planning and operations general director of the Company. He assumed his current position in 2017. Mr. Montero is an Argentine citizen.

Pablo Hernán Bassi. Mr. Bassi currently serves as our Engineering, Industrial Coordination and EHS Director. He began his career in the Techint Group in 1987 holding several positions in the engineering departments of Siderca, Techint-Compagnia Tecnica Internazionale S.p.A. and Ternium Argentina. He served as engineering and environment director of Ternium Mexico (2005-2017) and assumed his current position in November 2017. Mr. Bassi holds a degree in engineering from *Universidad de Buenos Aires*. Mr. Bassi is an Argentine citizen.

Rubén Herrera. Mr. Herrera is our Quality Director since July 1, 2008. He is also Quality Director of Ternium Mexico since 2007. Since joining the Techint Group in 1990, he has held several other executive positions, including mechanical metallurgical department chief in Siderca's Industrial Research Center, product manager of Ternium Argentina, and Quality and Product Director of Sidor. Mr. Herrera is an Argentine citizen.

Roberto Demidchuk. Mr. Demidchuk currently serves as our Chief Information Officer. He joined the Techint Group in 1986 as a trainee for Techint Compañía Técnica Internacional S.A.C.I. Since then he has held several positions in different Techint Group companies, including programming manager and procurement manager at Ternium Argentina and supply chain director at Ternium. Mr. Demidchuk is an Argentine citizen.

Rodrigo Piña. Mr. Piña currently serves as our Human Resources Director. He assumed his current position in January 2013. Prior to that, he served as human resources director of Ternium Argentina. He has held several other executive positions since joining the Company in 2004, such as commercial planning, CEO assistant and human resources director assistant. Mr. Piña is an Argentine citizen.

B. Compensation

The compensation payable to the members of the Company's board of directors for the performance of their services to the Company is determined at the annual ordinary general shareholders' meeting. The general meeting of shareholders held on May 6, 2019 approved the compensation paid to directors for the performance of their duties during the fiscal year 2019, and resolved that (i) each director receive a fixed compensation for an amount of \$115,000; (ii) the chairman of the board of directors receive an additional fee of \$295,000; (iii) each director who is also a member of the Company's audit committee receive an additional fee of \$55,000; and (iv) the chairman of the audit committee receive, further, an additional fee of \$10,000. No variable compensation has been paid or shall be payable to directors for services rendered during the year 2019 and no long-term incentive or pension plan is available to directors.

The aggregate cash compensation paid to all directors and senior managers of the Company for the year 2019 amounted to \$26.9 million. This amount includes cash benefits paid to certain senior managers in connection with pre-existing retirement plans. In addition, senior managers received, for the year 2019, 1,075,500 units for a total amount of \$3.5 million, in connection with the employee incentive retention program described in note 4(o)(3) "Employee liabilities—Other compensation obligations" to the consolidated financial statements included elsewhere in this annual report.

There are no service contracts between any director and Ternium that provide for material benefits upon termination of employment. The Company does not provide pension, retirement or similar benefits to directors.

C. Board Practices

For information related to this matter, see “—A. Directors and Senior Management.”

Audit Committee

Pursuant to the Company’s articles of association, as supplemented by the audit committee’s charter, for as long as the Company’s shares are listed on at least one regulated market, the Company must have an audit committee composed of at least three members, the majority of whom must qualify as independent directors, provided, however, that the composition and membership of the audit committee shall satisfy such requirements as are applicable to, and mandatory for, audit committees of issuers such as the Company under any law, rule or regulation applicable to the Company (including, without limitation, the applicable laws, rules and regulations of such regulated market or markets).

Under the Company’s articles of association, an independent director is a director who:

- (i) is not employed, and has not been employed in an executive capacity by the Company or any of its subsidiaries within the five years preceding the ordinary general shareholders’ meeting at which the candidate for the board of directors was voted upon;
- (ii) does not receive consulting, advisory or other compensatory fees from the Company or any of its subsidiaries (other than fees received as a member of the board of directors of any committee thereof and fees received as a member of the board of directors or other governing body, or any committee thereof, of any of the Company’s subsidiaries);
- (iii) is not a person who directly or indirectly controls the Company;
- (iv) does not have, and does not control a business entity that has, a material business relationship with the Company, any of its subsidiaries or a person who directly or indirectly controls the Company, if such material business relationship would reasonably be expected to adversely affect the director’s ability to properly discharge his or her duties;
- (v) does not control directly or indirectly, and is not and has not been, within the five years preceding the ordinary general shareholders’ meeting at which the candidate for the board of directors was voted upon, employed by a present or former internal or external auditor of the Company, any of its subsidiaries or a person who directly or indirectly controls the Company; and
- (vi) is not a spouse, parent, sibling or relative up to the third degree of, and does not share a home with, any of the persons listed above.

The audit committee of the Company’s board of directors currently consists of three members, Ubaldo José Aguirre, Adrián Lajous Vargas and Vincent Robert Gilles Decalf, who were appointed to the audit committee by the Company’s board of directors on May 6, 2019. All of them qualify as independent directors for purposes of the U.S. Securities Exchange Act Rule 10A-3(b)(1) and under the Company’s articles of association.

The Company’s audit committee operates under a charter that was amended and restated by the board of directors on February 20, 2018. The audit committee assists the board of directors in fulfilling its oversight responsibilities with respect to the integrity of the Company’s financial statements, including periodically reporting to the board of directors on its activity; and the adequacy of the Company’s systems of internal control over financial reporting. The audit committee is also responsible for making recommendations regarding the appointment, dismissal, compensation, retention and oversight of, and for assessing the independence of, the Company’s external auditors (see Item 16.C “—Principal Accountant Fees and Services” for additional information about the audit committee’s procedures with respect to our independent auditors). The audit committee also performs other duties imposed by applicable laws, and by regulations of the regulated market or markets on which the Company’s shares are listed, as well as any other duty entrusted to it by the Company’s board of directors.

In addition, the audit committee is required by the Company’s articles of association and audit committee’s charter to review “material transactions”, as such term is defined by the Company’s articles of association and audit committee’s charter), between the Company or its subsidiaries with “related parties,” as such term is defined by the Company’s articles of association, in order to determine whether their terms are consistent with market conditions or are otherwise fair to the Company and/or its subsidiaries. In the case of material transactions entered into by the Company’s subsidiaries with related parties, the Company’s audit committee is not required to review material transactions

reviewed and approved by the independent members of the board of directors or other governing bodies of such subsidiary nor material transactions reviewed and approved by a majority of the members of the board of directors or other governing bodies of such subsidiary that were nominated by, or at the request of, the Company or its affiliates.

Under the Company's articles of association, as supplemented by the audit committee's charter, a Material Transaction, is:

- (i) any transaction with or involving a Related Party (x) with an individual value equal to or greater than ten million U.S. dollars or its equivalent in any other currency or (y) with an individual value lower than ten million U.S. dollars or its equivalent in any other currency, when the aggregate sum of any series of transactions reflected in the financial statements of the four fiscal quarters of the Company preceding the date of determination (excluding any transactions that were reviewed and approved by any of the Company's audit committee or board of directors or the independent members of the board of directors or other governing body of any subsidiary of the Company, or that were reviewed and approved by a majority of the members of the board of directors or similar governing body of any subsidiary of the Company that were not nominated by or at the request of the Company or any entity that directly or indirectly controls, or is under common control with the Company) exceeds 1.5% of the Company's consolidated net sales made in the fiscal year preceding the year on which the determination is made; or
- (ii) any corporate reorganization transaction (including a merger, spin-off or bulk transfer of a business) involving the Company or any of its direct or indirect subsidiaries for the benefit of, or involving, a Related Party.

A Related Party is, in relation to the Company or its direct or indirect subsidiaries, any of the following persons: (i) a member of the board of directors of the Company or of the board of directors or other governing body of any of the Company's subsidiaries; (ii) any company or person that controls directly or indirectly the Company or is a member of the board of directors or other governing body of an entity that controls directly or indirectly the Company; (iii) any entity that directly or indirectly controls or is under common control with the Company (other than the Company's subsidiaries); (iv) any entity directly or indirectly controlled by any member of the board of directors of the Company, or of the board of directors or other governing body of any subsidiary of the Company; and (v) any spouses, parents, siblings or relatives up to the third degree of, and any person that shares a home with, any person referred to in (i) or (ii).

The audit committee has the power (to the maximum extent permitted by applicable laws) to request that the Company or relevant subsidiary promptly provide all information necessary for the audit committee to assess the material transactions with related parties that it is required to review. A material related party transaction shall not be entered into without prior review by the Company's audit committee and subsequent approval by the board of directors unless (i) the circumstances underlying the proposed transaction justify that it be entered into before the time it can actually be reviewed by the Company's audit committee or approved by the board of directors and (ii) the related party agrees to unwind the transaction if the Company's board of directors does not approve it.

The audit committee has the authority to conduct any investigation appropriate to the fulfilment of its responsibilities, and has direct access to the Company's external auditors as well as anyone in the Company and, subject to applicable laws and regulations, its subsidiaries. In addition, the audit committee may engage, at the Company's expense, independent counsel and other internal or external advisors to review, investigate or otherwise advise on, any matter as the committee may determine to be necessary to carry out its purposes and responsibilities.

D. Employees

The following table shows the number of persons employed by Ternium and its fully consolidated subsidiaries, and excludes proportionally consolidated subsidiaries Consorcio Peña Colorada and Exiros:

	At December 31,		
	2019	2018	2017
Mexico	9,032	9,287	9,342
Argentina	5,162	5,494	5,770
Brazil	3,733	3,863	4,134
Colombia	1,506	1,428	1,519
Other	628	588	570
Total employees	20,061	20,660	21,335

The number of our employees decreased 3% year-over-year in 2019 mainly reflecting changes in operational settings.

A substantial majority of Ternium's employees at its manufacturing subsidiaries are represented by labor unions. We believe that we enjoy good or satisfactory relations with our employees and their unions in each of the countries in which we have manufacturing facilities, and we have not experienced any major strikes or other labor conflicts with a material impact on our operations over the last five years.

In Argentina, significant fluctuations in exchange rates, together with inflationary pressures, affect our costs, increase labor demands and could eventually generate higher levels of labor conflicts.

E. Share Ownership

To our knowledge, the total number of shares (in the form of ordinary shares or ADSs) beneficially owned by our directors and senior management as of the date of this annual report represents less than 1% of our outstanding shares.

Item 7. Major Shareholders and Related Party Transactions

A. Major Shareholders

The following table shows the beneficial ownership of our securities (in the form of ordinary shares or ADSs) by (1) the Company's major shareholders (persons or entities that have notified the Company of holdings in excess of 5% of the Company's share capital), non-affiliated public shareholders, and (2) the Company's directors and senior management as a group.

The information below is based on the most recent information available to the Company.

Identity of Person or Group	Number	Percent
Techint Holdings S.à r.l. and subsidiaries (1)	1,243,433,112	62.02%
Tenaris (1)	229,713,194	11.46%
Ternium S.A.	41,666,666	2.08%
Directors and senior management as a group	207,290	0.01%
Public	489,723,180	24.43%
Total	2,004,743,442	100.00%

- (1) Each of Techint Holdings S.à r.l. and Tenaris is controlled by San Faustin. RP STAK holds voting rights in San Faustin sufficient in number to control San Faustin. No person or group of persons controls RP STAK.

As of February 29, 2020, 48,993,047 ADSs (representing 489,930,470 shares, or 24% of all outstanding shares of the Company) were registered in the name of two record holders resident in the United States, as informed by BNY Mellon, the Depository for the ADS program.

The voting rights of the Company's major shareholders do not differ from the voting rights of other shareholders. None of its outstanding shares have any special control rights. There are no restrictions on voting rights, nor are there,

to the Company's knowledge, any agreements among shareholders of the Company that might result in restrictions on the transfer of securities or the exercise of voting rights.

The Company does not know of any significant agreements or other arrangements to which the Company is a party and which take effect, alter or terminate in the event of a change of control of the Company. The Company is not aware of any arrangements, the operation of which may at a later date result in a change of control of the Company.

B. Related Party Transactions

Ternium is a party to several related party transactions as described in note 26 to the consolidated financial statements included elsewhere in this annual report. Material related party transactions are subject to the review of the audit committee of the Company's board of directors and the requirements of Luxembourg law. For further detail on the approval process for related party transactions, see Item 6. "Directors, Senior Management and Employees—C. Board Practices—Audit Committee."

Below is a description of relevant related party transactions.

Purchases of Raw Materials

In the ordinary course of business, Ternium buys raw materials and other production inputs from subsidiaries of Tenaris. These transactions include:

- purchases of ferrous scrap and other raw material, which amounted to \$17.4 million in 2019, \$8.9 million in 2018 and \$26.3 million in 2017; and
- purchases of steam and operational services from the Argentine electric power generating facility of Siderca for Ternium Argentina in San Nicolás. These purchases amounted to \$1.3 million in 2019, \$11.9 million in 2018 and \$11.1 million in 2017.

Purchases of Steel Products

In the ordinary course of business, Ternium buys steel products from Usiminas and its subsidiaries. Purchases amounted to \$59.9 million in 2019, \$73.2 million in 2018 and \$57.2 million in 2017.

Sales of Steel Products and Raw Materials

In the ordinary course of business, Ternium sells steel products and raw materials to subsidiaries of Tenaris. These transactions include:

- sales of round steel bars under a long-term agreement to Tenaris' facilities in Mexico, which amounted to \$50.9 million in 2019, \$101.9 million in 2018 and \$119.9 million in 2017;
- sales of flat steel products to be used in the production of welded pipes and accessories, which amounted to \$19.4 million in 2019, \$32.4 million in 2018 and \$42.8 million in 2017; and
- sales of scrap and other raw materials to be used in the production of seamless pipes, which amounted to \$3.9 million in 2019, \$1.9 million in 2018 and \$0.4 million in 2017.

In addition, Ternium sold metal building components and long steel products to Techint, a company controlled by San Faustin, which amounted to \$0.3 million in 2019, \$0.6 million in 2018 and \$0.8 million in 2017.

Furthermore, in September 2017, following the acquisition of Ternium Brasil, Ternium started selling steel slabs to Usiminas. Sales amounted to \$367.0 million in 2019, \$569.3 million in 2018 and \$215.3 million in 2017.

Supply of Electric Energy

Techgen, which is owned 48% by Ternium, 30% by Tecpetrol and 22% by Tenaris, operates an electric power plant in Pesquería, Mexico. Ternium's subsidiaries in Mexico and Tenaris currently contract 78% and 22%, respectively, of Techgen's power capacity.

Techgen sales of electricity to Ternium Mexico and Tenigal amounted to \$261.5 million in 2019, \$272.3 million in 2018 and \$245.4 million in 2017. In addition, Techgen sells to third parties on behalf of Ternium Mexico and Tenigal the unused electricity that Ternium Mexico and Tenigal purchased from Techgen. Ternium Mexico and Tenigal received from Techgen on account of such unused electricity sales an amount of \$148.1 million in 2019, \$205.2 million in 2018 and \$238.3 million in 2017.

Supply of Natural Gas

Ternium Mexico has natural gas supply agreements with GIMSA, a natural gas distributor and a company in which Ternium Mexico holds 23.84% equity participation. GIMSA sales to Ternium Mexico amounted to \$90.0 million in 2019, \$137.7 million in 2018 and \$102.3 million in 2017.

Ternium Argentina has natural gas supply agreements with Tecpetrol and Energy Consulting Services, natural gas transportation agreements with TGN, and natural gas distribution agreements with Litoral Gas. Tecpetrol is a company controlled by San Faustin, engaged in oil and gas exploration and production and has rights to various oil and gas fields in Argentina and elsewhere in Latin America. TGN operates two major pipelines in Argentina connecting the major gas basins of Neuquén and Noroeste-Bolivia to the major consumption centers in Argentina. Litoral Gas is a company that holds the regional license for gas distribution in the Province of Santa Fe and in the northeastern section of the Province of Buenos Aires. Energy Consulting Services is a company engaged in energy and management consulting, representing one of the major and most reliable natural gas traders in Argentina. San Faustin holds significant but non-controlling interests in TGN, Litoral Gas and Energy Consulting Services.

Tecpetrol supplies natural gas at prices and on terms and conditions that are equivalent to those charged to Ternium Argentina by other suppliers of natural gas. Tecpetrol's sales to Ternium Argentina amounted to \$26.7 million in 2019, \$16.9 million in 2018 and \$6.1 million in 2017.

TGN charges Ternium Argentina a price to transport its natural gas supplies that is equivalent, on a comparable basis, to prices paid by other industrial users. The Argentine government regulates the framework under which TGN operates and prices its services. TGN's sales to Ternium Argentina amounted to \$6.7 million in 2019, \$7.0 million in 2018 and \$5.1 million in 2017.

Litoral Gas distributes gas to Ternium Argentina's northern plants. The Argentine government regulates the framework under which Litoral Gas operates and establishes a maximum price for its distribution service. Litoral Gas' sales to Ternium totaled \$2.6 million in 2019, \$2.4 million in 2018 and \$2.4 million in 2017.

Energy Consulting Services provides Ternium Argentina with natural gas at market prices. Energy Consulting Services sales amounted to \$0.7 million in 2019, \$1.3 million in 2018 and \$9.4 million in 2017.

Provision of Engineering and Labor Services

Ternium contracts with certain companies controlled by San Faustin specialized in supplying engineering services, construction services, labor and supervision services, for civil and electromechanical works, and cleaning, general maintenance and handling of by-products services. Fees accrued for these services amounted to \$154.6 million in 2019, \$88.2 million in 2018 and \$104.1 million in 2017.

Purchase Agency Services and Sales of Materials

Exiros, in which we have 50% share ownership and Tenaris has remaining 50% share ownership, provides to Tecpetrol and other companies controlled by San Faustin with purchase agency services and sales of raw materials and other products. Under the Exiros shareholder arrangements, Ternium recognizes Exiros' assets, liabilities, revenue and expenses in relation to its interest in the joint operation. For further information, see Item 4. "Information on the Company—B. Business Overview— Enhance Ternium's Position as a competitive steel producer". Exiros' sales to companies controlled by San Faustin totaled \$15.7 million in 2019, \$15.5 million in 2018 and \$4.1 million in 2017, of which the Company recognized \$7.9 million, \$7.8 million and \$2.1 million in 2019, 2018 and 2017, respectively.

Sales and Purchases of Other Products and Services

Ternium enters into other transactions with companies controlled by San Faustin from time to time. Relevant transactions were those for the purchase of plant equipment and spare parts, and technical assistance from Tenova and from other related companies, which amounted to \$19.2 million in 2019, \$4.8 million in 2018 and \$3.6 million in 2017.

Administrative Services, Legal and Other Support Services

Finma S.A.I.F., or Finma, Arhsa S.A., or Arhsa. and Techinst S.A., a group of companies controlled by San Faustin in which the Company had a 33% share ownership and other affiliates of San Faustin had the remaining share ownership, provided administrative and legal support services to San Faustin's affiliates in Argentina, including Argentine affiliates of Ternium. On July 4, 2018, Arhsa merged with Finma, with Finma continuing to render the services previously provided by Arhsa. Fees accrued for these services amounted to \$8.4 million in 2019, \$7.5 million in 2018 and \$10.5 million in 2017.

Loans to Related Parties

Ternium financed the construction and operation of Techgen's Pesquería project primarily in the form of subordinated loans to Techgen. Outstanding loans to Techgen amounted to \$127.7 million in 2019, \$151.6 million and \$127.1 million as of December 31, 2019, 2018 and 2017, respectively. These loans generated interest gains in favor of Ternium in an amount of \$9.5 million in 2019, \$9.3 million in 2018 and \$7.6 million in 2017. For further information on the Techgen investment, see Item 4. "Information on the Company—C. Organizational Structure—Other investments—Techgen."

Dividends from Related Parties

Ternium received dividend payments from Usiminas in an amount of \$3.1 million in 2019, \$8.8 million in 2018 and \$3.3 million in 2017.

Other Transactions

In addition, in the ordinary course of business, from time to time, we carry out other transactions and enter into other arrangements with other related parties, none of which are considered to be material.

C. Interest of Experts and Counsel

Not applicable.

Item 8. Financial Information

A. Consolidated Statements and Other Financial Information

See Item 18 and pages F-1 through F-83 for Ternium's consolidated financial statements.

Legal Proceedings

Ternium is subject to various claims, lawsuits and other legal proceedings that arise in the ordinary course of business, including customer claims in which a third party is seeking reimbursement or indemnity. The Company's liability with respect to such claims, uncertain tax positions, lawsuits and other legal proceedings cannot be estimated with certainty. Periodically, management reviews the status of each significant matter and assesses potential financial exposure. If the potential loss from the claim or proceeding is considered probable and the amount can be reasonably estimated, a liability is recorded. Management estimates the amount of such liability based on the information available and the assumptions and methods it has concluded are appropriate, in accordance with the provisions of IFRS. Accruals for such contingencies reflect a reasonable estimate of the losses to be incurred based on information available, including the relevant litigation or settlement strategy, as of the date of preparation of these financial statements. As additional information becomes available, management will reassess its evaluation of the pending claims, lawsuits and other proceedings and revise its estimates. The loss contingencies provision amounts to \$613.4 million and \$643.9 million as of December 31, 2019 and 2018, respectively.

Outstanding Legal Proceedings

The following legal proceedings were outstanding as of the date of this report:

Companhia Siderúrgica Nacional (CSN) – Tender offer litigation

In 2013, the Company was notified of a lawsuit filed in Brazil by Companhia Siderúrgica Nacional, or CSN, and various entities affiliated with CSN against Ternium Investments, its subsidiary Ternium Argentina, and TenarisConfab. The entities named in the CSN lawsuit had acquired a participation in Usiminas in January 2012. The CSN lawsuit alleges that, under applicable Brazilian laws and rules, the acquirers were required to launch a tag-along

tender offer to all non-controlling holders of Usiminas ordinary shares for a price per share equal to 80% of the price per share paid in such acquisition, or BRL 28.8, and seeks an order to compel the acquirers to launch an offer at that price plus interest. If so ordered, the offer would need to be made to 182,609,851 ordinary shares of Usiminas not belonging to Usiminas' control group; Ternium Investments and Ternium Argentina's respective shares in the offer would be 60.6% and 21.5%.

On September 23, 2013, the first instance court dismissed the CSN lawsuit, and on February 8, 2017, the court of appeals of São Paulo maintained the understanding of the first instance court. On March 6, 2017, CSN filed a motion for clarification against the decision of the court of appeals, which was rejected on July 19, 2017. On August 18, 2017, CSN filed with the court of appeals an appeal seeking the review and reversal of the decision issued by the court of appeals by the Superior Court of Justice. On March 5, 2018, the court of appeals ruled that CSN's appeal did not meet the requirements for review by the Superior Court of Justice and rejected such appeal. On May 8, 2018, CSN appealed against such ruling and on January 22, 2019, the court of appeals rejected such appeal and ordered that the case be submitted to the Superior Court of Justice. On September 10, 2019, the Superior Court of Justice declared CSN's appeal admissible. The Superior Court of Justice will review the case and will then render a decision on the merits. The Superior Court of Justice is restricted to the analysis of alleged violations to federal laws and cannot assess matters of fact.

Ternium continues to believe that all of CSN's claims and allegations are groundless and without merit, as confirmed by several opinions of Brazilian legal counsel, two decisions issued by the Brazilian securities regulator (CVM) in February 2012 and December 2016, and the first and second instance court decisions referred to above. Accordingly, no provision has been recorded in Ternium's consolidated financial statements.

Shareholder claims relating to the October 2014 acquisition of Usiminas shares

On April 14, 2015, the staff of the CVM determined that an acquisition of additional ordinary shares of Usiminas by Ternium Investments made in October 2014, triggered a requirement under applicable Brazilian laws and regulations for Usiminas' controlling shareholders to launch a tender offer to all non-controlling holders of Usiminas ordinary shares. The CVM staff's determination was made further to a request by NSC and its affiliates, who alleged that Ternium's 2014 acquisition had exceeded a threshold that triggers the tender offer requirement. In the CVM staff's view, the 2014 acquisition exceeded the applicable threshold by 5.2 million shares. On April 29, 2015, Ternium filed an appeal to be submitted to the CVM's Board of Commissioners. On May 5, 2015, the CVM staff confirmed that the appeal would be submitted to the Board of Commissioners and that the effects of the staff's decision would be stayed until such Board rules on the matter.

On June 15, 2015, upon an appeal filed by NSC, the CVM staff changed its earlier decision and stated that the obligation to launch a tender offer would fall exclusively on Ternium. Ternium's appeal has been submitted to the CVM's Board of Commissioners and it is currently expected that such Board will rule on the appeal in 2020. In addition, on April 18, 2018, Ternium filed a petition with the CVM's reporting Commissioner requesting that the applicable threshold for the tender offer requirement be recalculated taking into account the new ordinary shares issued by Usiminas in connection with its 2016 BRL1 billion capital increase and that, in light of the replenishment of the threshold that would result from such recalculation, the CVM staff's 2015 determination be set aside. In the event the appeal is not successful, under applicable CVM rules Ternium may elect to sell to third parties the 5.2 million shares allegedly acquired in excess of the threshold, in which case no tender offer would be required.

Potential Mexican income tax adjustment

In March 2015, the Mexican tax authorities, as part of a tax audit to Ternium Mexico with respect to fiscal year 2008, challenged the deduction by Ternium Mexico's predecessor IMSA Acero of a tax loss arising from an intercompany sale of shares in December 2008. Although the tax authorities have not yet determined the amount of their claim, they have indicated in a preliminary report that they have observations that may result in an income tax adjustment currently estimated at approximately \$59.7 million, including interest and fines. Additionally, in September 2018, the Mexican tax authority, as a result of a tax audit for the fiscal year 2011 to Ternium Mexico, as predecessor of Aceros Planos de Monterrey S.A. de C.V., or APM, objected to, among other items, the deduction of the tax loss remaining for the year 2008, for which the estimated income tax adjustment would be of approximately \$27.3 million, including interest and fines.

Ternium Mexico requested an injunction from the Mexican courts against the audit observations for the year 2008 and the fiscal credit of the year 2011, and also filed its defense and supporting documents with the Mexican tax authorities.

The Company, based on the advice of counsel, believes that an unfavorable outcome in connection with this matter is not probable and, accordingly, no provision has been recorded in Ternium's consolidated financial statements.

Putative class action

Following the Company's November 27, 2018 announcement that its chairman Paolo Rocca had been included in an Argentine court investigation known as the Notebooks Case (a decision subsequently reversed by a higher court), a putative class action complaint was filed in the U.S. District Court for the Eastern District of New York. On January 31, 2019, the court appointed lead plaintiff and lead counsel. On June 17, 2019, the lead plaintiff filed an amended complaint purportedly on behalf of purchasers of Ternium securities from May 1, 2014 through November 27, 2018. The individual defendants named in the amended complaint are our chairman, our former Chief Executive Officer, our current Chief Executive Officer and our Chief Financial Officer. That complaint alleges that during the class period, the Company and the individual defendants inflated the price of Ternium's ADSs by failing to disclose that sale proceeds received by Ternium when Sidor was expropriated by Venezuela were received or expedited as a result of alleged improper payments made to Argentine officials. The complaint does not specify the damages that plaintiff is seeking. Defendants' motions to dismiss are expected to be decided during 2020. Management believes the Company has meritorious defenses to these claims; however, at this stage the Company cannot predict the outcome of the claim or the amount or range of loss in case of an unfavorable outcome.

Dividend Policy

The Company does not have, and has no current plans to establish, a formal dividend policy governing the amount and payment of dividends or other distributions. For a description of the shareholders' and holders of ADS' rights to receive dividends and the conditions to declare and pay dividends, please refer to Item 10. "Additional Information—B. Memorandum and Articles of Association—Dividends".

The following table shows the dividends approved by the Company's shareholders in the last five years:

Shareholders' meeting date	Approved dividend			Dividend payment date
	Amount (\$ million)	Per share (\$)	Per ADS (\$)	
May 6, 2015	180.4	0.090	0.90	May 15, 2015
May 4, 2016	180.4	0.090	0.90	May 13, 2016
May 3, 2017	196.3	0.100	1.00	May 12, 2017
May 2, 2018	215.9	0.110	1.10	May 10, 2018
May 6, 2019	235.6	0.120	1.20	May 14, 2019

On April 7, 2020, Ternium's board of directors resolved to postpone the Company's annual and extraordinary general meetings of shareholders initially scheduled to be held on April 27, 2020. The Company expects to convene its annual and extraordinary general meetings of shareholders to be held on June 5, 2020. The Company's board of directors expects to announce on April 28, 2020, the proposals to be submitted to the consideration of the shareholders' meetings, including the Company's proposal of dividends. Ternium's board of directors will take this time to assess its liquidity needs and review its previously-announced annual dividend proposal for fiscal year 2019, which may be modified if deemed appropriate.

B. Significant Changes

Except as otherwise disclosed in this annual report, there has been no undisclosed significant change since the date of the annual financial statements.

Item 9. The Offer and Listing

A. Offer and Listing Details

The Company's ADSs are listed on the New York Stock Exchange, or NYSE, under the symbol "TX." Trading on the NYSE began on February 1, 2006. As of February 29, 2020, a total of 2,004,743,442 shares were registered in the Company's shareholder register.

As of February 29, 2020, a total of 489,930,470 shares were registered on behalf of BNY Nominees Limited, related to the Company's ADR program. On February 28, 2020, the closing price for the Company's ADSs reported by the NYSE was \$17.70.

New York Stock Exchange

As of February 29, 2020, a total of 48,993,047 ADSs were registered of record. Each ADS represents ten shares of the Company's share capital. For the year ended December 31, 2019, BNY Mellon acted as the Company's depository for issuing ADRs evidencing the ADSs.

B. Plan of Distribution

Not applicable.

C. Markets

For information related to this matter, see "—A. Offer and Listing Details."

D. Selling Shareholders

Not applicable.

E. Dilution

Not applicable.

F. Expenses of the Issue

Not applicable.

Item 10. Additional Information

A. Share Capital

Not applicable.

B. Memorandum and Articles of Association

General

The following is a summary of certain rights of holders of the Company's shares. These rights are set out in the Company's articles of association or are provided by applicable Luxembourg law, and may differ from those typically provided to shareholders of U.S. companies under the corporation laws of some states of the United States. This summary is not exhaustive and does not contain all information that may be important to you. For more complete information, you should read the Company's articles of association, which are attached as an exhibit to this annual report.

The Company is a public limited liability company (*société anonyme*) organized under the laws of Luxembourg. Its object and purpose, as set forth in Article 2 of its articles of association, is the taking of interests, in any form, in corporations or other business entities, and the administration, management, control and development thereof. The Company is registered under the number B98 668 in the Luxembourg *Registre de Commerce et des Sociétés*.

The Company's authorized share capital is fixed by the Company's articles of association, as amended from time to time, with the approval of shareholders at an extraordinary general shareholders' meeting. The Company has an authorized share capital of a single class of 3,500,000,000 shares having a nominal value of \$1.00 per share. There were 2,004,743,442 shares issued as of the date of this annual report. All issued shares are fully paid.

The Company's articles of association authorize the board of directors, or any delegate(s) duly appointed by the board of directors, to issue shares within the limits of its authorized share capital against contributions in cash, contributions in kind or by way of incorporation of available reserves, at such times and on such terms and conditions, including the issue price, as the board of directors, or its delegate(s) may in its or their discretion resolve.

The Company's shareholders have authorized the board of directors to waive, suppress or limit any pre-emptive subscription rights of shareholders provided for by law to the extent it deems such waiver, suppression or limitation advisable for any issue or issues of shares within the authorized share capital; and have waived any pre-emptive subscription rights provided for by law and related procedures. Although the validity period of such authorization will expire on June 5, 2020, the board of directors is expected to convene an extraordinary meeting of shareholders to be held on that date, which will consider the renewal of such authorization for an additional five-year period. However, under the Company's articles of association, for as long as the Company's shares are listed on a regulated market (and only for as long as they are so listed), any issuance of shares for cash within the limits of the authorized share capital shall be subject to the pre-emptive subscription rights of the then existing shareholders, except in the following cases (in which cases no pre-emptive rights shall apply):

(a) any issuance of shares for, within, in conjunction with or related to, an initial public offering of the Company's shares on one or more regulated markets (in one or more instances);

(b) any issuance of shares against a contribution other than in cash;

(c) any issuance of shares upon conversion of convertible bonds or other instruments convertible into shares of the Company; provided, however, that the pre-emptive subscription rights of the then existing shareholders shall apply by provision of the Company's articles of association in connection with any issuance of convertible bonds or other instruments convertible into shares for cash; and

(d) any issuance of shares (including by way of free shares or at a discount), up to an amount of 1.5% of the issued share capital of the Company, to directors, officers, agents or employees of the Company, its direct or indirect subsidiaries, or its affiliates, including without limitation the direct issue of shares upon the exercise of options, rights convertible into shares, or similar instruments convertible or exchangeable into shares issued for the purpose of, or in relation to, compensation or incentive for any such persons or in relation thereto (which the board of directors shall be authorized to issue upon such terms and conditions as it deems fit).

Amendment of the Company's articles of association requires the approval of shareholders at an extraordinary shareholders' meeting with a two-thirds majority vote of the shares represented at the meeting.

Dividends

Subject to applicable law, all shares (including shares underlying ADSs) are entitled to participate equally in dividends when, as and if declared by the shareholders present at the ordinary general shareholders' meeting, out of funds legally available for such purposes.

Dividends may be lawfully declared and paid if the Company's net profits and distributable reserves are sufficient under Luxembourg law. The amount and payment of dividends must be approved by a simple majority vote at a general shareholders' meeting, generally, but not necessarily, based on the recommendation of the Company's board of directors. Under Article 21 of the Company's articles of association, the board of directors has the power to distribute interim dividends out of profits, share premium or any other available reserves, in accordance with applicable law, in particular in accordance with the conditions set forth in article 461-3 of the Luxembourg Company Law. Such dividend payments must be finally approved by the general shareholders' meeting.

As provided by Article 21 of the Company's articles of association, dividends or other distributions declared by the general meeting as well as interim dividends or other distributions declared by the board of directors will be distributed at the times and places determined by the board of directors. The Company will make any and all dividend payments and any other distributions in respect of shares registered in the name of any securities settlement system or operator of such a system or in the name of any financial institution or other professional depository of securities or any other depository, whether in cash, shares or other assets, only to such registered holder, or otherwise in accordance with such registered holder's instructions, and, as provided by Article 21 of the Company's articles of association, that payment shall release the Company from any and all obligations for such payment.

The Company conducts all of its operations through subsidiaries and, accordingly, its main source of cash to pay dividends among other possible sources, will be the dividends received from its subsidiaries. For further information, see Item 3. “Key Information—D. Risk Factors—Risks Relating to the Structure of the Company—The Company’s dividend payments depends on the results of operations and financial condition of its subsidiaries and could be affected by legal, contractual or other limitations or tax changes”. These dividend payments will likely depend on the Company’s subsidiaries’ results of operations, financial condition, cash and capital requirements, future growth prospects and other factors deemed significant by their respective boards of directors, as well as on any applicable legal restrictions. For further information, see Item 3. “Key Information—D. Risk Factors—Risks Relating to the Countries in Which Ternium Operates—Argentina”.

Under Luxembourg law, claims for dividends will lapse five years after the date such dividends are declared. However, the Company may elect to pay a declared dividend after such period. Declared and unpaid dividends held by the Company for the account of its shareholders do not bear interest.

Pursuant to Luxembourg law, at least 5% of our net profits per year must be allocated to the creation of a legal reserve until such reserve has reached an amount equal to 10% of our issued share capital. If the legal reserve later falls below the 10% threshold, at least 5% (or such lower amount required to reach the 10% threshold) of net profits again must be allocated toward the reserve. As of December 31, 2019, the Company’s legal reserve represented 10% of its share capital. The legal reserve is not available for distribution.

Voting Rights; Shareholders’ Meetings; Election of Directors

Each share entitles the holder thereof to one vote at the Company’s general shareholders’ meetings. Shareholder action by written consent is not permitted, but proxy voting is permitted. Notices of general shareholders’ meetings are governed by the provisions of Luxembourg law and the Company’s articles of association. Pursuant to applicable Luxembourg law, the Company must give notice of the calling of any general shareholders meeting at least 15 days prior to the date for which the meeting is being called, by publishing the relevant convening notice in the *Recueil électronique des sociétés et associations* (Luxembourg’s electronic official gazette) and in a leading newspaper having general circulation in Luxembourg and by issuing a press release informing of the calling of such meeting. The extraordinary general meeting of shareholders held on May 2, 2018, amended the Company’s articles of association including, among other amendments, an amendment to Article 16 of the Company’s articles of association with respect to notice of meetings, providing that notices for any general shareholders’ meeting shall include such information and shall be given in such form through such means and at such time or times as may be required under applicable Luxembourg law; and, in case the shares of the Company are listed on a regulated market, such notices shall, in addition, satisfy such requirements as are applicable to, and mandatory for, notices of general shareholders’ meetings of issuers such as the Company under the applicable laws, rules and regulations of such regulated market.

No attendance quorum is required at ordinary general shareholders’ meetings and resolutions may be adopted by a simple majority vote of the shares present or represented and voted at the meeting. An extraordinary general shareholders’ meeting resolving, among other matters, on the amendment of the articles of association may only validly deliberate when at least half of the share capital is present or represented. If the required quorum is not met at an extraordinary general shareholders meeting, a second meeting may be convened in accordance with the Company’s articles of association and applicable law and such second extraordinary general shareholders meeting shall validly deliberate regardless of the quorum present or represented. In both cases (meeting or adjournment thereof, as the case may be), Luxembourg Company Law and the Company’s articles of association require that any resolution of an extraordinary general shareholders’ meeting resolving on the amendment of the articles of association be adopted by a two-thirds majority vote of the shares present or represented and voted at the meeting. If a proposed resolution consists of changing the Company’s nationality or of increasing the shareholders’ commitments, the unanimous consent of all shareholders is required.

Cumulative voting is not permitted. The Company’s articles of association do not provide for staggered terms, and directors are elected for a maximum of one year but may be reappointed or removed at any time, with or without cause, by the general shareholders’ meeting, by resolution passed by a simple majority vote of the shares present or represented at the meeting and voted. In the case of a vacancy occurring on the board of directors, the remaining directors shall have the right to temporarily fill such vacancy with a temporary director appointed by resolution adopted with the affirmative vote of a majority of the remaining directors; provided that the next general shareholder’s meeting shall be called upon to ratify such appointment. The term of a temporary director elected to fill a vacancy shall expire at the end of the term of office of the replaced director.

The next Company's annual general shareholders' meeting, that will consider, among other things Ternium's consolidated financial statements and annual accounts included in this report, is expected to be held on June 5, 2020 in the Company's registered office in Luxembourg. A general extraordinary shareholders meeting will be convened to be held immediately after the adjournment of the annual general shareholders' meeting to decide on the renewal for a five-year period of the authorization granted to its board of directors to issue shares within the limits of the authorized share capital without shareholder approval.

The current articles of association provide that annual general shareholders' meetings shall meet in Luxembourg within six months from the end of the previous financial year at the date, place and hour indicated in the convening notice.

Any shareholder who holds one or more shares of the Company on the fifth calendar day preceding a general shareholders' meeting (the "Record Date") shall be admitted to such general shareholders' meeting. Those shareholders who have sold their shares between the Record Date and the date of the general shareholders' meeting may not attend or be represented at the meeting.

In the case of shares held through fungible securities accounts, each shareholder may exercise all rights attached to his shares and, in particular, may participate in and vote at shareholders' meetings of the Company upon presentation of a certificate issued by the financial institution or professional depository holding the shares, evidencing such deposit and certifying the number of shares recorded in the relevant account on the Record Date. Such certificate must be filed at least five days before the meeting with the Company at its registered address or at the address stated in the convening notice or, in case the shares of the Company are listed on a regulated market, with an agent of the Company located in the country of the listing and designated in the convening notice. In case any such holder wishes to vote by proxy, the holder shall have to present a completed proxy form together with the certificate previously referred to, by the same date and time and at the same addresses. The board of directors and the shareholders at the shareholders' meeting may, if they deem so advisable, reduce these periods of time for all shareholders and admit all shareholders (or their proxies) who have filed the appropriate documents to the general shareholders' meeting, irrespective of these time limits.

Holders of ADSs only have those rights that are expressly granted to them in the deposit agreement dated January 31, 2006 among the Company, The BNY Mellon (formerly The Bank of New York), as depository, and all owners and beneficial owners from time to time of ADRs of the Company. See Item 3. "Key Information-D. Risk Factors-Risks Relating to the Company's ADSs-Holders of ADSs may not be able to exercise, or may encounter difficulties in the exercise of, certain rights afforded to shareholders." ADS holders may not attend or directly exercise voting rights in shareholders' meetings, but may instruct the depository on how to exercise the voting rights for the shares which underlie their ADSs.

Access to Corporate Records

Luxembourg law and the Company's articles of association do not generally provide for shareholder access to corporate records. Shareholders may inspect the annual accounts and auditors' reports at the Company's registered office during the 15-day period prior to a general shareholders' meeting.

Appraisal Rights

In case the shares of the Company are listed on one or more regulated markets, and in the event the shareholders, in a general meeting, approve any of the following:

- the delisting of the Company's shares from all regulated markets where the Company's shares are listed at that time, excluding a delisting made pursuant to an offer to all of the Company's shareholders made by a business entity subject to common control with the Company, whereby such business entity offers to issue, in exchange for the Company's shares, shares to be listed on the same regulated market(s) on which the Company's shares are listed;
- a merger in which the Company is not the surviving entity (unless the shares or other equity securities of such entity are listed on the New York or London stock exchanges);
- a sale, lease, exchange or other disposition of all or substantially all of the Company's assets;
- an amendment to the Company's articles of association that has the effect of materially changing its corporate purpose;
- the relocation of the Company's domicile outside the Grand Duchy of Luxembourg; or

- amendments to the Company's articles of association that restrict the rights of its shareholders (excluding any amendments in relation with, or to, the authorized share capital and/or the waiver or suppression of any preferential subscription rights relating thereto),

dissenting or absent shareholders have the right to have their shares repurchased by the Company at (i) the average market value of the shares over the 90 calendar days preceding the applicable general shareholders' meeting or (ii) in the event that the Company's shares are not traded on any regulated market, the amount that results from applying the proportion of the Company's equity that the shares being sold represent over the Company's net worth as determined in its last consolidated financial statements approved by the shareholders or in its last interim consolidated financial statements approved by the board of directors, whichever is more recent. Shareholders who voted in favor of the relevant resolution are not entitled to exercise this right.

Dissenting or absent shareholders must present their claim within one month following the date of the applicable general shareholders' meeting and supply the Company with evidence of their shareholding at the time of such meeting. The Company must (to the extent permitted by applicable laws and regulations and in compliance therewith) repurchase its shares within six months following the date of the applicable general shareholders' meeting. If delisting from one or more, but not all, of the regulated markets where the Company's shares are listed is approved by the shareholders' meeting, only dissenting or absent shareholders with shares held through participants in the local clearing system for that market or those markets can exercise this appraisal right if:

- they held the shares as of the date of the announcement by the Company of its intention to delist or as of the date of publication of the first convening notice for the general shareholders' meeting that approved the delisting;
- they present their claim within one month following the date of the general shareholders' meeting and supply evidence of their shareholding as of the date of the Company's announcement or the publication of the first convening notice to the meeting; and
- the delisting is not being made pursuant to an offer to all of the Company's shareholders made by a business entity subject to common control with the Company, whereby such business entity offers to issue, in exchange for the Company's shares, shares to be listed on the same regulated market(s) on which such dissenting or absent shareholders hold their shares through participants in the local clearing system for that market or markets.

In the event a shareholder exercises its appraisal right, applicable Luxembourg law provisions shall apply.

Distribution of Assets on Winding-up

In the event of the Company's liquidation, dissolution or winding-up, the net assets remaining after allowing for the payment of all debts, charges and expenses shall be paid out to holders of the Company's shares in proportion to their respective holdings.

Transferability and Form

The Company's articles of association do not contain any redemption or sinking fund provisions, nor do they impose any restrictions on the transfer of shares. The shares are issuable in registered form only.

The ownership of registered shares is evidenced by the inscription of the name of the shareholder, the number of shares held by such shareholder and the amount paid on each share in the Company's share register. In addition, the Company's shares may be held through fungible securities accounts with financial institutions or other professional depositaries. Shares held through fungible securities accounts have the same rights and obligations as shares recorded in the Company's shareholders' register.

Shares held through fungible securities accounts may be transferred in accordance with customary procedures for the transfer of securities in book-entry form. Shares that are not held through fungible securities accounts may be transferred by a written statement of transfer signed by both the transferor and the transferee or their respective duly appointed attorney-in-fact and recorded in the Company's share register. The transfer of shares may also be made in accordance with the provisions of Article 1690 of the Luxembourg Civil Code. As evidence of the transfer of registered shares, the Company may also accept any correspondence or other documents evidencing the agreement between transferor and transferee as to the transfer of registered shares.

Repurchase of Company Shares

The Company may repurchase its own shares in the cases and subject to the conditions set by the Luxembourg Company Law and, in the case of acquisitions of shares or ADSs made through the NYSE, with any applicable laws and regulations of such market. See Item 16.E. “Purchases of Equity Securities by the Issuer and Affiliated Purchasers” for further information on the authorization granted on May 6, 2015, by the Company’s annual general shareholders’ meeting to the Company or its subsidiaries to repurchase the Company’s shares, including shares represented by ADSs.

Limitation on Securities Ownership

There are no limitations currently imposed by Luxembourg law or the articles of association on the rights of the Company’s non-resident or foreign shareholders to hold or vote the Company’s shares.

Change in Control

None of our outstanding securities has any special control rights. The Company’s articles of association do not contain any provision that would have the effect of delaying, deferring or preventing a change in control of the Company and that would operate only with respect to a merger, acquisition or corporate restructuring involving the Company or any of its subsidiaries. In addition, the Company does not know of any significant agreements or other arrangements to which the Company is a party and which take effect, alter or terminate in the event of a change of control of the Company. There are no agreements between the Company and members of its board of directors or employees providing for compensation if they resign or are made redundant without reason, or if their employment ceases following a change in control of the Company.

There are no rights associated with the Company’s shares other than those described above.

C. Material Contracts

For a summary of any material contract entered into by us outside of the ordinary course of business during the last two years, see Item 4. “Information on the Company—B. Business Overview—Raw Materials, Slabs, Energy and Other Inputs.”

D. Exchange Controls

Many of the countries which are important markets for us or in which we have substantial assets have a history of substantial government intervention in currency markets, volatile exchange rates and government-imposed currency controls. These include Mexico, Brazil and Argentina. For additional information regarding Ternium’s ability to hedge against exchange rate fluctuations, see Item 3. “Key Information—D. Risk Factors—Risks Relating to Ternium’s Business—Changes in exchange rates or any limitation in the ability of the Ternium companies, including associates, to hedge against exchange rate fluctuations could adversely affect Ternium’s business and results.”

Mexico

Historically, the Mexican economy has suffered balance of payment deficits and shortages in foreign exchange reserves. While the Mexican government does not currently restrict the ability of Mexican or foreign persons or entities to convert Mexican pesos to U.S. dollars and the terms of USMCA—to which Mexico is a signatory—generally prohibit exchange controls, the Mexican government could institute a restrictive exchange control policy in the future.

Brazil

Before March 2005, there were two legal foreign exchange markets in Brazil, the commercial market and the floating market. The difference between these two markets was the type of transaction that could be performed through each market.

On March 4, 2005, the Brazilian National Monetary Council (“CMN”), through CMN Resolution N. 3,265 (revoked and replaced by CMN Resolution N. 3,568, of May 29, 2008), introduced a single foreign exchange market and abolished the legal differences between the referred Commercial and Floating Markets. Among the modifications to

foreign exchange market rules is a greater freedom to remit funds abroad through the foreign exchange market. On the other hand, the so-called “CC5-Accounts”, which are bank accounts in Brazilian reais held in Brazil by foreign entities, may no longer be used to transfer funds on behalf of third parties.

On March 24, 2010, the CMN approved Resolution No. 3,844, adopting a series of measures to consolidate and simplify the Brazilian foreign exchange regulations. These changes are expected to reduce the effective cost of foreign exchange transactions and the related administrative expenses for both the public and private sectors as well as to provide more legal certainty to the parties to such transaction.

In the past, the Brazilian central bank has intervened occasionally to control unstable movements in foreign exchange rates. We cannot predict whether the central bank or the Brazilian government will continue to let the real float freely or will intervene in the exchange rate market through the return of a currency band system or otherwise. The real may depreciate or appreciate against the U.S. dollar.

Argentina

The Argentine peso was subject to a devaluation of approximately 59% during 2019. In addition, starting September 1, 2019, the government imposed certain restrictions on foreign exchange transactions, including the obligation to sell into the Argentine foreign exchange market any proceeds derived from exports of goods within a period of 60 days from export to related parties, and within 180 days of export to third parties. As for service-related exports, foreign currency proceeds must be converted into Argentine pesos within 5 days of collection. Other restrictions related to foreign exchange transactions include the obligation to obtain previous authorization from the Argentine central bank to access the foreign exchange market to make payments of imports of services from related parties (including royalties). Central Bank's authorizations are generally not granted or granted on a very restricted basis. There are currently no restrictions to make payments for import of goods.

As for capital flows, there are no restrictions for payments of debt-service to foreign creditors as long as funds disbursed had been previously transferred to Argentina through the foreign exchange market and converted into Argentine pesos. As from January 17, 2020, investors making new capital contributions to local companies do not require central bank's approval to access the foreign exchange market to pay dividends for an amount not exceeding 30% of the investment. Access to the foreign exchange market to make any other dividend payment requires prior authorization from the Central Bank. Central Bank's authorizations are generally not granted or granted on a very restricted basis.

Purchase and/or transfer of foreign currency by resident individuals for investment and saving purposes is limited to minimal monthly sums. In addition, such purchases as well as credit card payments abroad are subject to a 30% surcharge.

For additional information regarding factors affecting the Argentine economy, see Item 3. “Key Information—D. Risk Factors—Risks Relating to the Countries in Which Ternium Operates—Argentina.”

Colombia

Under Colombian foreign exchange regulations, payments in foreign currency related to certain foreign exchange transactions must be conducted through the commercial exchange market, by means of an authorized financial intermediary, and the payment must be declared to the Colombian central bank. This mechanism applies to payments in connection with, among others, imports and exports of goods, foreign loans and related financing costs, investment of foreign capital and the remittances of profits thereon, investment in foreign securities and assets and endorsements and guarantees in foreign currency. Transactions through the commercial exchange market are made at market rates freely negotiated with the authorized intermediaries.

E. Taxation

The following discussion of the material Luxembourg and U.S. federal income tax consequences of an investment in our ADSs is based upon laws and relevant interpretations thereof in effect as of the date of this annual report, all of which are subject to change. This discussion does not address all possible tax consequences relating to an investment in our ADSs, such as the tax consequences under U.S. state and local tax laws.

Grand Duchy of Luxembourg

This section describes the material Luxembourg tax consequences of owning or disposing of shares or ADSs.

It is not intended to be, nor should it be construed to be, legal or tax advice. You should, therefore, consult your own tax advisor regarding local or foreign tax consequences, including Luxembourg tax consequences of owning and disposing of shares or ADSs in your particular circumstances.

As used herein, a “Luxembourg individual” means an individual resident in Luxembourg who is subject to personal income tax (impôt sur le revenu) on his or her worldwide income from Luxembourg or foreign sources, and a “Luxembourg corporate holder” means a company (that is, a fully taxable collectivité within the meaning of Article 159 of the Luxembourg Income Tax Law) resident in Luxembourg subject to Luxembourg corporate income tax (impôt sur le revenu des collectivités) and Luxembourg municipal business tax (impôt commercial communal) on its worldwide income from Luxembourg or foreign sources. For the purposes of this summary, Luxembourg individuals and Luxembourg corporate holders are collectively referred to as “Luxembourg Holders”. A “non-Luxembourg Holder” means any investor in shares or ADSs of the Company other than a Luxembourg Holder.

Corporate Reorganization

The Company was established as a Luxembourg *société anonyme* holding under Luxembourg’s 1929 holding company regime. Until termination of such regime on December 31, 2010, holding companies incorporated under the 1929 regime (including the Company) were exempt from Luxembourg corporate income tax, Luxembourg municipal business tax, Luxembourg net wealth tax and Luxembourg withholding tax over dividends distributed to shareholders.

On January 1, 2011, the Company became an ordinary public limited liability company (*société anonyme*) and, effective as from that date, the Company is subject to all applicable Luxembourg taxes (including, among others, Luxembourg corporate income tax on its worldwide income), and its dividend distributions will generally be subject to Luxembourg withholding tax. However, dividends received by the Company from subsidiaries in high income tax jurisdictions, as defined under Luxembourg law, will continue to be exempt from corporate income tax in Luxembourg under Luxembourg’s participation exemption.

As part of the Company’s corporate reorganization in connection with the termination of Luxembourg’s 1929 holding company regime, on December 6, 2010, the Company contributed its equity holdings in all its subsidiaries and all its financial assets to its Luxembourg wholly-owned subsidiary Ternium Investments, in exchange for newly issued corporate units of Ternium Investments. As the assets contributed were recorded at their historical carrying amount in accordance with Luxembourg GAAP, the Company’s 2010 contributions resulted in a non-taxable revaluation of the accounting value of the Company’s assets under Luxembourg GAAP. The amount of the December 2010 revaluation was equal to the difference between the historical carrying amounts of the assets contributed and the value at which such assets were contributed and amounted to \$4.0 billion.

Following the completion of the first phase of the corporate reorganization, and upon its conversion into an ordinary Luxembourg holding company, the Company recorded a special reserve in its tax balance sheet. Dividend distributions for the foreseeable future will be charged to the special reserve and therefore should not be subject to Luxembourg withholding tax.

Tax regime applicable to realized capital gains

Luxembourg Holders

Luxembourg resident individual holders

Capital gains realized by Luxembourg resident individuals who do not hold their shares or ADSs as part of a trade or business (i.e. capital gains on private assets) and who hold (together, directly or indirectly, with his or her spouse or civil partner and underage children) no more than 10% of the share capital of the Company at any time during the five-year period preceding the disposition will only be taxable (at a progressive rate) if they are realized on a sale of shares or ADSs that takes place before their acquisition or within the first six months following their acquisition (i.e. speculative gain). After the six-months period, capital gains are not taxed unless the resident individual holds (together, directly or indirectly, with his or her spouse or civil partner and underage children) more than 10% of the share capital of the Company at any time during the five-year period preceding the disposition.

If such shares or ADSs are held as part of a commercial or industrial business, capital gains would be taxable in the same manner as income from such business.

Capital gains realized by Luxembourg resident individuals holding (alone or together with the resident's spouse or civil partner and underage children) directly or indirectly more than 10% of the capital of the Company at any time during the five years prior to the sale, (or if the Luxembourg resident individuals have received the shares for no consideration within the last five years and the former holder held at least 10% in the capital of the company at any moment during said five years) will be taxable at half of the individual's applicable global tax rate (as determined progressively), if a holding period of six months following their acquisition elapsed (21% for 2019). Within the six month period, progressive income tax rates apply (ranging from 0 to 42%* in 2019).

*A 7% surcharge for the Employment Fund applies on the income tax due. The surcharge for the Employment Fund amounts to 9% for taxpayer in tax class 1 or 1a with taxable income exceeding EUR 150,000 (EUR 300,000 for taxpayer in tax class 2).

Luxembourg resident corporate holders

Capital gains, including currency exchange gains realized upon the disposal of shares or ADSs by a fully taxable resident corporate holder, will in principle be subject to Luxembourg corporate income tax and Luxembourg municipal business tax. The combined applicable rate (including an unemployment fund contribution) for a corporate holder established in Luxembourg City is 24.94% for the fiscal year ending 2019. An exemption from such taxes may be available to the Luxembourg resident corporate holder pursuant to Article 1 of the Grand Ducal Decree dated December 21, 2001 as amended, in combination with article 166 of the Luxembourg Income Tax Law subject to the fulfillment of the conditions set forth therein.

Non-Luxembourg Holders

Non-Luxembourg individual holders

An individual who is a non-Luxembourg Holder of shares or ADSs (and who does not have a permanent establishment, a permanent representative or a fixed place of business in Luxembourg) will only be subject to Luxembourg taxation on capital gains arising upon disposal of such shares or ADSs if such holder has (alone or together with his or her spouse, civil partner and underage children) directly or indirectly held more than 10% of the capital of the Company at any time during the past five years preceding the disposal, and either (i) such non-Luxembourg Holder has been a resident of Luxembourg for tax purposes for at least 15 years and has become a non-resident within the last five years preceding the realization of the gain, subject to any applicable tax treaty, or (ii) the disposal of shares or ADSs occurs within six months from their acquisition (or prior to their actual acquisition), subject, however, to any applicable tax treaty.

Non-Luxembourg corporate holders

A corporate non-Luxembourg Holder (that is, a *collectivité* within the meaning of Article 159 of the Luxembourg Income Tax Law), which has a permanent establishment, a permanent representative or a fixed place of business in Luxembourg to which shares or ADSs are attributable, will bear Luxembourg corporate income tax and Luxembourg municipal business tax on a gain realized on a disposal of such shares or ADSs as set forth above for a Luxembourg corporate holder. However, capital gains, including currency exchange gains, realized on the sale of the shares or ADSs may benefit from the full exemption provided for by Article 1 of the Grand Ducal Decree dated December 21, 2001 as amended, in combination with Article 166 of the Luxembourg Income Tax Law subject in each case to fulfillment of the conditions set out therein.

A corporate non-Luxembourg Holder, which has no permanent establishment, permanent representative or fixed place of business in Luxembourg to which the shares or ADSs are attributable, will bear non-resident capital gains tax on a gain realized on a disposal of such shares or ADSs under the same conditions applicable to an individual non-Luxembourg Holder, as set out above.

Tax regime applicable to distributions

Withholding tax

Distributions to holders are in principle subject to a 15% Luxembourg withholding tax computed on the gross amount distributed. The rate of the withholding tax may be reduced pursuant to double tax treaty existing between Luxembourg and the country of residence of the relevant holder, subject to the fulfilment of the conditions set forth therein. However, distributions imputed for tax purposes to the special reserve (please see above paragraph “corporate reorganization”) should be exempt from Luxembourg withholding tax under the current tax law.

Nevertheless, no withholding tax applies if the distribution is made to (as far as relevant in the case at hand):

- a Luxembourg resident corporate holder (that is, a fully taxable *collectivité* within the meaning of article 159 of the Luxembourg Income Tax Law),
- an undertaking of collective character which is resident of a Member State of the European Union and is referred to by article 2 of the European Union Council Directive of November 30, 2011 concerning the common fiscal regime applicable to parent and subsidiary companies of different member states (2011/96/UE) as amended, (subject to the general anti-abuse rule provided for by Council Directive 2015/121/EU as implemented into Luxembourg law),
- a capital company or a cooperative company resident in Norway, Iceland or Liechtenstein and subject to a tax comparable to corporate income tax as provided by the Luxembourg Income Tax Law,
- a capital company resident in Switzerland which is subject to corporate income tax in Switzerland without benefiting from an exemption,
- an undertaking with a collective character subject to a tax comparable to corporate income tax as provided by the Luxembourg Income Tax Law which is resident in a country that has concluded a double tax treaty with Luxembourg, and
- a Luxembourg permanent establishment of one of the above-mentioned categories, provided each time that at the date of payment, the holder holds or commits to hold directly (or through a company regarded as tax transparent from a Luxembourg tax perspective), during an uninterrupted period of at least twelve months, shares or ADSs representing at least 10% of the share capital of the Company or acquired for an acquisition price of at least EUR 1,200,000.

Luxembourg Holders

With the exception of Luxembourg corporate holders benefiting from the exemption referred to above, Luxembourg individual holders, and Luxembourg corporate holders fully subject to Luxembourg corporate tax, must include the distributions paid on the shares or ADSs in their taxable income, 50% of the amount of such dividends being exempt from tax. The applicable withholding tax can, under certain conditions, entitle the relevant Luxembourg Holder to a tax credit.

Non Luxembourg Holders

Non-Luxembourg Holders of shares or ADSs and who do not have a permanent establishment, a permanent representative or a fixed place of business in Luxembourg to which the shares or ADSs would be attributable are not liable for any Luxembourg tax on dividends paid on the shares or ADSs, other than a potential withholding tax as described above.

Net wealth tax

Luxembourg Holders

Luxembourg net wealth tax will not be levied on a Luxembourg Holder with respect to the shares or ADSs held unless (i) the Luxembourg Holder is a legal entity subject to net wealth tax in Luxembourg; or (ii) the shares or ADSs are attributable to an enterprise or part thereof which is carried on through a permanent establishment, a fixed place of business or a permanent representative in Luxembourg.

Net wealth tax is levied annually at the rate of 0.5% for taxable net wealth not exceeding EUR 500,000,000 and at a rate of 0.05% for the net wealth exceeding EUR 500,000,000, of enterprises resident in Luxembourg, as determined for net wealth tax purposes. The shares or ADSs may be exempt from net wealth tax subject to the conditions set forth by Paragraph 60 of the Law of October 16, 1934 on the valuation of assets (*Bewertungsgesetz*), as amended.

A minimum net wealth tax charge applies as of January 1, 2016 for all corporate entities having their statutory seat or central administration in Luxembourg. Subject to certain conditions, the amount of minimum net wealth tax may vary.

Non-Luxembourg Holders

Luxembourg net wealth tax will not be levied on a non-Luxembourg Holder with respect to the shares or ADSs held unless the shares or ADSs are attributable to an enterprise or part thereof which is carried on through a permanent establishment or a permanent representative in Luxembourg. The shares or ADSs may be exempt from net wealth tax subject to the conditions set forth by Paragraph 60 of the Law of October 16, 1934 on the valuation of assets (*Bewertungsgesetz*), as amended.

Stamp and registration taxes

No registration tax or stamp duty will be payable by a holder of shares or ADSs in Luxembourg solely upon the disposal of shares or ADSs by sale or exchange.

Estate and gift taxes

No estate or inheritance tax is levied on the transfer of shares or ADSs upon the death of a holder of shares or ADSs in cases where the deceased was not a resident of Luxembourg for inheritance tax purposes and no gift tax is levied upon a gift of shares or ADSs if the gift is not passed before a Luxembourg notary or recorded in a deed registered in Luxembourg.

Where a holder of shares or ADSs is a resident of Luxembourg for tax purposes at the time of his death, the shares or ADSs are included in its taxable estate for inheritance tax or estate tax purposes.

United States federal income taxation

This section describes the material U.S. federal income tax consequences to a U.S. holder (as defined below) of owning ADSs. It applies to you only if you hold your ADSs as capital assets or U.S. federal income tax purposes. This discussion addresses only U.S. federal income taxation and does not discuss all of the tax consequences that may be relevant to you in light of your individual circumstances, including foreign, state or local tax consequences, estate and gift tax consequences, and tax consequences arising under the Medicare contribution tax on net investment income or the alternative minimum tax. This section does not apply to you if you are a member of a special class of holders subject to special rules, including:

- a dealer in securities,
- a bank,
- a trader in securities that elects to use a mark-to-market method of accounting for securities holdings,
- a tax-exempt organization,
- a person who invests through a pass-through entity, including a partnership,
- a life insurance company,
- a former citizen or long-term resident of the United States,
- a person that actually or constructively owns 10% or more of the combined voting power of our voting stock or of the total value of our stock (including ADSs),
- a person that holds ADSs as part of a straddle or a hedging or conversion transaction for U.S. federal income tax purposes,
- a person that purchases or sells ADSs as part of a wash sale for U.S. federal income tax purposes, or
- a person whose functional currency is not the U.S. dollar.

This section is based on the Internal Revenue Code of 1986, as amended, its legislative history, existing and proposed regulations, published rulings and court decisions, all as currently in effect, as well as on the Convention Between the Government of the Grand Duchy of Luxembourg and the Government of the United States of America for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes on Income and Capital (the "Treaty"). These laws are subject to change, possibly on a retroactive basis. In addition, this section is based in part upon the assumption that each obligation in the ADS deposit agreement and any related agreement will be performed in accordance with its terms.

If an entity or arrangement that is treated as a partnership for U.S. federal income tax purposes holds the ADSs, the U.S. federal income tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. Each such partner holding the ADSs is urged to consult his, her or its own tax advisor.

You are a U.S. holder if you are a beneficial owner of ADSs and you are, for U.S. federal income tax purposes:

- an individual citizen or resident of the United States,
- a domestic corporation (or an entity treated as a domestic corporation),
- an estate whose income is subject to U.S. federal income tax regardless of its source, or
- a trust if (i) a U.S. court can exercise primary supervision over the trust's administration and one or more U.S. persons are authorized to control all substantial decisions of the trust or (ii) the trust has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

In general, and taking into account the earlier assumptions, for U.S. federal income tax purposes, if you hold ADRs evidencing ADSs, you will be treated as the owner of the shares represented by those ADRs. Exchanges of shares for ADRs, and ADRs for shares, generally will not be subject to U.S. federal income tax.

The tax treatment of your ADSs will depend in part on whether or not we are classified as a passive foreign investment company, or PFIC, for U.S. federal income tax purposes. Except as discussed below under “-Additional U.S. Federal Income Tax Considerations”, this discussion assumes that we are not classified as a PFIC for United States federal income tax purposes.

You should consult your own tax advisor regarding the U.S. federal, state and local and other tax consequences of owning and disposing of ADSs in your particular circumstances.

Taxation of distributions

Under the U.S. federal income tax laws, if you are a U.S. holder, the gross amount of any distribution we pay out of our current or accumulated earnings and profits (as determined for U.S. federal income tax purposes), other than certain pro-rata distributions of our shares, will be treated as a dividend that is subject to U.S. federal income taxation. If you are a noncorporate U.S. holder, dividends paid to you that constitute qualified dividend income will be taxable to you at the preferential rates applicable to long-term capital gains provided that you hold ADSs for more than 60 days during the 121-day period beginning 60 days before the ex-dividend date and meet other holding period requirements. Dividends we pay with respect to the ADSs generally will be qualified dividend income provided that, in the year that you receive the dividend, the ADSs are readily tradable on an established market in the United States. Our ADSs are listed on the New York Stock Exchange and we therefore expect that dividends we pay with respect to the ADSs generally will be qualified dividend income.

You must generally include any Luxembourg tax withheld from the dividend payment in this gross amount even though you do not in fact receive it. The dividend is taxable to you when the depository receives the dividend, actually or constructively. The dividend will not be eligible for the dividends-received deduction generally allowed to U.S. corporations in respect of dividends received from other U.S. corporations. Distributions in excess of current and accumulated earnings and profits, as determined for U.S. federal income tax purposes, will be treated as a non-taxable return of capital to the extent of your basis in the ADSs and thereafter as capital gain. However, we do not expect to calculate earnings and profits in accordance with U.S. federal income tax principles. Therefore, you should expect that a distribution will generally be treated as a dividend (as discussed above).

Dividends will generally be income from sources outside the United States and generally will be “passive” income for purposes of computing the foreign tax credit allowable to you.

Subject to certain limitations, the Luxembourg tax withheld from distributions on your ADSs in accordance with the Treaty and paid over to Luxembourg will be creditable or deductible against your U.S. federal income tax liability. Special rules apply in determining the foreign tax credit limitation with respect to dividends that are subject to the preferential tax rates. To the extent a reduction or refund of the tax withheld is available to you under Luxembourg law or under the Treaty, the amount of tax withheld that could have been reduced or that is refundable will not be eligible for credit against your U.S. federal income tax liability.

In certain circumstances, if you have held ADSs for less than a specified minimum period during which you are not protected from risk of loss, or are obligated to make payments related to the dividends, you will not be allowed a foreign tax credit for foreign taxes imposed on dividends that we pay.

The rules governing the foreign tax credit are complex. You are urged to consult your tax advisors regarding the availability of the foreign tax credit under your particular circumstances.

Taxation of capital gains

If you are a U.S. holder and you sell or otherwise dispose of your ADSs, you will recognize capital gain or loss for U.S. federal income tax purposes equal to the difference between the U.S. dollar value of the amount that you realize and your tax basis, determined in U.S. dollars, in your ADSs. Capital gain of a noncorporate U.S. holder is generally taxed at preferential rates where the property is held for more than one year. The gain or loss will generally be income or loss from sources within the United States for foreign tax credit limitation purposes. The deductibility of capital losses is subject to limitations.

Additional U.S. Federal Income Tax Considerations

Based on the Company's current and expected income and assets, we believe the ADSs should not currently be treated as stock of a PFIC for U.S. federal income tax purposes and we do not expect to become a PFIC in the foreseeable future. However this conclusion is a factual determination that is made annually and thus may be subject to change. It is therefore possible that we could become a PFIC in a future taxable year. If we were to be treated as a PFIC, gains realized on the sale or other disposition of your ADSs would in general not be treated as capital gains. Furthermore, if you are a U.S. holder, unless you are permitted to elect and you do elect to be taxed annually on a mark-to-market basis with respect to the ADSs, upon sale or disposition of ADSs you would be treated as if you had realized such gain and certain "excess distributions" ratably over your holding period for the ADSs and would be taxed at the highest tax rate in effect for each such year to which the gain was allocated, together with an interest charge in respect of the tax attributable to each such year. With certain exceptions, your ADSs will generally be treated as stock in a PFIC if we were a PFIC at any time during your holding period in your ADSs. Dividends that you receive from us will not be eligible for the special tax rates applicable to qualified dividend income if we are a PFIC (or are treated as a PFIC with respect to you) either in the taxable year of the distribution or the preceding taxable year, but instead will be taxable at rates applicable to ordinary income and subject to the excess distribution regime described above.

F. Dividends and Paying Agents

Not applicable.

G. Statement by Experts

Not applicable.

H. Documents on display

The Company is required to file annual and special reports and other information with the SEC. You may read and copy any documents filed by the Company at the SEC's public reference room at 100F Street, N.E. Room 1580 Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. The SEC also maintains a website at <http://www.sec.gov> which contains reports and other information regarding registrants that file electronically with the SEC.

The Company is subject to the reporting requirements of the Exchange Act, as applied to foreign private issuers. Because the Company is a foreign private issuer, the SEC's rules do not require us to deliver proxy statements or to file quarterly reports. In addition, the Company's "insiders" are not subject to the SEC's rules that prohibit short-swing trading. We prepare quarterly and annual reports containing consolidated financial statements in accordance with IFRS. The Company's annual consolidated financial statements are certified by an independent accounting firm. The Company submits quarterly financial information with the SEC on Form 6-K simultaneously with or promptly following the publication of that information in Luxembourg or any other jurisdiction in which the Company's securities are listed, and the Company files annual reports on Form 20-F within the time period required by the SEC, which is currently four months from the close of the fiscal year on December 31. Reports and other information filed electronically with the SEC are available at the SEC's internet website.

As a foreign private issuer under the Securities Act, the Company is not subject to the proxy rules of Section 14 of the Exchange Act or the insider short-swing profit reporting requirements of Section 16 of the Exchange Act.

We have appointed the BNY Mellon to act as depository for our ADSs. During the time the deposit agreement remains in force, we will furnish the depository with:

- our annual reports, and
- summaries of all notices of general meetings of shareholders and other reports and communications that are made generally available to our shareholders.

The depository will, as provided in the deposit agreement, if we so request, arrange for the mailing of summaries in English of the reports and communications to all record holders of our ADSs. Any record holder of ADSs may read the reports, notices, or summaries thereof, and communications at the depository's office located at 101 Barclay Street, 22W, New York, NY 10286.

Whenever a reference is made in this annual report to a contract or other document, please be aware that such reference is not necessarily complete and that you should refer to the exhibits that are a part of this annual report for a copy of the contract or other document.

I. Subsidiary Information

Not applicable.

Item 11. Quantitative and Qualitative Disclosures About Market Risk

The multinational nature of our transactions, operations and customer base expose us to a variety of risks, including the effects of changes in interest rates, foreign currency exchange rates and commodity prices. We selectively manage these exposures through the use of derivative instruments to mitigate market risk and interest rate costs. In addition, we may use derivative instruments embedded in investment instruments, in compliance with Ternium's policy for financial investments. We do not use derivative financial instruments for other purposes. In addition, in the ordinary course of business we also face risks with respect to financial instruments that are either non-financial or non-quantifiable. Such risks principally include country risk and credit risk and are not presented in the following analysis. For additional information about our financial risk management, see note 30 to the consolidated financial statements included elsewhere in this annual report.

The following tables provide a breakdown of Ternium's debt instruments as of December 31, 2019, by type of interest rate fixing mechanism and year of maturity. The following information should be read together with note 30 "Financial Risk Management" to the consolidated financial statements included elsewhere in this annual report.

At December 31, 2019 In thousands of U.S. dollars	Expected maturity in the year ending December 31,						Total
	2020	2021	2022	2023	2024	Thereafter	
Non-current Debt							
Fixed Rate		—	—	—	—	—	—
Floating Rate		308,847	659,943	136,573	520,420	3,109	1,628,892
Current Debt							
Fixed Rate	165,623	—	—	—	—	—	165,623
Floating Rate	394,159	—	—	—	—	—	394,159
Total ^{(1) (2)}	559,782	308,847	659,943	136,573	520,420	3,109	2,188,674

(1) Borrowings are primarily bank borrowings. For further information, see Item 5. "Operating and Financial Review and Prospects—B. Liquidity and Capital Resources—Principal Sources of Funding—Financial Liabilities."

(2) As most borrowings incorporate floating rates that approximate market rates and the contractual repricing occurs mostly every one, three or six months, the fair value of the borrowings approximates their carrying amount and it is not disclosed separately.

Management maintains sufficient cash and marketable securities and credit facilities to finance normal operations. Management monitors rolling forecasts of the group’s liquidity reserve on the basis of expected cash flow. The weighted average interest rate of Ternium’s debt was 2.94% at December 31, 2019. This figure incorporates instruments denominated mainly in U.S. dollars, does not include the effect of derivative financial instruments and was calculated using the rates set for each instrument in its corresponding currency and weighted using the dollar-equivalent outstanding principal amount of said instruments as of December 31, 2019.

Total Debt by Currency as of December 31, 2019

<i>In thousands of U.S. dollars</i>	
U.S. dollar (\$)	2,126,329
Other	62,345
Total	2,188,674

Interest Rate Exposure Risk

Ternium manages its exposure to interest rate volatility through its financing alternatives and hedging instruments. Borrowings with floating rates expose the Company to the risk of increased interest expense in the event of higher market interest rates, while borrowings with fixed rates expose the Company to variations in the instruments’ fair value. The Company’s interest-rate risk mainly arises from long-term borrowings that bear floating-rate interest. Ternium’s total floating interest rate debt amounted to \$2.0 billion (92% of total borrowings) for the year ended December 31, 2019. The interest rate on \$37.5 million of this debt is fixed through swaps, as described below.

Interest Rate Derivative Contracts

During 2012 and 2013, Tenigal entered into several interest rate forward starting swap agreements that fix the interest rate to be paid over an aggregate amount of \$100 million, at an average rate of 1.92%. These agreements became effective in July 2014, will terminate in July 2022 and have been accounted for as cash flow hedges. As of December 31, 2019, the after-tax cash flow hedge reserve related to these agreements amounted to negative \$0.1 million.

Foreign Exchange Exposure Risk

Ternium operates and sells its products in different countries, and as a result is exposed to foreign exchange rate volatility. Ternium’s subsidiaries may use derivative contracts in order to hedge their exposure to exchange rate risk derived from their trade and financial operations. A significant portion of Ternium’s business is carried out in currencies other than the U.S. dollar, Ternium’s reporting currency. As a result of this foreign currency exposure, exchange rate fluctuations impact Ternium’s results as reported in its income statement and statement of comprehensive income in the form of both translation and transaction risk. Translation risk is the risk that Ternium’s consolidated financial statements for a particular period or as of a certain date may be affected by changes in the prevailing rates of the various functional currencies of the reporting subsidiaries against the U.S. dollar. Transaction risk is the risk that the value of transactions executed in currencies other than the subsidiary’s functional currency may vary according to currency fluctuations.

Ternium’s policy is to minimize the impact of fluctuations in the value of positions in currencies other than U.S. dollar with respect to the U.S. dollar, with the exception of the currencies of countries where it has operations in Latin America, in which Ternium may, from time to time, choose not to hedge operational short exposures to such currencies. Ternium’s subsidiaries monitor their net operating cash flows in currencies other than the U.S. dollar, and analyze potential hedging strategies according to market conditions. This hedging can be carried out by netting operational positions or by using financial derivatives. However, regulatory or legal restrictions in the countries in which Ternium’s subsidiaries operate could limit the extent to which the Company can implement its hedging policy.

Ternium has subsidiaries whose net assets are exposed to currency translation risk, some of which may impact net income. The fact that some subsidiaries had until 2019 functional currencies other than the U.S. dollar may have, at times until 2019, distorted the results of our hedging efforts as reported under IFRS.

The following table shows a breakdown of Ternium’s assessed financial position exposure to currency risk as of December 31, 2019. These balances include intercompany positions where the intervening parties have different functional currencies.

Million of U.S. dollars exposure to:	Functional Currency	
	\$	ARP
U.S. dollar (\$)	(n/a)	(56)
E.U. euro (EUR)	(85)	(3)
Argentine peso (ARS)	(7)	(n/a)
Mexican peso (MXN)	(561)	—
Brazilian real (BRL)	(184)	(2)
Colombian peso (COP)	(25)	—
Other currencies	(4)	—

During 2019, the cumulative devaluation of the Argentine peso against the U.S. dollar was 37.1% and the cumulative inflation, as measured in Argentine pesos, was 53.8%. The devaluation, net of the impact of inflation, generated a negative effect of \$43 million included as currency translation adjustment in other comprehensive income in connection with the valuation of Ternium’s Argentine subsidiaries’ equities (mainly Ternium Argentina), and a loss of \$111 million included as net foreign exchange results in the income statement, partially offset by a \$118 million positive impact included as inflation adjustment results in the income statement. We estimate that for each 1% depreciation of the Argentine peso against the U.S. dollar, we would have incurred a pre-tax loss of \$0.6 million for the year 2019, and a pre-tax loss of \$2.1 million for the year 2018. This effect would have been offset by the change in the currency translation adjustment recorded in equity.

We estimate that for each 1% depreciation of the Mexican peso against the U.S. dollar, we would have incurred a pre-tax gain of \$5.6 million and \$5.8 million for the years 2019 and 2018, respectively; for each 1% depreciation of the Brazilian real against the U.S. dollar, we would have incurred a pre-tax gain of \$1.8 million and \$1.5 million for the years 2019 and 2018, respectively; and for each 1% depreciation of the Colombian peso against the U.S. dollar, we would have incurred a pre-tax loss of \$0.3 million and \$0.2 million for the years 2019 and 2018, respectively.

We estimate that for each 1% simultaneous depreciation of the Argentine peso, Mexican peso, Brazilian real and Colombian peso against the U.S. dollar with all other variables held constant, total pre-tax income for 2019 would have been \$7.1 million higher (\$5.0 million higher for 2018), as a result of net foreign exchange gains/losses on translation of U.S. dollar-denominated financial position, mainly trade receivables, trade payables, borrowings and other liabilities. Considering the same variation of the currencies against the U.S. dollar of all net investments in non-U.S. dollar operations in 2019 (which amounted to \$1.9 billion), the currency translation adjustment included in total equity would have been \$18.5 million lower (\$17.7 million lower in 2018), arising mainly from the adjustment on translation of the equity related to the Argentine peso and the Brazilian real. For further information on the impact of currency translation adjustments on Usiminas, see Item 5. “Operating and Financial Review and Prospects—Overview.”

Foreign Exchange Derivative Contracts

During 2019, Ternium Argentina entered into non-deliverable forward agreements in order to manage the exposure resulting from financial assets and liabilities denominated in Argentine pesos. As of December 31, 2019, Ternium Argentina had no outstanding non-deliverable forward agreements.

In addition, during 2019, 2018 and 2017, Ternium Colombia entered into non-deliverable forward agreements to manage the exposure of certain receivables and future receivables denominated in Colombian pesos. As of December 31, 2019, the notional amount on these agreements amounted to \$70.2 million.

During 2019 and 2018, Ternium Mexico entered into forward agreements in order to manage the exposure resulting from certain commitments denominated in E.U. euros in connection with its capital expenditures program. As of December 31, 2019, the notional amount on these agreements amounted to \$146.5 million.

During 2019 and 2018, Ternium Investments entered into forward agreements in order to manage the net exposure in E.U. euros of, among others, the consolidated financial position and future payables related to the investment plan of Ternium del Atlántico, and future receivables in connection with sales of Ternium Internacional España. As of December 31, 2019, the notional amount on these agreements amounted to \$10.9 million.

The consolidated net fair value of these exchange rate derivative contracts as of December 31, 2019, was a negative \$1.8 million. For further information on our foreign exchange contracts see note 22 (b) to the consolidated financial statements included in this annual report.

Commodities Exposure Risk

In the ordinary course of its operations, Ternium's subsidiaries purchase raw materials, such as iron ore and coal, slabs, and other commodities, including electricity and natural gas. Commodity prices are generally volatile as a result of several factors, including those affecting supply and demand, political, social and economic conditions, and other circumstances. Ternium monitors its exposure to commodity price volatility on a regular basis and applies customary commodity price risk management strategies. During 2019, 2018 and 2017, Ternium did not hedge any commodity position.

Item 12. Description of Securities Other Than Equity Securities

A. Debt Securities

Not applicable.

B. Warrants and Rights

Not applicable.

C. Other Securities

Not applicable.

D. American Depositary Shares

According to the Company's deposit agreement, holders of ADSs may have to pay to the Depositary, either directly or indirectly, fees or charges up to the amounts set forth below:

- A fee of \$5.00 (or less) per 100 ADSs (or portion of 100 ADSs) for any issuance of ADSs, including issuances resulting from a distribution of shares or rights or other property; and cancellation of ADSs for the purpose of withdrawal, including if the deposit agreement terminates.
- A fee of \$0.02 (or less) per ADS for any cash distribution to ADS registered holders, excluding cash dividend.
- Any charges for taxes and other governmental charges that the Depositary or the custodian may be required to pay on any ADS or share underlying an ADS (e.g., share transfer taxes, stamp duty or withholding taxes); and any charges incurred by the Depositary or its agents for servicing the deposited securities.
- Registration or transfer fees for transfer and registration of shares on our share register to or from the name of the Depositary or its agent when you deposit or withdraw shares.
- Expenses of the Depositary for cable, telex and facsimile transmissions (when expressly provided in the deposit agreement); and conversion of foreign currency.
- A fee equivalent to the fee that would be payable if securities distributed to ADS holders had been shares and the shares had been deposited for issuance of ADSs for distribution of securities distributed to holders of deposited securities which are distributed by the Depositary to ADS registered holders.
- As necessary, charges for any costs incurred by the Depositary or its agents for servicing the deposited securities.

The Depositary collects its fees for delivery and surrender of ADSs directly from investors depositing shares or surrendering ADSs for the purpose of withdrawal or from intermediaries acting for them. The Depositary collects fees for making distributions to investors by deducting those fees from the amounts distributed or by selling a portion of distributable property to pay the fees. The Depositary may collect its annual fee for Depositary services by deductions from cash distributions or by directly billing investors or by charging the book-entry system accounts of participants

acting for them. The Depositary may generally refuse to provide fee-attracting services until its fees for those services are paid.

Under the deposit agreement with the Depositary, the Depositary is not liable to holders of ADSs, except that the Depositary agrees to perform its obligations specifically set forth therein without gross negligence and willful misconduct.

Fees payable by the Depositary to the Company

Fees incurred in 2019. For the year ended December 31, 2019, the Company received no fees from BNY Mellon as the Company's depositary in connection with the deposited securities.

Fees to be paid in the future. Upon any listing of the Company's shares in a non-U.S. stock exchange allowing for cross-border activity, the Depositary has agreed to reimburse the Company for expenses incurred related to the administration and maintenance of the ADS program, including investor relations expenses, annual NYSE listing fees and other program-related expenses. There are limits on the amount of expenses for which the Depositary will reimburse the Company. The Depositary has also agreed to pay some standard out-of-pocket maintenance costs for the ADSs. The Company does not expect to receive any reimbursement from the Depositary in the near future.

PART II

Item 13. Defaults, Dividend Arrearages and Delinquencies

None.

Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds

None.

Item 15. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we have evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act as of December 31, 2019). Based on that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of December 31, 2019, our disclosure controls and procedures are effective to ensure that information required to be disclosed by us in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and to ensure that such information is accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives. Our Chief Executive Officer and Chief Financial Officer have concluded that our disclosure controls and procedures are effective at a reasonable assurance level.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Our internal control over financial reporting was designed by management to provide reasonable assurance regarding the reliability of financial reporting and the preparation and fair presentation of its financial statements for external purposes in accordance with IFRS.

In addition, under the Company's articles of association and the audit committee's charter, the audit committee assists the board of directors in fulfilling its oversight responsibilities relating to the integrity of the financial statements of the Company, including periodically reporting to the board of directors on its activity and the adequacy of the Company's systems of internal control over financial reporting.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements or omissions. In addition, projections of any evaluation of effectiveness to future periods are subject to the risk that

controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management conducted its assessment of the effectiveness of Ternium's internal control over financial reporting based on the framework in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Based on this assessment, management has concluded that Ternium's internal control over financial reporting, as of December 31, 2019, is effective to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes.

The effectiveness of Ternium's internal control over financial reporting as of December 31, 2019 has been audited by PwC Luxembourg, as stated in their report included herein. See "Attestation Report of Registered Public Accounting Firm."

Attestation Report of Registered Public Accounting Firm

See page F-1 of the audited consolidated financial statements included elsewhere in this annual report.

Change in Internal Control over Financial Reporting

There were no significant changes in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the year ended December 31, 2019, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 16A. Audit Committee Financial Expert

The Company's board of directors has determined that none of the audit committee members meets the attributes defined in Item 16A of Form 20-F for "audit committee financial experts". However, the audit committee as a whole has sufficient relevant knowledge of the business and financial experience to properly discharge its functions. In addition, the audit committee has the authority to engage, from time to time and as it deems necessary, persons that meet all of the attributes of an "audit committee financial expert" as consultants.

Item 16B. Code of Ethics

The Company has adopted a general code of conduct incorporating guidelines and standards of integrity and transparency applicable to all of our directors, officers and employees. As far as the nature of each relation permits, all principles detailed in the code of conduct also apply to relations with our contractors, subcontractors, suppliers and associated persons. In addition, the Company has adopted a code of ethics, which is intended to supplement the Company's code of conduct, and applies specifically to the principal executive officer, the principal financial officer, the principal accounting officer or controller, as well as persons performing similar functions.

Our code of conduct and our code of ethics for senior financial officers are posted on our website at: "https://www.ternium.com/media/oylbqqrj/ternium_codeofconduct_en_v04.pdf" and "https://www.ternium.com/media/4a3gmogx/c-ethics_ternium.pdf", respectively.

Item 16C. Principal Accountant Fees and Services

Fees Paid to the Company's Principal Accountant

In 2019 and 2018, PwC Luxembourg served as the principal external auditor for the Company. Fees paid to PwC Luxembourg and other PwC member firms for the years ended December 31, 2019 and December, 2018 are detailed below:

<i>In thousands of U.S. dollars</i>	For the year ended December 31,	
	2019	2018
Audit fees	3,485	3,937
Audit-related fees	54	61
Tax fees	190	281
All other fees	75	425
Total	3,804	4,704

Audit Fees

Audit fees were paid for professional services rendered by the external auditors for the audit of the consolidated financial statements and internal control over financial reporting of the Company, the statutory financial statements of the Company and its subsidiaries, and any other audit services required in connection with the Company's filings with the U.S. Securities and Exchange Commission or other regulatory filings.

Audit-Related Fees

Audit-related fees are typically services that are reasonably related to the performance of the audit or review of the consolidated financial statements and are not reported under the audit fee item above. This item includes fees for attestation services on financial information of the Company and its subsidiaries included in annual reports filed with the applicable regulators.

Tax Fees

Tax fees were paid for tax compliance and tax advice professional services.

Audit Committee's Pre-approval Policies and Procedures

The Company's audit committee is responsible for, among other things, the oversight of the Company's external auditors. The audit committee has adopted in its charter a policy of pre-approval of audit and permissible non-audit services provided by its external auditors.

Under the policy, the audit committee makes its recommendations to the shareholders' meeting concerning the continuing appointment or termination of the Company's external auditors. On a yearly basis, the audit committee reviews together with management and the external auditor, the audit plan, audit related services and other non-audit services and approves, *ad-referendum* of the general shareholders' meeting, the related fees. Any changes to the approved fees must be reviewed and approved by the audit committee. The general shareholders' meeting normally approves such audit fees and authorizes the audit committee to approve any increase or reallocation of such audit fees as may be necessary, appropriate or desirable under the circumstances. No services outside the scope of the audit committee's approval can be undertaken by the external auditor.

During 2019, the audit committee did not approve any fees pursuant to the *de minimis* exception to the pre-approval requirement provided by paragraph (c)(7)(i)(C) of Rule 2-01 of Regulation S-X.

Item 16D. Exemptions from the Listing Standards for Audit Committees

Not applicable.

Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers

In 2019, there were no purchases of any class of registered equity securities of the Company by the Company or, to our knowledge, by any "affiliated purchaser" (as such term is defined in Rule 10b-18(a)(3) under the Exchange Act).

On May 6, 2015, the annual general meeting of shareholders authorized the Company and to the Company's subsidiaries to purchase, acquire or receive, from time to time, shares of the Company, including shares represented by ADSs (collectively, "Securities"), on the terms and conditions set forth below. Although the validity period of such authorization will expire on May 6, 2020, the Company's Board of Directors is expected to convene an extraordinary general meeting of shareholders to be held on June 5, 2020, which will consider a renewal of such authorization for five additional years.

- Purchases, acquisitions or receipts of Securities may be made in one or more transactions as the board of directors of the Company or the board of directors or other governing body of the relevant entity, as applicable, considers advisable.
- The maximum number of Securities acquired pursuant to this authorization may not exceed 10% of the Company's issued and outstanding shares or, in the case of acquisitions made through a stock exchange in which the Securities are traded, such lower amount as may not be exceeded pursuant to any applicable laws or regulations of such market. The number of Securities acquired as a block may amount to the maximum permitted amount of purchases.
- The purchase price per share to be paid in cash may not exceed 125% (excluding transaction costs and expenses), nor may it be lower than 75% (excluding transaction costs and expenses), in each case of the average of the closing prices of the Company's Securities on the New York Stock Exchange during the five trading days in which transactions in the Securities were recorded in the New York Stock Exchange preceding (but excluding) the day on which the Company's Securities are acquired. In the case of purchases of Securities other than in the form of ADSs, the maximum and minimum per Security purchase prices shall be equal to the prices that would have applied in case of an ADS purchase pursuant to the formula above divided by the number of underlying shares represented by an ADS at the time of the relevant purchase. Such maximum and minimum purchase prices shall also apply to over-the-counter or off-market transactions. Compliance with maximum and minimum purchase price requirements in any and all acquisitions made pursuant to this authorization (including, without limitation, acquisitions carried out through the use of derivative financial instruments or option strategies) shall be determined on and as of the date on which the relevant transaction is entered into, irrespective of the date on which the transaction is to be settled.
- The above maximum and minimum purchase prices shall, in the event of a change in the par value of the Securities, a capital increase by means of a capitalization of reserves, a distribution of Securities under compensation or similar programs, a stock split or reverse stock split, a distribution of reserves or any other assets, the redemption of capital, or any other transaction impacting on the Company's equity, be adapted automatically, so that the impact of any such transaction on the value of the Securities shall be reflected.
- The acquisitions of Securities may not have the effect of reducing the Company's net assets below the sum of the Company's share capital plus its undistributable reserves.
- Only fully paid-up Securities may be acquired pursuant to this authorization.
- The acquisitions of Securities may be carried out for any purpose, as may be permitted under applicable laws and regulations, including, without limitation, to reduce the share capital of the Company, to offer such Securities to third parties in the context of corporate mergers or acquisitions of other entities or participating interests therein, for distribution to the Company's or the Company's subsidiaries' directors, officers or employees or to meet obligations arising from convertible debt instruments.
- The acquisitions of Securities may be carried out by any and all means, as may be permitted under applicable laws and regulations, including through any stock exchange in which the Company's Securities are traded, through

public offers to all shareholders of the Company to buy Securities, through the use of derivative financial instruments or option strategies, or in over-the-counter or off-market transactions or in any other manner.

- The acquisitions of Securities may be carried out at any time and from time to time during the duration of the authorization, including during a tender offer period, as may be permitted under applicable laws and regulations.
- The authorization granted to acquire Securities shall be valid for such maximum period as may be provided for under applicable Luxembourg law as in effect from time to time (such maximum period being, as of to date, five years).
- The acquisitions of Securities shall be made at such times and on such other terms and conditions as may be determined by the board of directors of the Company or the board of directors or other governing body of the relevant Company subsidiary, provided that any such purchase shall comply with Article 430-15 *et seq.* of the Luxembourg Company Law (or any successor law) and, in the case of acquisitions of Securities made through a stock exchange in which such Company's Securities are traded, with any applicable laws and regulations of such market.

In the future, we may, on the terms and subject to the conditions above referenced, initiate a share capital repurchase or similar program or engage in other transactions pursuant to which we would repurchase, directly or indirectly, the Company's Securities. In addition, we or our subsidiaries may enter into transactions involving sales or purchases of derivatives or other instruments (either settled in cash or through physical delivery of securities) with returns linked to the Company's Securities. The timing and amount of repurchase transactions under any such program, or sales or purchases of derivatives or other instruments, would depend on market conditions as well as other corporate and regulatory considerations.

Item 16F. Change in Registrant's Certifying Accountant

Not applicable.

Item 16G. Corporate Governance

The Company's corporate governance practices are governed by the Luxembourg Company Law and the Company's articles of association. As a Luxembourg company listed on the NYSE, the Company is required to comply with some, but not all, of the corporate governance listing standards of the NYSE. The Company, however, believes that its corporate governance practices meet, in all material respects, the corporate governance standards that are generally required for controlled companies by the NYSE.

The following is a summary of the significant ways that the Company's corporate governance practices differ from the corporate governance standards required for controlled companies by the NYSE. The Company's corporate governance practices may differ in non-material ways from the standards required by the NYSE that are not detailed here:

Non-management Directors' Meetings

Under NYSE standards, non-management directors must meet at regularly scheduled executive sessions without management present and, if such group includes directors who are not independent, a meeting should be scheduled once per year including only independent directors. Neither Luxembourg law nor the Company's articles of association require the holding of such meetings and the Company does not have a set policy for these meetings. For additional information, please see Item 6. "A. Directors, Senior Management and Employees—Board of Directors".

In addition, NYSE-listed companies are required to provide a method for interested parties to communicate directly with the non-management directors as a group. While the Company does not have such a method, it has set up a compliance line for investors and other interested parties to communicate their concerns directly to the members of our audit committee, all of whom are non-management independent directors.

Audit Committee

Under NYSE standards, listed U.S. companies are required to have an audit committee composed of independent directors that satisfy the requirements of Rule 10A-3 promulgated under the Exchange Act. Pursuant to the Company's

articles of association, as supplemented by the audit committee's charter, for as long as the Company's shares are listed on at least one regulated market, the Company must have an audit committee composed of at least three members, the majority of whom must qualify as independent directors (as defined in the articles of association), provided, however, that the composition and membership of the audit committee shall satisfy such requirements as are applicable to, and mandatory for, audit committees of issuers such as the Company under any law, rule or regulation applicable to the Company (including, without limitation, the applicable laws, rules and regulations of such regulated market or markets). The Company's audit committee, which currently consists of three members, complies with such requirements. In accordance with NYSE standards, the Company has an audit committee entirely composed of independent directors for purposes of U.S. Securities Exchange Act Rule 10A-3(b)(1). For more information on the Company's audit committee see Item 6. "Directors, Senior Management and Employees—C. Board Practices-Audit Committee".

Under NYSE standards, all audit committee members of listed U.S. companies are required to be financially literate or must acquire such financial knowledge within a reasonable period and at least one of its members shall have experience in accounting or financial administration. In addition, if a member of the audit committee is simultaneously a member of the audit committee of more than three public companies, and the listed company does not limit the number of audit committees on which its members may serve, then in each case the board must determine whether the simultaneous service would prevent such member from effectively serving on the listed company's audit committee and shall publicly disclose its decision. No comparable provisions on audit committee membership exist under applicable Luxembourg law or the Company's articles of association.

Standards for evaluating director independence

Under NYSE standards, the board is required, on a case-by-case basis, to express an opinion with regard to the independence or lack of independence of each individual director. Neither Luxembourg law nor the Company's articles of association require the board to express such an opinion. In addition, the definition of "independent" under the NYSE rules differs in some non-material respects from the definition contained in the Company's articles of association. For more information on the Company's audit committee see Item 6. "Directors, Senior Management and Employees—C. Board Practices-Audit Committee".

Audit committee responsibilities

Pursuant to the Company's articles of association, the audit committee shall assist the board of directors in fulfilling its oversight responsibilities relating to the integrity of its financial statements, including periodically reporting to the board of directors on its activity and the adequacy of the Company's system of internal controls over financial reporting. As per the audit committee charter the audit committee shall make recommendations for the appointment, compensation, retention and oversight of, and consider the independence of, the Company's external auditors. The audit committee is required to review material transactions (as defined by the articles of association) between the Company or its subsidiaries with related parties and also perform the other duties entrusted to it by the board. The NYSE requires certain matters to be set forth in the audit committee charter of U.S. listed companies.

The Company's audit committee charter provides for many of the responsibilities that are expected from such bodies under the NYSE standard; however, due to the Company's equity structure and holding company nature, the charter does not contain all such responsibilities, including provisions related to procedures for the receipt and treatment of complaints (although the Company has established such procedures), funding for payment of administrative expenses and compensation to advisors (although the audit committee has the authority to engage outside advisors), setting hiring policies for employees or former employees of external auditors and an annual performance evaluation of the audit committee. For more information on the Company's audit committee see Item 6. "Directors, Senior Management and Employees—C. Board Practices-Audit Committee".

Shareholder voting on equity compensation plans

Under NYSE standards, shareholders must be given the opportunity to vote on equity-compensation plans and material revisions thereto, except for employment inducement awards, certain grants, plans and amendments in the context of mergers and acquisitions, and certain specific types of plans. The Company does not currently offer equity-based compensation to its directors, executive officers or employees, and therefore does not have a policy on this matter. For further information on the Company's audit committee see Item 6. "Directors, Senior Management and Employees—B. Compensation".

Disclosure of corporate governance guidelines

NYSE-listed companies must adopt and disclose corporate governance guidelines. Neither Luxembourg law nor the Company's articles of association require the adoption or disclosure of corporate governance guidelines. The Company's board of directors follows corporate governance guidelines consistent with its equity structure and holding company nature, but the Company has not codified them and therefore does not disclose them on its website.

Code of business conduct and ethics

Under NYSE standards, listed companies must adopt and disclose a code of business conduct and ethics for directors, officers and employees, and promptly disclose any waivers of the code for directors or executive officers. Neither Luxembourg law nor the Company's articles of association require the adoption or disclosure of such a code of conduct. The Company, however, has adopted a code of conduct that applies to all directors, officers and employees, that is posted on its website and which complies with the NYSE's requirements, except that it does not require the disclosure of waivers of the code for directors and officers. In addition, it has adopted a supplementary code of ethics for senior financial officers which is also posted on our website. For further information, see Item 16B. "Code of Ethics".

Chief Executive Officer certification

A chief executive officer of a U.S. company listed on the NYSE must annually certify that he or she is not aware of any violation by the company of NYSE corporate governance standards. In accordance with NYSE rules applicable to foreign private issuers, the Company's chief executive officer is not required to provide the NYSE with this annual compliance certification. However, in accordance with NYSE rules applicable to all listed companies, the Company's chief executive officer must promptly notify the NYSE in writing after any of the Company's executive officers becomes aware of any noncompliance with any applicable provision of the NYSE's corporate governance standards. In addition, the Company must submit an executed written affirmation annually and an interim written affirmation upon the occurrence of any of the events listed in the foreign private issuer interim written affirmation form by the NYSE.

Item 16H. Mine Safety Disclosure

Not applicable.

PART III

Item 17. Financial Statements

We have responded to Item 18 in lieu of responding to this Item.

Item 18. Financial Statements

See pages F-1 through F-83 of this annual report.

Item 19. Exhibits

Exhibit Number	Description
1.1	Consolidated Articles of Association of Ternium S.A., dated as of May 2, 2018*
2.1	Deposit Agreement entered into between Ternium S.A. and The Bank of New York**
4.1	Shareholders' Agreement, dated January 9, 2006, between Tenaris S.A. and Inversora Siderurgica Limited***
4.3	Shareholders Agreement, dated April 10, 2018, between Nippon Steel & Sumitomo Metal Corporation, Nippon Usiminas Co., Ltd., Ternium Investments S.à r.l., Confab Industrial S.A., Prosid Investments S.A., Ternium Argentina S.A., Previdência Usiminas, Metal One Corporation and Mitsubishi Corporation do Brasil S.A. ****
8.1	List of subsidiaries of Ternium S.A.
12.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
12.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
13.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
13.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*	Incorporated by reference to the Annual Report on Form 20-F, filed by Ternium S.A. on April 16, 2019 (File No. 001-32734 19751190).
**	Incorporated by reference to the Registration Statement on Form F-6, filed by Ternium S.A. on January 11, 2006 (File No. 333-130952).
***	Incorporated by reference to the Registration Statement on Form F-1, filed by Ternium S.A. on January 27, 2006 (File No. 333-130950).
****	Incorporated by reference to the Annual Report on Form 20-F, filed by Ternium S.A. on April 24, 2018 (File No. 001-32734 18771303).



TERNIUM S.A.
Consolidated Financial Statements
as of December 31, 2019 and 2018 and
for the years ended on December 31, 2019, 2018 and 2017

26 Boulevard Royal, 4th floor
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R.C.S. Luxembourg: B 98 668

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of
Ternium S.A.

Opinions on the Consolidated Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated statements of financial position of Ternium S.A. and its subsidiaries (the “Company”) as of 31 December 2019 and 2018, and the related consolidated statements of income, comprehensive income, changes in equity and cash flows for each of the three years in the period ended 31 December 2019, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of 31 December 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organisations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of 31 December 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended 31 December 2019 in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board and International Financial Reporting Standards as adopted by the European Union. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of 31 December 2019, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the COSO.

Basis for Opinions

The Company’s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the Management’s Report on Internal Control over Financial Reporting appearing under Item 15. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorisations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorised acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgements. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Uncertain tax positions in Brazil and Mexico

As described in Note 3 (iii) to the consolidated financial statements as of December 31, 2019 the Company recorded a provision of USD 508.9 million for an uncertain tax position, together with an asset of USD 254.4 million arising from its right to recover part of the contingency amount from a third party. This uncertain tax position arose from tax incentives granted to the Company and others by the State of Rio de Janeiro from 2005. The legal framework under which the State of Rio de Janeiro granted these incentives is currently the subject of a legal challenge as to its constitutionality. Additionally, as described in Note 25(i)(c) to the consolidated financial statements, the Company is subject to potential income tax adjustments in Mexico arising from tax audits performed by Mexican tax authorities in 2015 and 2018. Management estimate the maximum exposure of these adjustments is USD 87 million, including interest and fines. Based on the advice of counsel, management believes that an unfavorable outcome is not probable and no provision has therefore been established in the consolidated financial statements. Management applied significant judgment in estimating these uncertain tax positions.

The principal considerations for our determination that performing procedures relating to uncertain tax positions in Brazil and Mexico is a critical audit matter are that there was significant judgment by management when determining these uncertain tax positions, including a high degree of estimation uncertainty relative to the complex tax laws, ongoing legal actions against some of these laws, and potential for significant adjustments as a result of such matters. This in turn led to a high degree of auditor judgment, effort, and subjectivity in performing procedures to evaluate the accurate measurement and disclosure of these uncertain tax positions. Also, the evaluation of audit evidence available to support the uncertain tax positions in Brazil and Mexico is complex and required significant auditor judgment as the nature of the evidence is often highly subjective, and the audit effort involved the use of professionals with specialized skill and knowledge to assist in evaluating the audit evidence obtained.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the measurement and disclosure of the balances relating to uncertain tax positions in Brazil and Mexico. These procedures also included, among others, (i) testing the information used in the calculation of the liability and contingencies for uncertain tax positions in Brazil and Mexico, including, where appropriate, the related tax returns; (ii) testing the calculation of the liability and contingencies relating to uncertain tax positions in Brazil and Mexico, including management's assessment of the technical merits of tax positions and estimates of the amount of tax benefit expected to be sustained or potentially claimed; (iii) evaluating the status and results of income tax audits and ongoing legal actions; and (iv) obtaining and evaluating opinions from management's legal advisors in respect to these tax matters. Professionals with specialized skill and knowledge were used to assist in the evaluation of management's estimates in respect of uncertain tax positions in Brazil and Mexico, including evaluating the reasonableness of management's assessment of whether tax positions are more-likely-than-not of being sustained and the amount of potential liability to be realized, the application of relevant tax laws, and estimated interest and penalties.

PricewaterhouseCoopers, Société coopérative
Represented by

Luxembourg, 8 April 2020

/s/Marc Minet
Marc Minet

We have served as the Company's auditor since 2011.

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TERNIUM S.A.

Consolidated Financial Statements as of December 31, 2019 and 2018
and for the years ended December 31, 2019, 2018 and 2017
(All amounts in USD thousands)

Consolidated Income Statements

	Notes	Year ended December 31,		
		2019	2018	2017
Net sales	5	10,192,818	11,454,807	9,700,296
Cost of sales	6	(8,452,440)	(8,483,328)	(7,403,025)
Gross profit		1,740,378	2,971,479	2,297,271
Selling, general and administrative expenses	7	(897,475)	(876,764)	(824,247)
Other operating income (expenses), net	9	21,663	13,656	(16,240)
Operating income		864,566	2,108,371	1,456,784
Finance expense	10	(88,284)	(131,172)	(114,583)
Finance income	10	29,071	21,236	19,408
Other financial income (expenses), net	10	(39,756)	(69,640)	(69,915)
Equity in earnings of non-consolidated companies	14	60,967	102,772	68,115
Profit before income tax expense		826,564	2,031,567	1,359,809
Income tax expense	11	(196,519)	(369,435)	(336,882)
Profit for the year		630,045	1,662,132	1,022,927
Attributable to:				
Owners of the parent		564,269	1,506,647	886,219
Non-controlling interest		65,776	155,485	136,708
Profit for the year		630,045	1,662,132	1,022,927
Weighted average number of shares outstanding		1,963,076,776	1,963,076,776	1,963,076,776
Basic and diluted (losses) earnings per share for profit attributable to the owners of the parent (expressed in \$ per share)		0.29	0.77	0.45

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Comprehensive Income

	Year ended December 31,		
	2019	2018	2017
Profit for the year	630,045	1,662,132	1,022,927
Items that may be reclassified subsequently to profit or loss:			
Currency translation adjustment	(41,455)	(376,220)	(95,462)
Currency translation adjustment from participation in non-consolidated companies	(20,470)	(73,761)	(8,931)
Changes in the fair value of financial instruments at fair value through other comprehensive income	(877)	(1,036)	—
Income tax related to financial instruments at fair value	—	122	—
Changes in the fair value of derivatives classified as cash flow hedges	(750)	(132)	735
Income tax relating to cash flow hedges	225	(73)	(107)
Other comprehensive income items	669	(897)	(96)
Other comprehensive income items from participation in non-consolidated companies	6	499	191
Items that will not be reclassified subsequently to profit or loss:			
Remeasurement of post employment benefit obligations	(67,601)	(38,263)	(15,068)
Income tax relating to remeasurement of post employment benefit obligations	19,312	9,259	4,916
Remeasurement of post employment benefit obligations from participation in non-consolidated companies	(18,918)	(3,780)	3,954
Other comprehensive loss for the year, net of tax	(129,859)	(484,282)	(109,868)
Total comprehensive income for the year	500,186	1,177,850	913,059
Attributable to:			
Owners of the parent	445,473	1,176,964	815,434
Non-controlling interest	54,713	886	97,625
Total comprehensive income for the year	500,186	1,177,850	913,059

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Financial Position

	Notes	Balances as of		
		December 31, 2019		December 31, 2018
ASSETS				
Non-current assets				
Property, plant and equipment, net	12	6,539,581		5,817,609
Intangible assets, net	13	943,838		1,012,524
Investments in non-consolidated companies	14	513,648		495,241
Other investments	18	3,253		7,195
Derivative financial instruments	22	—		818
Deferred tax assets	20	163,538		134,224
Receivables, net	15	592,565		649,447
Trade receivables, net	16	897	8,757,320	4,766
				8,121,824
Current assets				
Receivables, net	15	334,713		309,750
Derivative financial instruments	22	1,196		770
Inventories, net	17	2,158,298		2,689,829
Trade receivables, net	16	949,672		1,128,470
Other investments	18	212,271		44,529
Cash and cash equivalents	18	519,965	4,176,115	250,541
Non-current assets classified as held for sale			2,098	2,149
			4,178,213	4,426,038
Total Assets			12,935,533	12,547,862
EQUITY				
Capital and reserves attributable to the owners of the parent			6,611,665	6,393,255
Non-controlling interest			1,103,208	1,091,321
Total Equity			7,714,873	7,484,576
LIABILITIES				
Non-current liabilities				
Provisions	19	613,352		643,950
Deferred tax liabilities	20	403,278		474,431
Other liabilities	21	507,603		414,541
Trade payables		1,174		935
Derivative financial instruments	22	17		—
Lease liabilities	23	298,219		65,798
Borrowings	24	1,628,892	3,452,535	1,637,101
				3,236,756
Current liabilities				
Current income tax liabilities		47,053		150,276
Other liabilities	21	240,934		351,216
Trade payables		876,803		904,171
Derivative financial instruments	22	3,007		12,981
Lease liabilities	23	40,546		8,030
Borrowings	24	559,782	1,768,125	399,856
				1,826,530
Total Liabilities			5,220,660	5,063,286
Total Equity and Liabilities			12,935,533	12,547,862

The accompanying notes are an integral part of these consolidated financial statements.

TERNIUM S.A.

Consolidated Financial Statements as of December 31, 2019 and 2018
and for the years ended December 31, 2019, 2018 and 2017
(All amounts in USD thousands)

Consolidated Statements of Changes in Equity

	Attributable to the owners of the parent (1)							Non-controlling interest	Total Equity	
	Capital stock (2)	Treasury shares (2)	Initial public offering expenses	Reserves (3)	Capital stock issue discount (4)	Currency translation adjustment	Retained earnings			Total
Balance at January 1, 2019	2,004,743	(150,000)	(23,295)	1,385,701	(2,324,866)	(2,702,477)	8,203,449	6,393,255	1,091,321	7,484,576
Profit for the period							564,269	564,269	65,776	630,045
Other comprehensive income (loss) for the year										
Currency translation adjustment						(57,569)		(57,569)	(4,356)	(61,925)
Remeasurement of post employment benefit obligations				(60,730)				(60,730)	(6,477)	(67,207)
Cash flow hedges and others, net of tax				(268)				(268)	(257)	(525)
Others				(229)				(229)	27	(202)
Total comprehensive income (loss) for the year	—	—	—	(61,227)	—	(57,569)	564,269	445,473	54,713	500,186
Dividends paid in cash (5)							(235,569)	(235,569)	—	(235,569)
Dividends paid in cash to non-controlling interest (6)									(28,530)	(28,530)
Acquisition of non-controlling interest (7)				8,506				8,506	(14,296)	(5,790)
Balance at December 31, 2019	2,004,743	(150,000)	(23,295)	1,332,980	(2,324,866)	(2,760,046)	8,532,149	6,611,665	1,103,208	7,714,873

(1) Shareholders' equity determined in accordance with accounting principles generally accepted in Luxembourg is disclosed in Note 25 (iii).

(2) The Company has an authorized share capital of a single class of 3.5 billion shares having a nominal value of \$1.00 per share. As of December 31, 2019, there were 2,004,743,442 shares issued. All issued shares are fully paid. Also, as of December 31, 2019, the Company held 41,666,666 shares as treasury shares.

(3) Include mainly legal reserve under Luxembourg law for \$200.5 million, undistributable reserves under Luxembourg law for \$1.4 billion, hedge accounting reserve, net of tax effect, for \$(0.1) million and reserves related to the acquisition of non-controlling interest in subsidiaries for \$(80.0) million.

(4) Represents the difference between book value of non-monetary contributions received from shareholders under Luxembourg GAAP and IFRS.

(5) Represents \$0.12 per share (\$1.12 per ADS). Related to the dividends distributed on May 6, 2019, and as 41,666,666 shares are held as treasury shares by Ternium, the dividends attributable to these treasury shares amounting to \$5.0 million were included in equity as less dividend paid.

(6) Corresponds to the dividends paid by Ternium Argentina S.A.

(7) Corresponds to the acquisition of non-controlling interest participation of Ternium Argentina S.A..

Dividends may be paid by Ternium to the extent distributable retained earnings calculated in accordance with Luxembourg law and regulations exist. Therefore, retained earnings included in these consolidated financial statements may not be wholly distributable. See Note 25 (iii). The accompanying notes are an integral part of these consolidated financial statements.

TERNIUM S.A.

Consolidated Financial Statements as of December 31, 2019 and 2018
and for the years ended December 31, 2019, 2018 and 2017
(All amounts in USD thousands)

Consolidated Statements of Changes in Equity

	Attributable to the owners of the parent (1)							Non-controlling interest	Total Equity	
	Capital stock (2)	Treasury shares (2)	Initial public offering expenses	Reserves (3)	Capital stock issue discount (4)	Currency translation adjustment	Retained earnings			Total
Balance at January 1, 2018	2,004,743	(150,000)	(23,295)	1,416,121	(2,324,866)	(2,403,664)	6,491,385	5,010,424	842,347	5,852,771
Impact of adopting IFRS 9 at January 1, 2018				450			(147)	303	204	507
Impact of adopting IAS 29 at January 1, 2018 (see note 4 (cc))							421,502	421,502	268,824	690,326
Adjusted Balance at January 1, 2018	2,004,743	(150,000)	(23,295)	1,416,571	(2,324,866)	(2,403,664)	6,912,740	5,432,229	1,111,375	6,543,604
Profit for the period							1,506,647	1,506,647	155,485	1,662,132
Other comprehensive income (loss) for the year										
Currency translation adjustment						(298,813)		(298,813)	(151,168)	(449,981)
Remeasurement of post employment benefit obligations				(29,418)				(29,418)	(3,366)	(32,784)
Cash flow hedges, net of tax				(288)				(288)	83	(205)
Others				(1,164)				(1,164)	(148)	(1,312)
Total comprehensive income (loss) for the year	—	—	—	(30,870)	—	(298,813)	1,506,647	1,176,964	886	1,177,850
Dividends paid in cash (5)							(215,938)	(215,938)	—	(215,938)
Dividends paid in cash to non-controlling interest (6)								—	(20,940)	(20,940)
Balance at December 31, 2018	2,004,743	(150,000)	(23,295)	1,385,701	(2,324,866)	(2,702,477)	8,203,449	6,393,255	1,091,321	7,484,576

(1) Shareholders' equity is determined in accordance with accounting principles generally accepted in Luxembourg.

(2) The Company has an authorized share capital of a single class of 3.5 billion shares having a nominal value of \$1.00 per share. As of December 31, 2018, there were 2,004,743,442 shares issued. All issued shares are fully paid. Also, as of December 31, 2018, the Company held 41,666,666 shares as treasury shares.

(3) Include mainly legal reserve under Luxembourg law for \$200.5 million, undistributable reserves under Luxembourg law for \$1.4 billion, hedge accounting reserve, net of tax effect, for \$0.5 million and reserves related to the acquisition of non-controlling interest in subsidiaries for \$(88.5) million.

(4) Represents the difference between book value of non-monetary contributions received from shareholders under Luxembourg GAAP and IFRS.

(5) Represents \$0.11 per share (\$1.10 per ADS). Related to the dividends distributed on May 2, 2018, and as 41,666,666 shares are held as treasury shares by Ternium, the dividends attributable to these treasury shares amounting to \$4.6 million were included in equity as less dividend paid.

(6) Corresponds to the dividends paid by Ternium Argentina S.A.

Dividends may be paid by Ternium to the extent distributable retained earnings calculated in accordance with Luxembourg law and regulations exist. Therefore, retained earnings included in these consolidated financial statements may not be wholly distributable. See Note 25 (iii). The accompanying notes are an integral part of these consolidated financial statements.

TERNIUM S.A.

Consolidated Financial Statements as of December 31, 2019 and 2018
and for the years ended December 31, 2019, 2018 and 2017
(All amounts in USD thousands)

Consolidated Statements of Changes in Equity

	Attributable to the owners of the parent (1)							Total	Non-controlling interest	Total Equity
	Capital stock (2)	Treasury shares (2)	Initial public offering expenses (3)	Reserves (3)	Capital stock issue discount (4)	Currency translation adjustment	Retained earnings			
Balance at January 1, 2017	2,004,743	(150,000)	(23,295)	1,420,171	(2,324,866)	(2,336,929)	5,801,474	4,391,298	775,295	5,166,593
Profit for the year							886,219	886,219	136,708	1,022,927
Other comprehensive income (loss) for the year										
Currency translation adjustment						(66,735)		(66,735)	(37,658)	(104,393)
Remeasurement of post employment benefit obligations				(4,642)				(4,642)	(1,556)	(6,198)
Cash flow hedges and others, net of tax				504				504	124	628
Others				88				88	7	95
Total comprehensive income (loss) for the year	—	—	—	(4,050)	—	(66,735)	886,219	815,434	97,625	913,059
Dividends paid in cash (5)							(196,308)	(196,308)	—	(196,308)
Dividends paid in cash to non-controlling interest (6)								—	(30,573)	(30,573)
Balance at December 31, 2017	2,004,743	(150,000)	(23,295)	1,416,121	(2,324,866)	(2,403,664)	6,491,385	5,010,424	842,347	5,852,771

(1) Shareholders' equity is determined in accordance with accounting principles generally accepted in Luxembourg.

(2) The Company has an authorized share capital of a single class of 3.5 billion shares having a nominal value of \$1.00 per share. As of December 31, 2017, there were 2,004,743,442 shares issued. All issued shares are fully paid. Also, as of December 31, 2017, the Company held 41,666,666 shares as treasury shares.

(3) Include mainly legal reserve under Luxembourg law for \$200.5 million, undistributable reserves under Luxembourg law for \$1.4 billion, hedge accounting reserve, net of tax effect, for \$0.6 million and reserves related to the acquisition of non-controlling interest in subsidiaries for \$(88.5) million.

(4) Represents the difference between book value of non-monetary contributions received from shareholders under Luxembourg GAAP and IFRS.

(5) Represents \$0.10 per share (\$1.00 per ADS). Related to the dividends distributed on May 3, 2017, and as 41,666,666 shares are held as treasury shares by Ternium, the dividends attributable to these treasury shares amounting to \$4.2 million were included in equity as less dividend paid.

(6) Corresponds to the dividends paid by Ternium Argentina S.A.

Dividends may be paid by Ternium to the extent distributable retained earnings calculated in accordance with Luxembourg law and regulations exist. Therefore, retained earnings included in these consolidated financial statements may not be wholly distributable. See Note 25 (iii). The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Cash Flows

	Notes	Year ended December 31,		
		2019	2018	2017
Cash flows from operating activities				
Profit for the year		630,045	1,662,132	1,022,927
Adjustments for:				
Depreciation and amortization	12 & 13	661,112	589,299	474,299
Income tax accruals less payments	27 (b)	(208,805)	(154,366)	(273,443)
Equity in earnings of non-consolidated companies	14	(60,967)	(102,772)	(68,115)
Interest accruals less payments	27 (b)	3,405	(13,014)	19,484
Changes in provisions	19	(1,544)	(7,659)	2,783
Changes in working capital (1)	27 (b)	572,684	(228,577)	(864,970)
Net foreign exchange results and others		51,689	(5,778)	70,894
Net cash provided by operating activities		1,647,619	1,739,265	383,859
Cash flows from investing activities				
Capital expenditures	12 & 13	(1,052,252)	(520,250)	(409,402)
Recovery/(Loans) to non-consolidated companies	14	24,480	(24,480)	(23,904)
(Increase)/Decrease in other investments	18	(163,800)	86,857	14,986
Proceeds from the sale of property, plant and equipment		788	861	1,124
Dividends received from non-consolidated companies		—	—	65
Acquisition of business				
Purchase consideration	3	—	—	(1,890,989)
Cash acquired	3	—	—	278,162
Acquisition of non-controlling interest		(5,790)	—	—
Net cash used in investing activities		(1,196,574)	(457,012)	(2,029,958)
Cash flows from financing activities				
Dividends paid in cash to company's shareholders		(235,569)	(215,938)	(196,308)
Dividends paid in cash to non-controlling interests		(28,530)	(20,940)	(30,573)
Finance Lease payments		(38,569)	(7,565)	(4,157)
Proceeds from borrowings		1,529,766	1,188,731	3,239,121
Repayments of borrowings		(1,377,605)	(2,266,560)	(1,205,827)
Net cash (used in) provided by financing activities		(150,507)	(1,322,272)	1,802,256
Increase (Decrease) in cash and cash equivalents		300,538	(40,019)	156,157
Movement in cash and cash equivalents				
At January 1,		250,541	337,779	183,463
Effect of exchange rate changes	4 (cc)	(31,114)	(47,219)	(1,841)
Increase (Decrease) in cash and cash equivalents		300,538	(40,019)	156,157
Cash and cash equivalents at December 31, (2)		519,965	250,541	337,779
Non- Cash transactions:				
Acquisition of PP&E under lease contract agreements		21,963	73,828	—

(1) The working capital is impacted by non-cash movement of \$(6.3) million as of December 31, 2019 \$(74.5) million and \$(70.0) million as of December 31, 2018 and 2017, respectively) due to the variations in the exchange rates used by subsidiaries with functional currencies different from the U.S. dollar.

(2) It includes restricted cash of \$69, \$2,216 and \$50 as of December 31, 2019, 2018 and 2017, respectively. In addition, the Company had other investments with a maturity of more than three months for \$212,271, \$44,529 and \$135,864 as of December 31, 2019, 2018 and 2017, respectively.

The accompanying notes are an integral part of these consolidated financial statements.

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Notes to the Consolidated Financial Statements

1. GENERAL INFORMATION

Ternium S.A. (the “Company” or “Ternium”), was incorporated on December 22, 2003 to hold investments in flat and long steel manufacturing and distributing companies. The Company has an authorized share capital of a single class of 3.5 billion shares having a nominal value of \$1.00 per share. As of December 31, 2019, there were 2,004,743,442 shares issued. All issued shares are fully paid.

Ternium’s American Depositary Shares (“ADSs”) trade on the New York Stock Exchange under the symbol “TX”.

The Company was initially established as a public limited liability company (société anonyme) under Luxembourg’s 1929 holding company regime. Until termination of such regime on December 31, 2010, holding companies incorporated under the 1929 regime (including the Company) were exempt from Luxembourg corporate and withholding tax over dividends distributed to shareholders.

On January 1, 2011, the Company became an ordinary public limited liability company (société anonyme) and, effective as from that date, the Company is subject to all applicable Luxembourg taxes (including, among others, corporate income tax on its worldwide income) and its dividend distributions will generally be subject to Luxembourg withholding tax. However, dividends received by the Company from subsidiaries in high income tax jurisdictions, as defined under Luxembourg law, will continue to be exempt from corporate income tax in Luxembourg under Luxembourg’s participation exemption.

As part of the Company’s corporate reorganization in connection with the termination of Luxembourg’s 1929 holding company regime, on December 6, 2010, the Company contributed its equity holdings in all its subsidiaries and all its financial assets to its Luxembourg wholly-owned subsidiary Ternium Investments S.à.r.l., or Ternium Investments, in exchange for newly issued corporate units of Ternium Investments. As the assets contributed were recorded at their historical carrying amount in accordance with Luxembourg GAAP, the Company’s December 2010 contribution of such assets to Ternium Investments resulted in a non-taxable revaluation of the accounting value of the Company’s assets under Luxembourg GAAP. The amount of the December 2010 revaluation was equal to the difference between the historical carrying amounts of the assets contributed and the value at which such assets were contributed and amounted to \$4.0 billion. However, for the purpose of these consolidated financial statements, the assets contributed by Ternium to its wholly-owned subsidiary Ternium Investments were recorded based on their historical carrying amounts in accordance with IFRS, with no impact on the financial statements.

1. GENERAL INFORMATION (continued)

Following the completion of the corporate reorganization, and upon its conversion into an ordinary Luxembourg holding company, the Company voluntarily recorded a special reserve exclusively for tax-basis purposes. As of December 31, 2019 and 2018, this special tax reserve amounted to \$6.3 billion and \$6.6 billion, respectively. The Company expects that, as a result of its corporate reorganization, its current overall tax burden will not increase, as all or substantially all of its dividend income will come from high income tax jurisdictions.

2. BASIS OF PRESENTATION

a) Basis of presentation

These consolidated financial statements have been prepared in accordance with IFRS (International Financial Reporting Standards) issued and effective or issued and early adopted as at the time of preparing these statements (February 2020), as issued by the International Accounting Standards Board and in conformity with International Financial Reporting Standards as adopted by the European Union ("EU"). These consolidated financial statements are presented in thousands of United States dollars ("\$"), except otherwise indicated.

These Consolidated financial statements fairly present the consolidated equity and consolidated financial situation of Ternium as of December 31, 2019, and the consolidated results of its operations, the Changes in the Consolidated Statement of Comprehensive Income, the Changes in Consolidated Net Equity and the Consolidated Cash Flows of Ternium for the year then ended.

Elimination of all material intercompany transactions and balances between the Company and their respective subsidiaries has been made in consolidation.

These consolidated financial statements have been prepared under the historical cost convention, as modified by the revaluation of available-for-sale financial assets, and financial assets and financial liabilities (including derivative instruments) at fair value through profit or loss.

These consolidated financial statements have been approved for issue by the Board of Directors on February 18, 2020. The Directors have the power to amend and reissue the consolidated financial statements.

Detailed below are the companies whose financial statements have been consolidated and accounted for interest in these consolidated financial statements

TERNIUM S.A.

 Consolidated Financial Statements as of December 31, 2019 and 2018
 and for the years ended December 31, 2019, 2018 and 2017

2. BASIS OF PRESENTATION (continued)

Company	Country of Organization	Main activity	Percentage of ownership at December 31,		
			2019	2018	2017
Ternium S.A.	Luxembourg	Holding	100.00%	100.00%	100.00%
Ternium Investments S.à.r.l.	Luxembourg	Holding	100.00%	100.00%	100.00%
Ternium Participações S.A. (1) (formerly Ternium Brasil S.A.)	Brazil	Holding	100.00%	100.00%	100.00%
Ternium Internacional España S.L. (1)	Spain	Holding and marketing of steel products	100.00%	100.00%	100.00%
Ternium Investments Switzerland AG (1)	Switzerland	Holding	100.00%	100.00%	100.00%
Ternium USA Inc. (1)	USA	Manufacturing and selling of steel products	100.00%	100.00%	100.00%
Ternium Argentina S.A. (formerly Siderar S.A.I.C.) (2)	Argentina	Manufacturing and selling of flat steel products	61.50%	60.94%	60.94%
Impeco S.A. (3)	Argentina	Manufacturing of pipe products	61.54%	60.97%	60.97%
Prosid Investments S.A. (4)	Uruguay	Holding	61.51%	60.94%	60.94%
Ternium Mexico S.A. de C.V. (5)	Mexico	Manufacturing and selling of steel products	88.94%	88.78%	88.78%
Hylsa S.A. de C.V. (6)	Mexico	Manufacturing and selling of steel products	88.94%	88.78%	88.78%
Las Encinas S.A. de C.V. (6)	Mexico	Exploration, exploitation and pelletizing of iron ore	88.94%	88.78%	88.78%
Ferropak Comercial S.A. de C.V. (6)	Mexico	Scrap services company	88.94%	88.78%	88.78%
Transamerica E. & I. Trading Corp. (6)	USA	Scrap services company	88.94%	88.78%	88.78%
Técnica Industrial S.A. de C.V. (6)	Mexico	Services	88.94%	88.78%	88.78%
Galvacer Chile S.A. (6)	Chile	Distributing company	88.94%	88.78%	88.78%
Ternium Gas México S.A. de C.V. (7)	Mexico	Energy services company	88.94%	88.78%	88.78%
Consortio Minero Benito Juarez Peña Colorada S.A. de C.V. (8)	Mexico	Exploration, exploitation and pelletizing of iron ore	44.47%	44.39%	44.39%
Peña Colorada Servicios S.A. de C.V. (8)	Mexico	Services	44.47	44.39%	44.39%
Exiros B.V. (8)	Netherlands	Procurement and trading services	50.00%	50.00%	50.00%
Servicios Integrales Nova de Monterrey S.A. de C.V. (9)	Mexico	Medical and Social Services	66.26%	66.14%	66.14%
Ternium Internacional Nicaragua S.A.	Nicaragua	Manufacturing and selling of steel products	99.38%	99.38%	99.38%
Ternium Internacional Honduras S.A. de C.V.	Honduras	Manufacturing and selling of steel products	99.18%	99.18%	99.18%
Ternium Internacional El Salvador S.A. de C.V.	El Salvador	Manufacturing and selling of steel products	99.92%	99.92%	99.92%
Ternium Internacional Costa Rica S.A.	Costa Rica	Manufacturing and selling of steel products	99.98%	99.98%	99.98%
Ternium Internacional Guatemala S.A. (10)	Guatemala	Manufacturing and selling of steel products	99.98%	99.98%	99.98%
Ternium Colombia S.A.S. (formerly Ferrasa S.A.S.) (10)	Colombia	Manufacturing and selling of steel products	100.00%	100.00%	100.00%
Ternium del Cauca S.A.S. (formerly Perfilamos del Cauca S.A.S.) (10)	Colombia	Manufacturing and selling of steel products	100.00%	100.00%	100.00%
Ternium Siderúrgica de Caldas S.A.S. (formerly Siderúrgica de Caldas S.A.S.) (10)	Colombia	Manufacturing and selling of steel products	100.00%	100.00%	100.00%
Tenigal S. de R.L. de C.V. (11)	Mexico	Manufacturing and selling of steel products	51.00%	51.00%	51.00%
Ternium Internacional S.A.	Uruguay	Marketing of steel products	100.00%	100.00%	100.00%
Ternium Treasury Services S.A.	Uruguay	Financial Services	100.00%	100.00%	100.00%
Ternium Internationaal B.V. (12)	Netherlands	Marketing of steel products	100.00%	100.00%	100.00%
Ternium International Inc. (12)	Panama	Marketing of steel products	100.00%	100.00%	100.00%
Ternium Procurement S.A. (13)	Uruguay	Marketing of steel products and procurement services	100.00%	100.00%	100.00%

TERNIUM S.A.

Consolidated Financial Statements as of December 31, 2019 and 2018
and for the years ended December 31, 2019, 2018 and 2017

2. BASIS OF PRESENTATION (continued)

Company	Country of Organization	Main activity	Percentage of ownership at December 31,		
			2019	2018	2017
Technology & Engineering Services S.A. (13)	Uruguay	Engineering and other services	100.00%	100.00%	100.00%
Soluciones Integrales de Gestión S.A. (14)	Argentina	Other services	100.00%	100.00%	100.00%
Ternium Staal B.V. (15)	Netherlands	Holding and marketing of steel products	100.00%	100.00%	100.00%
Ternium Brasil Ltda. (15)	Brazil	Manufacturing and selling of steel products	100.00%	100.00%	100.00%
Ternium del Atlántico S.A.S (16)	Colombia	Manufacturing and selling of steel products	100.00%	100.00%	100.00%
Ternium Solutions S.A. (formerly Tericer Trading S.A.) (17)	Uruguay	Other services	100.00%	100.00%	—
Imsamex Ecuador S.A. (18)	Ecuador	Distributing company	—	88.78%	88.78%
Ternium Solutions A.G. (19)	Switzerland	Other services	—	100.00%	100.00%
Ternium Ingeniería y Servicios de México S.A. de C.V. (20)	Mexico	Engineering and other services	—	99.89%	99.89%
Ternium International USA Corporation (21)	USA	Marketing of steel products	—	100.00%	100.00%
Acedor S.A. de C.V. (22)	Mexico	Holding	—	—	88.78%
Ecosteel Gestao de Águas Industriais S.A. (23)	Brazil	Other services	—	—	100.00%
Ecosteel Gestao de Efuentes Industriais S.A. (24)	Brazil	Other services	—	—	100.00%
Galvatubing Inc. (25)	USA	Manufacturing and selling of pipe products	—	—	88.78%
Galvamet America Corp. (26)	USA	Manufacturing and selling of insulated panel products	—	—	88.78%
Ternium Internacional de Colombia S.A.S. (27)	Colombia	Marketing of steel products	—	—	100.00%

(1) Indirectly through Ternium Investments S.à.r.l. Total voting rights held: 100.00%.

(2) Since the third quarter of 2019, indirectly through Ternium Internacional España S.L. Total voting rights held 61.50%. Before that, indirectly through Ternium Internacional España S.L. total voting rights was 60.94%. During the fourth quarter of 2017, Siderar S.A.I.C. changed its business name to Ternium Argentina S.A.

(3) Since the fourth quarter of 2017, indirectly through Ternium Argentina S.A. and Soluciones Integrales de Gestión S.A. Total voting rights held 100.00%. Before that, indirectly through Ternium Argentina S.A. and Ternium Internacional S.A.

(4) Since the fourth quarter of 2017, indirectly through Ternium Argentina S.A. and Ternium Procurement S.A. Total voting rights held 100.00%. Before that, indirectly through Ternium Argentina S.A. and Ternium Internacional S.A.

(5) Since the fourth quarter of 2017, indirectly through Ternium Argentina S.A. and Ternium Internacional España S.L. Total voting rights held 100.00%. Before that, indirectly through Ternium Argentina S.A., Ternium Internacional S.A. and Ternium Internacional España S.L.

(6) Indirectly through Ternium Mexico S.A. de C.V. Total voting rights held: 100.00%.

(7) Indirectly through Ternium Mexico S.A. de C.V. and Tenigal S. de R.L. de C.V. Total voting rights held: 100.00%.

(8) Total voting rights held: 50.00%. The Company recognizes the assets, liabilities, revenue and expenses in relation to its interest in the joint operation.

(9) Indirectly through Ternium Mexico S.A. de C.V. Total voting rights held: 74.50%.

(10) Indirectly through Ternium Internacional España S.L. Total voting rights held: 100.00%.

(11) Indirectly through Ternium Internacional España S.L. Total voting rights held: 51.00%.

(12) Since the third quarter of 2017, indirectly through Ternium Investments S.à r.l. Total voting rights held: 100.00%. Before that, indirectly through Ternium Investments Switzerland AG.

(13) Since the third quarter of 2017, indirectly through Ternium Internacional España S.L. Total voting rights held: 100.00%. Before that, indirectly through Ternium Investments Switzerland AG.

(14) Since the third quarter of 2017, indirectly through Ternium Investments S.à r.l. and Ternium Internacional España S.L. Total voting rights held 100.00%. Before that, indirectly through Ternium Investments S.à r.l. and Technology and Engineering Services S.A.

(15) Indirectly through Ternium Investments S.à.r.l. Total voting rights held: 100.00%.

(16) Indirectly through Ternium Internacional España S.L. Total voting rights held: 100.00%.

(17) Indirectly through Ternium Investments S.à.r.l. Total voting rights held: 100.00%.

(18) This company was dissolved as of December 19, 2019.

(19) This company was dissolved as of July 3, 2019.

(20) This company was dissolved as of March 29, 2019.

(21) Merged with Ternium USA Inc. during the first quarter of 2019.

(22) Merged with Ternium México S.A. de C.V. during the fourth quarter of 2018.

(23) This company was dissolved as of December 3, 2018.

(24) This company was dissolved as of May 4, 2018.

(25) This company was dissolved as of July 19, 2018.

(26) This company was dissolved as of August 3, 2018.

(27) This company was dissolved as of October 3, 2018.

2. BASIS OF PRESENTATION (continued)

The most important non-controlling interest is related to the investment in Ternium Argentina S.A., which is a company listed in the Buenos Aires Stock Exchange. Ternium Argentina S.A. stated in its annual accounts as of and for the year ended December 31, 2019, that revenues amounted to \$1,789 million (2018: \$1,959 million), net profit from continuing operations to \$131 million (2018: \$254 million), total assets to \$2,969 million (2018: \$3,184 million), total liabilities to \$338 million (2018: \$606 million) and shareholders' equity to \$2,631 million (2018: \$2,578 million). All the information related to this investment could be found in the Buenos Aires Stock Exchange webpage.

3. ACQUISITION OF BUSINESS

CSA Siderúrgica do Atlântico Ltda. (now Ternium Brasil Ltda.) and thyssenkrupp Slab International B.V. (now Ternium Staal B.V.)

(a) The acquisition

On September 7, 2017, Ternium completed the acquisition from thyssenkrupp AG ("tkAG") of a 100% ownership interest in thyssenkrupp Slab International B.V. ("tkSI") and its wholly-owned subsidiary CSA Siderúrgica do Atlântico Ltda. ("CSA"), a steel slab producer with a steelmaking facility located in the state of Rio de Janeiro, Brazil, and having an annual production capacity of 5 million tons of high-end steel slabs, a deep-water harbor and a 490 MW combined cycle power plant. The acquisition was expected to substantially increase Ternium's steelmaking capacity and strengthen its business in strategic industrial sectors across Latin America.

As part of the transaction, tkAG assigned to Ternium a slab commitment agreement providing for an arrangement relating to the purchase of CSA-manufactured carbon steel slabs under the terms of a slab frame supply agreement and related annual slab off-take agreements between tkSI and the entity that acquired thyssenkrupp's former Calvert re-rolling facility in Alabama, United States of America. Such slab commitment agreement provided for a commitment by such entity to purchase from tkSI approximately 2.0 million tons of CSA-manufactured carbon steel slabs per year until September 30, 2019, at the price resulting from the pricing formula set forth therein. This slab commitment agreement was amended on December 20, 2017, spreading deliveries of the remaining slab volumes committed under such agreement through December 2020.

The purchase price paid by Ternium in the acquisition totaled approximately \$1,891 million.

Ternium began consolidating the balance sheets and results of operations of tkSI and CSA as from September 7, 2017, and CSA changed its name to Ternium Brasil Ltda. and tkSI was renamed Ternium Staal B.V.

(b) Fair value of net assets acquired

The application of the purchase method required certain estimates and assumptions especially concerning the determination of the fair values of the acquired intangible assets and property, plant and equipment as well as the liabilities assumed at the date of the acquisition. The fair values determined at the acquisition date were based mainly on discounted cash flows and other valuation techniques.

3. ACQUISITION OF BUSINESS (continued)

The allocation of the fair values determined for the assets and liabilities arising from the acquisition was as follows:

Fair value of acquired assets and liabilities:	
Property, plant and equipment and Intangible assets	1,573,946
Inventories	400,047
Cash and cash equivalents	278,162
Trade receivables	63,710
Other receivables	705,058
Deferred tax assets	13,686
Provisions	(799,938)
Trade payables	(219,604)
Other assets and liabilities, net	(124,078)
Net assets acquired	1,890,989

According to this purchase price allocation, no goodwill was recorded.

Ternium entered into several derivative contracts to partially hedge the currency volatility risk associated with the Euro-denominated transaction price. As of the date of the closing of the acquisition, the fair value of those contracts amounted to \$75.9 million. Such value was deducted from the purchase consideration.

The purchase price allocation disclosed above was prepared with the assistance of a third-party expert. As of December 31, 2018, no adjustment has been recorded to the assets and liabilities assumed in comparison to the amounts registered as of December 31, 2017.

(c) Main contingencies associated with the acquired business

Contrary to the recognition principles in IAS 37 Provisions, Contingent Liabilities and Contingent Assets, IFRS 3 Business Combinations requires an acquirer of a business to recognize contingent liabilities assumed in a business acquisition at the acquisition date even if it is not probable that an outflow of resources will be required to settle the obligation.

The main contingencies recognized in the Company's consolidated financial statements pursuant to IFRS 3 Business Combinations in connection with the acquisition of tkSI and CSA include the following:

(i) Fishermen associations' claims

Civil contingencies include lawsuits brought by a number of fishermen associations on behalf of their associates, alleging that the dredge of Ternium Brasil's deep-water port has had a negative impact on fish farming and exploitation activities in the Sepetiba Bay area in Rio de Janeiro and that, as a result, fishermen in that area had suffered damages. A provision in the amount of \$24.5 million was recorded at the acquisition date in connection with this matter (\$14.1 million and \$19.7 million as of December 31, 2019 and 2018, respectively).

3. ACQUISITION OF BUSINESS (continued)

(ii) Tax assessments relating to the use of certain ICMS tax credits

The Imposto Sobre Operações Relativas à Circulação de Mercadorias e Serviços, or ICMS, is a Brazilian value-added tax on the services (inter-states) and the transfer of goods in Brazil. Payment of ICMS generates tax credits that, subject to applicable law, rules and regulations, may be either used to offset ICMS payment obligations generated in connection with domestic sales of products and services, or sold and transferred to third parties.

The Rio de Janeiro State Treasury Office is challenging the use by Ternium Brasil of ICMS tax credits generated in connection with purchases of refractory materials in the period from December 2010 through December 2016, and intends to assess taxes and impose fines on Ternium Brasil on the argument that such materials may not be qualified as raw materials or intermediary products but as goods for consumption and, accordingly, ICMS tax credits generated in connection with their purchase are not available and may not be used to offset ICMS payment obligations generated in connection with Ternium Brasil's domestic sales of carbon steel slabs. Ternium Brasil has appealed against the Rio de Janeiro State Treasury Office tax assessments and fines. A provision in the amount of \$57.7 million was recorded as of the acquisition date in connection with this matter (\$45.0 million and \$46.9 million as of December 31, 2019 and 2018, respectively).

(iii) ICMS deferral tax benefit - Unconstitutionality

Through State Law No. 4,529, of March 31, 2005, the State of Rio de Janeiro granted Ternium Brasil a tax incentive consisting of a deferment of ICMS payable by Ternium Brasil in connection with the construction and operation of the company's Rio de Janeiro steelmaking complex. The incentive applies in respect of the acquisition of fixed assets and certain raw materials (i.e. iron ore, pellets, alloys, coke, coal and scrap) and significantly reduces input ICMS credit accumulation by Ternium Brasil. The tax incentive was granted for a period of 20 years from the commencement of the construction works for Ternium Brasil's Rio de Janeiro steel complex.

In 2012, a Brazilian political party filed a direct action of unconstitutionality against the above-mentioned State Law before the Brazilian Federal Supreme Court, predicated on the argument that, since the tax incentive granted pursuant to such State Law had not been approved by Brazil's National Council of Fiscal Policy (*Conselho Nacional de Política Fazendária*, or CONFAZ), such State Law should be declared unconstitutional.

In August 2017, the Brazilian Congress enacted Supplementary Law No. 160/2017, instituting a mechanism through which the States may confirm any ICMS incentives they had granted in prior years without CONFAZ approval and, in furtherance of such Supplementary Law, in December 2017 the States adopted ICMS Convention 190/2017, establishing the applicable rules and deadlines for so confirming such ICMS incentives. As per the terms of ICMS Convention 190/2017, all States are required to publish in their official gazettes, on or before March 29, 2018, a list of the ICMS incentives that are to be confirmed pursuant to Supplementary Law No. 160. On March 6, 2018, the State of Rio de Janeiro published its list of ICMS incentives, including, among others, the ICMS benefit granted to Ternium Brasil. ICMS Convention 190/2017 also required that all relevant documents concerning such incentives be filed with CONFAZ, and the State of Rio de Janeiro satisfied such requirements as well. On July 27, 2018, the Governor of Rio de Janeiro issued Executive Order (Decreto) No. 4,678, pursuant to which the State of Rio de Janeiro reconfirmed, in accordance with ICMS Convention 190/2017, the ICMS tax benefits listed in its official gazette publication made pursuant to the Convention, including, among others, Ternium Brasil's ICMS tax benefits.

3. ACQUISITION OF BUSINESS (continued)

In October 2018, the State of Rio de Janeiro and the Federation of Industries of the State of Rio de Janeiro (Federação das Indústrias do Estado do Rio de Janeiro, or FIRJAN) filed petitions arguing that the action of unconstitutionality against the March 31, 2005 Rio de Janeiro State Law No. 4,529 could not be judged by the Federal Supreme Court since, following the revalidation of such law under Supplementary Law No.160/17 and the ICMS Convention 190/2017, such action of unconstitutionality had lost its purpose. Following the filing of such petitions, the Reporting Justice Minister in charge of the case summoned the plaintiff in such action of unconstitutionality, the Federal Attorney General's Office (Advocacia-Geral da União, or AGU) and the Chief of the Public Minister (Procuradoria-Geral da República, or PGR) to submit statements expressing their respective views on the arguments presented by the State of Rio de Janeiro and the FIRJAN with respect to the effect of Supplementary Law No.160/17 and the ICMS Convention 190/2017 on the pending action of unconstitutionality. In their respective statements, the plaintiff argued that Supplementary Law No.160/17 and the ICMS Convention 190/2017 do not affect the unconstitutionality of ICMS benefits granted through State Law No. 4,529, while the AGU stated that, in light of the additional legal support provided by Supplementary Law No.160/17 and the ICMS Convention 190/2017, a finding of unconstitutionality of State Law No. 4,529 would not be warranted. In turn, the PGR stated that a decision on the case should be postponed until the Federal Supreme Court completes its analysis of Supplementary Law No.160/17 and ICMS Convention 190/2017. As of the date of these consolidated financial statements, the Brazilian Federal Supreme Court has not yet ruled on the action of unconstitutionality against Rio de Janeiro's State Law No. 4,529.

The tax benefits accumulated under Ternium Brasil's ICMS incentive amounted to approximately \$1,089 million as of the acquisition date. In accordance with the guidance in IFRS 3, the Company recorded as of the acquisition date a provision of \$651.8 million (including estimated penalties and interest) in connection with this matter, together with an asset of \$325.9 million arising from its right to recover part of the contingency amount from thyssenkrup Veerhaven B.V. (\$508.9 million and \$254.4 million, respectively, as of December 31, 2019, and \$529.4 million and \$264.7 million, respectively, as of December 31, 2018). The calculation of this contingency related to an uncertain tax position has been determined taking into consideration the probability of negative outcome for the Company, if any, on an estimated total risk of \$1,630 million (including estimated penalties and interests) (\$1,948 million as of December 31, 2019). In connection with the asset related to the Company's right to recover part of the contingency amount from thyssenkrup Verhaven B.V., the following two events need to happen within the following time frames: the Supreme Federal Court of Brazil or any Civil Court of the State of Rio de Janeiro would need to issue a decision voiding above mentioned law prior to September 7, 2020, and Ternium Brasil would have to make a payment or repayment of ICMS tax incentives prior to September 7, 2022.

(d) Acquisition financing

The acquisition was mainly financed through an unsecured 5-year syndicated facility in the principal amount of \$1.5 billion granted to the Company's subsidiary, Ternium Investments S.à.r.l., by a syndicate of banks. The facility is to be repaid in eight consecutive and equal semi-annual installments, commencing on March 5, 2019, and has been guaranteed by the Company's subsidiary, Ternium México, S.A. de C.V. The borrower and the guarantor are subject to certain covenants customary for transactions of this type, including limitations on liens and encumbrances, transactions with affiliates, consolidations and mergers and restrictions on investments. The guarantor is additionally subject to limitations on the sale of certain assets and compliance with a leverage ratio. There are no limitations to the payment of dividends applicable to the borrower or the guarantor, except, with respect to the borrower, upon an event of default under the facility. During 2018 and 2019, the Company made prepayments of principal for \$375 million and \$725 million, respectively. As of December 31, 2019, the outstanding value of this syndicated facility was \$400 million and both the borrower and the guarantor were in compliance with all of its covenants.

4. ACCOUNTING POLICIES

The following is a summary of the principal accounting policies followed in the preparation of these Consolidated Financial Statements:

(a) Group accounting

(1) Subsidiary companies and transactions with non-controlling interests

Subsidiaries are all entities over which the Company has control. The Company controls an entity when the Company is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Company. They are deconsolidated from the date that control ceases.

The Company uses the acquisition method of accounting to account for business combinations. The consideration transferred for the acquisition of a subsidiary is the fair values of the assets transferred, the liabilities incurred and the equity interests issued by the Company. The consideration transferred includes the fair value of any asset or liability resulting from a contingent consideration arrangement. Acquisition-related costs are expensed as incurred. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at the fair values at the acquisition date. Indemnification assets are recognized at the same time that the Company recognizes the indemnified item and measures them on the same basis as the indemnified item, subject to the need for a valuation allowance for uncollectible amounts. The Company measures the value of a reacquired right recognized as an intangible asset on the basis of the remaining contractual term of the related contract regardless of whether market participants would consider potential contractual renewals in determining its fair value.

On an acquisition-by-acquisition basis, the Company recognizes any non-controlling interest in the acquiree at the non-controlling interest's proportionate share of the acquiree's net assets.

The excess of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of any previous equity interest in the acquiree over the fair value of the Company's share of the identifiable net assets acquired is recorded as goodwill. If this is less than the fair value of the net assets of the subsidiary acquired in the case of a bargain purchase, the difference is recognized directly in the income statement.

The measurement period is the earlier of the date that the acquirer receives the information that it is looking for or cannot obtain the information and one year after the acquisition date. Where the accounting for a business combination is not complete by the end of the reporting period in which the business combination occurred provisional amounts are reported.

The Company treats transactions with non-controlling interests as transactions with equity owners of the Company. For purchases from non-controlling interests, the difference between any consideration paid and the relevant share acquired of the carrying value of net assets of the subsidiary is recorded in equity. Gains or losses on disposals to non-controlling interests are also recorded in equity.

When the Company ceases to have control or significant influence, any retained interest in the entity is remeasured to its fair value, with the change in carrying amount recognized in profit or loss. The fair value is the initial carrying amount for the purposes of subsequently accounting for the retained interest as an associate, joint venture or financial asset. In addition, any amounts previously recognized in other comprehensive income in respect of that entity are accounted for as if the group had directly disposed of the related assets or liabilities. This may mean that amounts previously recognized in other comprehensive income are reclassified to profit or loss.

Inter-company transactions, balances and unrealized gains on transactions between group companies are eliminated. Unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the transferred asset. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the group. However, the fact that the functional currency of some subsidiaries is their respective local currency, generates some financial gains (losses) arising from intercompany transactions, that are included in the consolidated income statement under Other financial expenses, net.

4. ACCOUNTING POLICIES (Continued)*(2) Investments in non-consolidated companies*

Associated companies are those entities in which Ternium has significant influence, but which it does not control.

Joint arrangements are understood as combinations in which there are contractual agreements by virtue of which two or more companies hold an interest in companies that undertake operations or hold assets in such a way that any financial or operating decision is subject to the unanimous consent of the partners. A joint arrangement is classed as a joint operation if the parties hold rights to its assets and have obligations in respect of its liabilities or as a joint venture if the venturers hold rights only to the investee's net assets.

Investments in non-consolidated companies (associated companies and joint ventures) are accounted for using the equity method of accounting. Under this method, interests in joint ventures and associates are initially recognized in the consolidated statement of financial position at cost and adjusted thereafter to recognize the Company's share of the post-acquisition profits or losses in the income statement, and its share of post-acquisition changes in reserves recognized in reserves and in other comprehensive income in the income statement. Unrealized gains on transactions among the Company and its non-consolidated companies are eliminated to the extent of the Company's interest in such non-consolidated companies; unrealized losses are also eliminated unless the transaction provides evidence of an impairment of the transferred asset. When the Company's share of losses in a non-consolidated company equals or exceeds its interest in such non-consolidated company, the Company does not recognize further losses unless it has incurred obligations or made payments on behalf of such non-consolidated company.

The Company's investment in associates and joint ventures includes notional goodwill identified on acquisition.

The Company determines at each reporting date whether there is any objective evidence that the investment is impaired. If this is the case, the group calculates the amount of impairment as the difference between the recoverable amount of the investment and its carrying value and recognizes the amount within "Equity on earnings (losses) of non-consolidated companies".

(b) Foreign currency translation*(1) Functional and presentation currency*

Items included in the financial statements of each of the Company's subsidiaries and associated companies are measured using the currency of the primary economic environment in which the entity operates (the "functional currency"). Except for the Argentine and the non-consolidated companies whose functional currencies are their local currencies, Ternium determined that the functional currency of its subsidiaries is the U.S. dollar. Although Ternium is located in Luxembourg, it operates in several countries with different currencies. The \$ is the currency that best reflects the economic substance of the underlying events and circumstances relevant to Ternium as a whole.

(2) Subsidiary companies

The results and financial position of all the group entities (except for the ones which operates in a hyperinflationary economy; see note 4 (cc)) that have a functional currency different from the presentation currency, are translated into the presentation currency as follows:

- (i) assets and liabilities are translated at the closing rate of each statement of financial position;
- (ii) income and expenses for each income statement are translated at average exchange rates (unless this average is not a reasonable approximation of the cumulative effect of the rates prevailing on the transaction dates, in which case income and expenses are translated at the rate on the dates of the transactions); and
- (iii) all resulting translation differences are recognized within other comprehensive income.

In the case of a sale or other disposition of any such subsidiary, any accumulated translation differences would be recognized in the income statement as part of the gain or loss on sale.

4. ACCOUNTING POLICIES (Continued)**(3) Transactions in currencies other than the functional currency**

Transactions in currencies other than the functional currency are translated into the functional currency using the exchange rates prevailing at the date of the transactions or valuation where items are re-measured.

At the end of each reporting period: (i) monetary items denominated in currencies other than the functional currency are translated using the closing rates, (ii) non-monetary items that are measured in terms of historical cost in a currency other than the functional currency are translated using the exchange rates prevailing at the date of the transactions; and (iii) non-monetary items that are measured at fair value in a currency other than the functional currency are translated using the exchange rates prevailing at the date when the fair value was determined.

Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in currencies other than the functional currency are recorded as gains and losses from foreign exchange and included in "Other financial income (expenses), net" in the consolidated income statement, except when deferred in equity as qualifying cash flow hedges and qualifying net investment hedges. Translation differences on non-monetary financial assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss as part of the "fair value gain or loss," while translation differences on non-monetary financial assets such as equities classified as fair value through other comprehensive income are included in other gains/(losses).

(c) Financial instruments*Non derivative financial instruments*

Non derivative financial instruments comprise investments in equity and debt securities, trade and other receivables, cash and cash equivalents, loans and borrowings, and trade and other payables.

From January 1, 2018, the Company classifies its financial instruments in the following measurement categories:

– Amortized cost: instruments that are held for collection or repayment of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. Interest income and expenses from these financial instruments are included in finance income or expense using the effective interest rate method. Any gain or loss arising on derecognition is recognized directly in profit or loss and presented in finance income or expense, together with foreign exchange gains and losses. Impairment losses are presented as separate line items in the statement of profit or loss.

– Fair value through other comprehensive income ("FVOCI"): financial assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at FVOCI. Movements in the carrying amount are taken through OCI, except for the recognition of impairment gains or losses, interest revenue and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in OCI is reclassified from equity to profit or loss and recognized in other gains/(losses). Interest income from these financial assets is included in finance income using the effective interest rate method. Foreign exchange gains and losses are presented in other gains/(losses) and impairment expenses are presented as separate line item in the statement of profit or loss.

– Fair value through profit or loss ("FVPL"): financial instruments that do not meet the criteria for amortized cost or FVOCI are measured at FVPL. A gain or loss on a debt investment that is subsequently measured at FVPL is recognized in profit or loss and presented net within other gains/(losses) in the period in which it arises.

The classification depends on the Company's business model for managing the financial instruments and the contractual terms of the cash flows.

4. ACCOUNTING POLICIES (Continued)

For financial instruments measured at fair value, gains and losses will either be recorded in profit or loss or OCI. For investments in equity instruments that are not held for trading, this will depend on whether the group has made an irrevocable election at the time of initial recognition to account for the equity investment at FVOCI.

At initial recognition, the Company measures a financial instrument at its fair value plus, in the case of a financial instrument not at FVPL, transaction costs that are directly attributable to the acquisition of the financial instrument. Transaction costs of financial instruments carried at FVPL are expensed in profit or loss. Subsequent measurement of debt instruments depends on the Company's business model for managing the asset and the cash flow characteristics of the asset.

Until December 31, 2017 Ternium non derivative financial instruments were classified into the following categories:

- Financial instruments at fair value through profit or loss: comprising mainly cash and cash equivalents and investments in debt securities held for trading;
- Held-to-maturity instruments: measured at amortized cost using the effective interest method less impairment losses. As of December 31, 2017, there were \$6.1 million classified under this category;
- Loans and receivables: measured at amortized cost using the effective interest method less impairment losses;
- Available-for-sale ("AFS") financial assets: gains and losses arising from changes in fair value were recognized within other comprehensive income ("OCI") with the exception of impairment losses, interest calculated using the effective interest method and foreign exchange gains and losses on monetary assets, which were recognized directly in profit or loss. Where the investment was disposed of or was determined to be impaired, the cumulative gain or loss previously recognized in OCI was included in the income statement for the period. As of December 31, 2017, there were no AFS amounts classified under this category;
- Other financial liabilities: measured at amortized cost using the effective interest method.

The classification depended on the nature and purpose of the financial assets and was determined at the time of initial recognition.

Financial assets and liabilities were recognized and derecognized on the settlement date.

Financial assets were initially measured at fair value, net of transaction costs, except for those financial assets classified as financial assets at fair value through profit or loss.

Financial liabilities, including borrowings, were initially measured at fair value, net of transaction costs and subsequently measured at amortized cost using the effective interest method, with interest expense recognized on an effective yield basis.

Impairment of financial assets

From January 1, 2018, the Company assesses on a forward-looking basis the expected credit losses associated with its debt instruments carried at amortized cost and FVOCI. The impairment methodology applied depends on whether there has been a significant increase in credit risk.

For trade receivables, the Company applies the simplified approach permitted by IFRS 9, which requires expected lifetime losses to be recognized from initial recognition of the receivables, see note 4 (i) for further details.

Until December 31, 2017, the Company assessed at the end of each reporting period whether there was objective evidence that a financial asset or group of financial assets was impaired. A financial asset or a group of financial assets was impaired and impairment losses were incurred only if there was objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset (a "loss event") and that loss event (or events) had an impact on the estimated future cash flows of the financial asset or group of financial assets that could be reliably estimated. The Company first assessed whether objective evidence of impairment existed.

For loans and receivables category and for held-to-maturity investments, the amount of the loss was measured as the difference between the asset's carrying amount and the present value of estimated future cash flows (excluding future credit losses that have not been incurred) discounted at the financial asset's original effective interest rate. The carrying amount of the asset was reduced and the amount of the loss was recognized in the consolidated income statement.

4. ACCOUNTING POLICIES (Continued)

If, in a subsequent period, the amount of the impairment loss decreased and the decrease could be related objectively to an event occurring after the impairment was recognized, the reversal of the previously recognized impairment loss was recognized in the consolidated income statement.

Derivative financial instruments

Information about accounting for derivative financial instruments and hedging activities is included in Note 30 "Financial Risk management" and Note 4 (y).

(d) Property, plant and equipment*(1) Property, plant and equipment*

Land and buildings comprise mainly factories and offices. All property, plant and equipment are recognized at historical acquisition or construction cost less accumulated depreciation and accumulated impairment (if applicable), except for land, which is carried at acquisition cost less accumulated impairment (if applicable). There are no material residual values for property, plant and equipment items.

Major overhaul and rebuilding expenditures are recognized as a separate asset when future economic benefits are expected from the item, and the cost can be measured reliably.

Ordinary maintenance expenses on manufacturing properties are recorded as cost of products sold in the period in which they are incurred.

Where a tangible fixed asset comprises major components having different useful lives, these components are accounted for as separate items. Spare parts are included in property, plant and equipment.

Depreciation method is reviewed at each year end. Depreciation is calculated using the straight-line method to amortize the cost of each asset to its residual value over its estimated useful life as follows:

Land	No depreciation
Buildings and improvements	10-50 years
Production equipment	5-40 years
Vehicles, furniture and fixtures and other equipment	3-20 years

Property, plant and equipment used in mining activities are depreciated over its useful life or over the remaining life of the mine if shorter and there is no alternative use possible.

The assets' useful lives are reviewed, and adjusted if appropriate, at each year end. The re-estimation of assets useful lives by the Company did not materially affect depreciation charges in 2019, 2018 and 2017.

Gains and losses on disposals are determined by comparing the proceeds with the corresponding carrying amounts and are included in the income statement.

If the carrying amount of an asset were greater than its estimated recoverable amount, it would be written down to its recoverable amount (see Note 4 (f) "Impairment").

Amortization charges are included in cost of sales, selling, general and administrative expenses.

4. ACCOUNTING POLICIES (Continued)*(2) Right-of-use assets*

The Company is a party to lease contracts for:

- Land
- Plants and equipment for the production of industrial gases and other production materials.
- Transportation and maintenance equipment.
- Warehouses and office spaces.

These leases are recognized, measured and presented in accordance to IFRS 16 “Leases”, following the guidelines described below.

Accounting by the lessee

The Company recognizes a right-of-use asset and a lease liability at the commencement date of each lease contract that grants the right to control the use of an identified asset during a period of time. The commencement date is the date in which the lessor makes an underlying asset available for use by the lessee.

The Company applied exemptions for leases with a duration lower than 12 months, with a value lower than thirty thousand dollars and/or with clauses related to variable payments. These leases have been considered as short-term leases and, accordingly, no right-of-use asset or lease liability have been recognized.

At initial recognition, the right-of-use asset is measured considering:

- The value of the initial measurement of the lease liability;
- Any lease payments made at or before the commencement date, less any lease incentives; and
- Any initial direct costs incurred by the lessee.

After initial recognition, the right-of-use assets are measured at cost, less any accumulated depreciation and/or impairment losses, and adjusted for any re-measurement of the lease liability.

Depreciation of the right-of-use asset is calculated using the straight-line method over the estimated duration of the lease contract, as follows:

Buildings and facilities	2-20 years
Machinery	2-17 years

If the lease transfers ownership of the underlying asset to the Company by the end of the lease term, or if the cost of the right-of-use asset reflects that the Company will exercise a purchase option, the Company depreciates the right-of-use asset from the commencement date to the end of the useful life of the underlying asset. Otherwise, the Company depreciates the right-of-use asset from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term.

Accounting by the lessor

When the Company is acting as a lessor, each of its leases is classified as either operating or finance lease:

- Leases where a significant portion of the risks and rewards of ownership are retained by the lessor are classified as operating leases.
- Leases where all substantial risks and rewards of ownership are transferred by the lessor to the lessee are classified as finance leases.

4. ACCOUNTING POLICIES (Continued)**(e) Intangible assets***(1) Information system projects*

Generally, costs associated with developing or maintaining computer software programs are recognized as an expense as incurred. However, costs directly related to the acquisition and implementation of information systems are recognized as intangible assets if they have a probable economic benefit exceeding the cost beyond one year and comply with the recognition criteria of IAS 38.

Information system projects recognized as assets are amortized using the straight-line method over their useful lives, not exceeding a period of 3 years. Amortization charges are included in cost of sales, selling, general and administrative expenses.

(2) Mining assets

Mining assets include:

- (a) Mining licenses acquired;
- (b) Capitalized exploration and evaluation costs, reclassified from exploration and evaluation costs (see note 4 (e) 3); and
- (c) Capitalized developmental stripping costs (see note 4 (u)).

Mining licenses were recognized as separate intangible assets upon the acquisition of the investment in Mexico and comprise the right to exploit the mines and are recognized at its fair value at acquisition date less accumulated amortization.

These mining concessions were granted for a 50-year period; following the expiration of the initial concession term, the concessions are renewable for an additional 50-year term in accordance with, and subject to the procedures set forth in, applicable Mexican mining law.

Amortization charge is calculated by using the unit-of-production method, on the basis of actual mineral extracted in each period compared to the estimated mineral reserves, and is included in cost of sales. Any change in the estimation of reserves is accounted for prospectively. The resulting amortization rate for the years ended December 31, 2019, 2018 and 2017, is approximately 5%, 8% and 7% per year, respectively.

(3) Exploration and evaluation costs

Exploration and evaluation activities involve the search for iron ore resources, the determination of technical feasibility and the assessment of commercial viability of an identified resource.

Exploration and evaluation costs are measured at cost. Costs directly associated with exploration and evaluation activities are capitalized as intangible assets until the determination of reserves is evaluated. The costs associated to the acquisition of machinery and equipment are recognized as property, plant and equipment. If it is determined that commercial discovery has been achieved, costs incurred are reclassified into Mining assets and amortization starts once production begins.

Exploration costs are tested for impairment when there are indicators that impairment exists. Indicators of impairment include, but are not limited to:

- Rights to explore in an area have expired or will expire in the near future without renewal;
- No further exploration and evaluation is planned or budgeted;
- A decision to discontinue exploration and evaluation in an area because of the absence of commercial reserves; and
- Sufficient data exists to indicate that the book value will not be fully recovered from future development and production.

When analyzing the existence of impairment indicators, the exploration and evaluation areas from the mining cash-generating units will be evaluated.

4. ACCOUNTING POLICIES (Continued)*(4) Goodwill*

Goodwill represents the excess of the acquisition cost over the fair value of Ternium's participation in acquired companies' net assets at the acquisition date. Under IFRS 3, goodwill is considered to have an indefinite life and not amortized, but is subject to annual impairment testing.

Goodwill is allocated to Cash-generating units ("CGU") for the purpose of impairment testing. The allocation is made to those cash-generating units expected to benefit from the business combination which generated the goodwill being tested. The impairment losses on goodwill cannot be reversed.

As of December 31, 2019 and 2018, the carrying amount of goodwill allocated to the Mexico CGUs was \$662.3 million, of which \$619.8 million corresponds to steel operations and \$42.5 million to mining operations.

(5) Research and development

Research expenditures are recognized as expenses as incurred. Development costs are recorded as cost of sales in the income statement as incurred because they do not fulfill the criteria for capitalization. Research and development expenditures for the years ended December 31, 2019, 2018 and 2017 totaled \$10.0 million, \$8.9 million and \$9.8 million, respectively.

(6) Customer relationships acquired in a business combination

In accordance with IFRS 3 and IAS 38, Ternium has recognized the value of customer relationships separately from goodwill in connection with the acquisitions of Grupo Imsa and Ternium Colombia S.A.S. These customer relationships were amortized using the straight-line method over a useful life of approximately 10 years. As of December 31, 2017, these assets were fully amortized.

In accordance with IFRS 3 and IAS 38, Ternium has recognized the value of customer relationships in connection with the acquisition of Ternium Staal B.V. The value of the slab commitment agreement by which Ternium Investments S.à r.l. is entitled to invoice, under certain conditions, the price difference between slabs and hot rolled coils will be amortized using the units of slabs sold method.

(7) Trademarks acquired in a business combination

In accordance with IFRS 3 and IAS 38, Ternium has recognized the value of trademarks separately from goodwill in connection with the acquisitions of Grupo Imsa and Ternium Colombia S.A.S. As of December 31, 2017, these assets were fully amortized.

Trademarks are amortized using the straight-line method over a useful life of between 5 to 10 years.

(f) Impairment

Assets that have an indefinite useful life (including goodwill) are not subject to amortization and are tested annually for impairment or whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Assets that are subject to amortization and investments in affiliates are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less cost to sell and the value in use.

To carry out these tests, assets are grouped at the lowest levels for which there are separately identifiable cash flows (each, a CGU). When evaluating long-lived assets for potential impairment, the Company estimates the recoverable amount based on the value in use of the corresponding CGU. The value in use of each CGU is determined on the basis of the present value of net future cash flows which will be generated by the assets tested.

Determining the present value of future cash flows involves highly sensitive estimates and assumptions specific to the nature of each CGU's activities, including estimates and assumptions relating to amount and timing of projected future cash flows, expected changes in market prices, expected changes in the demand of Ternium products and services, selected discount rate and selected tax rate.

4. ACCOUNTING POLICIES (Continued)

Ternium uses cash flow projections for the next five years based on past performance and expectations of market development; thereafter, it uses a perpetuity rate. Application of the discounted cash flow (DCF) method to determine the value in use of a CGU begins with a forecast of all expected future net cash flows. Variables considered in forecasts include the gross domestic product (GDP) growth rates of the country under study and their correlation with steel demand, level of steel prices and estimated raw material costs as observed in industry reports.

Cash flows are discounted at rates that reflect specific country and currency risks associated with the cash flow projections. The discount rates used are based on the weighted average cost of capital (WACC), which is considered to be a good indicator of cost of capital. As of December 31, 2019 the discount rate used to test goodwill allocated to the Steel and Mining Mexico CGUs for impairment was 9.80% (as of December 31, 2018, 11.68%).

As a result of the above factors, actual cash flows and values could vary significantly from the forecasted future cash flows and related values derived using discounting techniques. Based on the information currently available, however, Ternium believes that it is not reasonably possible that the variation would cause the carrying amount to exceed the recoverable amount of the CGUs.

Considering the economic situation in Argentina, the increase in the inflation rates, the devaluation of the Argentine peso and a weaker industrial environment, the Company decided to assess the recoverability of its investments in Argentina, resulting in no impairment charges to be recognized. As of December 31, 2019, the discount rate used to test the investment in Argentine subsidiaries for impairment was 14.3%.

During the years 2019, 2018 and 2017, no impairment provisions were recorded in connection with assets that have an indefinite useful life (including goodwill).

(g) Other investments

Other investments consist primarily of investments in financial debt instruments and equity investments where the Company holds a minor equity interest and does not exert significant influence.

All purchases and sales of investments are recognized on the settlement date, which is not significantly different from the trade date, which is the date that Ternium commits to purchase or sell the investment.

Income from financial instruments at fair value through profit or loss is recognized in Other financial income (expenses), net in the consolidated income statement. The fair value of quoted investments is based on current bid prices. If the market for a financial investment is not active or the securities are not listed, the Company estimates the fair value by using standard valuation techniques. Dividends from investments in equity instruments are recognized in the income statement when the Company's right to receive payments is established.

Certain fixed income financial instruments purchased by the Company have been categorized as at fair value through other comprehensive income. The results of these financial investments are recognized in Finance Income in the Consolidated Income Statement using the effective interest method. Unrealized gains and losses other than impairment and foreign exchange results are recognized in Other comprehensive income. On maturity or disposal, net gain and losses previously deferred in Other comprehensive income are recognized in Finance Income in the Consolidated Income Statement.

(h) Inventories

Inventories are stated at the lower of cost (calculated using the first-in-first-out "FIFO" method) or net realizable value. The cost of finished goods and goods in process comprises raw materials, direct labor, depreciation, other direct costs and related production overhead costs. It excludes borrowing costs. Goods acquired in transit at year end are valued at supplier's invoice cost.

The cost of iron ore produced in our mines comprises all direct costs necessary to extract and convert stockpiled inventories into raw materials, including production stripping costs, depreciation of fixed assets related to the mining activity and amortization of mining assets for those mines under production.

The Company assesses the recoverability of its inventories considering their selling prices, if the inventories are damaged, or if they have become wholly or partially obsolete (see note 4 (bb) (4)).

4. ACCOUNTING POLICIES (Continued)**(i) Trade receivables and other receivables**

Trade and other receivables are recognized initially at fair value, generally the original invoice amount. Since January 1, 2018, the Company applies the IFRS 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables. To measure the expected credit losses, trade receivables are grouped based on shared credit risk characteristics and the days past due. The Company keeps an allowance for trade receivables, recorded in an asset account to offset the trade receivables in an amount estimated sufficient to cover the losses resulting from the impossibility for the debtors to cancel the amounts owed. This allowance for trade receivables is recorded with a charge to selling expenses.

(j) Cash and cash equivalents

Cash and cash equivalents and highly liquid short-term securities are carried at fair market value or at a historical cost which approximates fair market value.

For purposes of the cash flow statement, cash and cash equivalents comprise cash, bank current accounts and short-term highly liquid investments (original maturity of three months or less at date of acquisition) and overdrafts.

In the consolidated statement of financial position, bank overdrafts are included in borrowings within current liabilities.

(k) Non-current assets (disposal groups) classified as held for sale

Non-current assets (disposal groups) are classified as assets held for sale, complying with the recognition criteria of IFRS 5, and stated at the lower of carrying amount and fair value less cost to sell if their carrying amount is recovered principally through a sale transaction rather than through continuing use.

The carrying value of non-current assets classified as held for sale, at December 31, 2019 and 2018 totals \$2.1 million and \$2.1 million, respectively, which corresponds principally to land and other real estate items. Sale is expected to be completed within a one-year period.

(l) Borrowings

Borrowings are recognized initially for an amount equal to the net proceeds received. In subsequent periods, borrowings are stated at amortized cost following the effective interest method.

(m) Lease liabilities

The lease liability is initially measured at the present value of the lease payments that are not paid at such date, including the following concepts:

- Fixed payments, less any lease incentives receivable;
- Variable lease payments that depend on an index or rate, initially measured using the index or rate as of the commencement date;
- Amounts expected to be payable by the lessee under residual value guarantees;
- The exercise price of a purchase option if the lessee is reasonably certain to exercise that option; and
- Payments of penalties for terminating the lease, if the lease term reflects the lessee exercising an option to terminate the lease.

Variable lease liabilities with payments dependent on external factors, such as minimum volumes sold or used, are not included in the initial measurement of the lease liabilities and such payments are recognized directly in profit and loss.

Lease payments are discounted using incremental borrowing rates for the location and currency of each lease contract or, if available, the rate implicit in the lease contract.

4. ACCOUNTING POLICIES (Continued)

The finance cost is charged to profit or loss over the lease period to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

The lease term determined by the Company comprises:

- Non-cancelable period of lease contracts;
- Periods covered by an option to extend the lease if the lessee is reasonably certain to exercise that option; and
- Periods covered by an option to terminate the lease if the lessee is reasonably certain not to exercise that option.

After the commencement date, the Company measures the lease liability by:

- Increasing the carrying amount to reflect interest on the lease liability;
- Reducing the carrying amount to reflect lease payments made; and
- Re-measuring the carrying amount to reflect any reassessment or lease modifications.

(n) Income taxes - current and deferred

The current income tax charge is calculated on the basis of the tax laws in force in the countries in which Ternium and its subsidiaries operate. Management evaluates positions taken in tax returns with respect to situations in which applicable tax regulation could be subject to interpretation. A liability is recorded for tax benefits that were taken in the applicable tax return but have not been recognized for financial reporting.

Deferred income taxes are calculated using the liability method on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements. Deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting, nor taxable profit or loss. The principal temporary differences arise on fixed assets, intangible assets, inventories valuation and provisions for pensions. Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period when the asset is realized or the liability is settled, based on tax rates and tax laws that have been enacted or substantially enacted at year end. Under IFRS, deferred income tax assets (liabilities) are classified as non-current assets (liabilities).

Deferred tax assets are recognized to the extent it is probable that future taxable income will be available to offset temporary differences.

Deferred income tax is provided on temporary differences arising on investments in subsidiaries and associated companies, except where the timing of the reversal of the temporary difference is controlled by the Company and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred tax assets and liabilities are re-estimated if tax rates change. These amounts are charged or credited to the consolidated income statement or to the item "Other comprehensive income for the year" in the consolidated statement of comprehensive income, depending on the account to which the original amount was charged or credited.

(o) Employee liabilities*(1) Post-employment obligations*

The Company has defined benefit and defined contribution plans. A defined benefit plan is a pension plan that defines an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation.

4. ACCOUNTING POLICIES (Continued)

The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually (at year end) by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and that have terms to maturity approximating to the terms of the related pension obligation. In countries where there is no deep market in such bonds, the market rates on government bonds are used.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity in other comprehensive income in the period in which they arise. Past-service costs are recognized immediately in income.

For defined benefit plans, net defined benefit liability/asset is calculated based on the surplus or deficit derived by the difference between the defined benefit obligations less plan assets.

For defined contribution plans, the Company pays contributions to publicly or privately administered pension insurance plans on a mandatory, contractual or voluntary basis. The Company has no further payment obligations once the contributions have been paid. The contributions are recognized as employee benefit expense when they are due. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in the future payments is available.

Mexico

Ternium Mexico has defined benefit and defined contribution plans.

The valuation of the liabilities for the defined benefit employee retirement plans (pensions and seniority premiums) covers all employees and is based primarily on their years of service, their present age and their remuneration at the date of retirement. The cost of the employee retirement plans (pension, health-care expenses and seniority premiums) is recognized as an expense in the year in which services are rendered in accordance with actuarial studies made by independent actuaries. The formal retirement plans are congruent with and complementary to the retirement benefits established by the Mexican Institute of Social Security. Additionally, the Company has established a plan to cover health-care expenses of retired employees. The Company has established a commitment for the payment of pensions and seniority premiums, as well as for health-care expenses.

The defined contribution plans provide a benefit equivalent to the capital accumulated with the company's contributions, which are provided as a match of employees' contributions to the plan. The plan provides vested rights according to the years of service and the cause of retirement.

Argentina

Ternium Argentina implemented an unfunded defined benefit employee retirement plan for certain senior officers. The plan is designed to provide certain benefits to those officers (additional to those contemplated under applicable Argentine labor laws) in case of termination of the employment relationship due to certain specified events, including retirement. This unfunded plan provides defined benefits based on years of service and final average salary.

(2) Termination benefits

Termination benefits are payable when employment is terminated before the normal retirement date, or whenever an employee accepts voluntary redundancy in exchange for these benefits. The Company recognizes termination benefits when it is demonstrably committed to either: (i) terminating the employment of current employees according to a detailed formal plan without possibility of withdrawal or (ii) providing termination benefits as a result of an offer made to encourage voluntary redundancy.

(3) Other compensation obligations

Employee entitlements to annual leave and long-service leave are accrued as earned.

4. ACCOUNTING POLICIES (Continued)

During 2007, Ternium launched an incentive retention program (the "Program") applicable to certain senior officers and employees of the Company, who will be granted a number of Units throughout the duration of the Program. The value of each of these Units is based on Ternium's shareholders' equity (excluding non-controlling interest). Also, the beneficiaries of the Program are entitled to receive cash amounts based on (i) the amount of dividend payments made by Ternium to its shareholders, and (ii) the number of Units held by each beneficiary to the Program. Units vest ratably over a period of four years and will be redeemed by the Company ten years after grant date, with the option of an early redemption at seven years after grant date. From 2018 units were vest ratably over the same period and will be mandatorily redeemed by the Company seven years after grant date. As the cash payment of the benefit is tied to the book value of the shares, and not to their market value, Ternium valued this long-term incentive program as a long term benefit plan as classified in IAS 19.

As of December 31, 2019 and 2018, the outstanding liability corresponding to the Program amounts to \$36.2 million and \$43.0 million, respectively. The total value of the units granted to date under the program, considering the number of units and the book value per share as of December 31, 2019 and 2018, is \$36.0 million and \$42.2 million, respectively.

Under Mexican law, Ternium's subsidiaries are required to pay their employees an annual benefit which is determined as a percentage of taxable profit for the year.

(4) Social security contributions

Social security laws in force in the countries in which the Company operates provide for pension benefits to be paid to retired employees from government pension plans and/or private fund managed plans to which employees may elect to contribute. As stipulated by the respective laws, Ternium Argentina and Ternium Mexico make monthly contributions calculated based on each employee's salary to fund such plans. The related amounts are expensed as incurred. No additional liabilities exist once the contributions are paid.

(p) Provisions

Ternium has certain contingencies with respect to existing or potential claims, lawsuits and other proceedings. Unless otherwise specified, Ternium accrues a provision for a present legal or constructive obligation as a result of a past event, when it is probable that future cost could be incurred and that cost can be reasonably estimated. Generally, accruals are based on developments to date, Ternium's estimates of the outcomes of these matters and the advice of Ternium's legal advisors.

(q) Trade payables

Trade payables are recognized initially at fair value and subsequently measured at amortized cost using the effective interest method.

(r) Revenue recognition and other income

Revenue is recognized at a point of time from sales to direct customers upon the satisfaction of performance obligations, which occurs when control of the goods transfers to the customer and the customer obtains the benefits from the goods, the potential cash flows and the transaction price can be measured reliably, and it is probable that the Company will collect the consideration in connection with the exchange of the goods. The control over the goods is obtained by the customer depending on when the goods are made available to the shipper or the customer takes possession of the goods, depending on the delivery terms. The Company considers that it has completed its performance obligations when the goods are delivered to its customers or to a shipper who will transport the goods to its customers. The revenue recognized by the Company is measured at the transaction price of the consideration received or receivable to which the Company is entitled to, reduced by estimated returns and other customer credits, such as discounts and volume rebates, based on the expected value to be realized and after eliminating sales within the group.

Interest income is recognized on an effective yield basis.

4. ACCOUNTING POLICIES (Continued)**(s) Borrowing Costs**

General and specific borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset are capitalized during the period of time that is required to complete and prepare the asset for its intended use or sale. Qualifying assets are assets that necessarily take a substantial period of time to get ready for their intended use or sale.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization.

Other borrowing costs are expensed in the period in which they are incurred.

The amount of borrowing costs that Ternium capitalized during a period will not exceed the amount of borrowing costs incurred during that period. At December 31, 2019, 2018 and 2017, the capitalized borrowing costs were of \$16.1 million, \$7.4 million and \$0.5 million, respectively.

(t) Cost of sales, selling, general and administrative expenses

Cost of sales and expenses are recognized in the income statement on the accrual basis of accounting.

Commissions, freight and other selling expenses, including shipping and handling costs, are recorded in Selling, general and administrative expenses in the Consolidated Income Statement.

(u) Stripping costs

Stripping costs are the costs associated with the removal of overburden and other waste materials and can be incurred before the mining production commences (“development stripping”) or during the production stage (“production stripping”).

Development stripping costs that contribute to the future economic benefits of mining operations are capitalized as intangible assets (Mining assets). Production stripping costs which are part of on-going activities are included in the cost of the inventory produced (that is extracted) at each mine during the period in which they are incurred.

Capitalization of development stripping costs finishes when the commercial production of the mine commences. At that time, all development stripping costs are presented within Mining assets and depreciated on a unit-of-production basis. It is considered that commercial production begins when the production stage of mining operations begins and continues throughout the life of a mine.

(v) Mining development costs

Mining development costs are the costs associated to the activities related to the establishment of access to the mineral reserve and other preparations for commercial production. These activities often continue during production.

Development expenditures are capitalized and classified as Work in progress. On completion of development, all assets included in Work in progress are individually reclassified to the appropriate category of property, plant and equipment and depreciated accordingly.

(w) Asset retirement obligations

Ternium records asset retirement obligations (“ARO”) initially at the fair value of the legal or constructive obligation in the period in which it is incurred and capitalizes the ARO by increasing the carrying amount of property, plant and equipment. The fair value of the obligation is determined as the discounted value of the expected future cash flows and is included in Provisions. The liability is accreted to its present value through net financing cost and the capitalized cost is depreciated based in the unit of production method.

4. ACCOUNTING POLICIES (Continued)**(x) Earnings per share**

Earnings per share are calculated by dividing the net income attributable to shareholders by the daily weighted average number of ordinary shares issued during the year, excluding the average number of shares of the parent Company held by the Group. There are no dilutive securities for the periods presented.

(y) Derivative financial instruments and hedging activities

Ternium designates certain derivatives as hedges of a particular risk associated with a recognized asset or liability or a highly probable forecast transaction. These transactions are classified as cash flow hedges (mainly interest rate swaps, collars, currency forward contracts on highly probable forecast transactions and commodities contracts). The effective portion of the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in OCI. Amounts accumulated in OCI are recognized in the income statement in the same period as any offsetting losses and gains on the hedged item. The gain or loss relating to the ineffective portion is recognized immediately in the income statement. The fair value of Ternium derivative financial instruments (asset or liability) continues to be reflected in the statement of financial position.

For transactions designated and qualifying for hedge accounting, Ternium documents the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedge transactions. At December 31, 2019 and 2018, the effective portion of designated cash flow hedges (net of taxes) amounted to \$(0.1) million and \$0.5 million, respectively, and were included under "changes in the fair value of derivatives classified as cash flow hedges" line item in the statement of comprehensive income (see Note 27 (a)).

More information about accounting for derivative financial instruments and hedging activities is included in Note 30 "Financial risk management".

(z) Treasury shares

Acquisitions of treasury shares are recorded at acquisition cost, deducted from equity until disposal. The gains and losses on disposal of treasury shares are recognized under "Reserves" in the consolidated statement of financial position.

(aa) Cash flow

The consolidated statements of cash flows have been prepared using the indirect method and contain the use of the following expressions and their respective meanings:

- a) Operating activities: activities that constitute ordinary Group revenues, as well as other activities that cannot be qualified as investing or financing.
- b) Investing activities: acquisition, sale or disposal by other means of assets in the long-term and other investments not included in cash and cash equivalents.
- c) Financing activities: activities that generate changes in the size and composition of net equity and liabilities that do not form part of operating activities.

(bb) Critical Accounting Estimates

The preparation of financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and the related disclosure of contingent assets and liabilities. Estimates and judgments are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. Management makes estimates and assumptions concerning the future. Actual results may differ significantly from these estimates under different assumptions or conditions.

The principal estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below.

4. ACCOUNTING POLICIES (Continued)*(1) Goodwill impairment test*

Assessment of the recoverability of the carrying value of goodwill requires significant judgment. Management evaluates goodwill allocated to the operating units for impairment on an annual basis or whenever there is an impairment indicator.

Goodwill is tested at the level of the CGUs. Impairment testing of the CGUs is carried out and the value in use determined in accordance with the accounting policy stated in Note 4(f). The discount rates used for these tests are based on Ternium's weighted average cost of capital adjusted for specific country and currency risks associated with the cash flow projections. The discount rate used at December 31, 2019 was 9.80% and no impairment charge resulted from the impairment test performed. See notes 4(f) and 4(e)(4).

(2) Income taxes

Management calculates current and deferred income taxes according to the tax laws applicable to each subsidiary in the countries in which such subsidiaries operate. However, due to uncertain tax positions, certain adjustments necessary to determine the income tax provision are finalized only after the balance sheet is issued. In cases in which the final tax outcome is different from the amounts that were initially recorded, such differences will impact the income tax and deferred tax provisions in the period in which such determination is made.

Also, when assessing the recoverability of tax assets, management considers the scheduled reversal of deferred tax liabilities, projected future taxable income and tax planning strategies.

(3) Loss contingencies

Ternium is subject to various claims, lawsuits and other legal proceedings that arise in the ordinary course of business, including customer claims in which a third party is seeking reimbursement or indemnity. The Company's liability with respect to such claims, uncertain tax positions, lawsuits and other legal proceedings cannot be estimated with certainty. Periodically, management reviews the status of each significant matter and assesses potential financial exposure. If the potential loss from the claim or proceeding is considered probable and the amount can be reasonably estimated, a liability is recorded. Management estimates the amount of such liability based on the information available and the assumptions and methods it has concluded are appropriate, in accordance with the provisions of IFRS. Accruals for such contingencies reflect a reasonable estimate of the losses to be incurred based on information available, including the relevant litigation or settlement strategy, as of the date of preparation of these financial statements. As additional information becomes available, management will reassess its evaluation of the pending claims, lawsuits and other proceedings and revise its estimates. The loss contingencies provision amounts to \$613.4 million and \$643.9 million as of December 31, 2019 and 2018, respectively (see note 3).

(4) Allowance for obsolescence of supplies and spare parts and slow-moving inventory

Management assesses the recoverability of its inventories considering their selling prices or whether they are damaged or have become wholly or partly obsolete.

Net realizable value is the estimated selling price in the ordinary course of business, less the costs of completion and selling expenses.

The Company establishes an allowance for obsolete or slow-moving inventory in connection with finished goods and goods in process. The allowance for slow-moving inventory is recognized for finished goods and goods in process based on management's analysis of their aging. In connection with supplies and spare parts, the calculation is based on management's analysis of their aging, the capacity of such materials to be used based on their levels of preservation and maintenance, and their potential obsolescence due to technological change.

As of December 31, 2019 and 2018, the Company recorded no allowance for net realizable value and \$62.2 million and \$55.5 million, respectively, as allowance for obsolescence.

4. ACCOUNTING POLICIES (Continued)*(5) Useful Lives and Impairment of Property, Plant and Equipment and Other Long-lived Assets*

In determining useful lives, management considered, among others, the following factors: age, operating condition and level of usage and maintenance. Management conducted visual inspections for the purpose of (i) determining whether the current conditions of such assets are consistent with normal conditions of assets of similar age; (ii) confirming that the operating conditions and levels of usage of such assets are adequate and consistent with their design; (iii) establishing obsolescence levels and (iv) estimating life expectancy, all of which were used in determining useful lives. Management believes, however, that it is possible that the periods of economic utilization of property, plant and equipment may be different than the useful lives so determined. Furthermore, management believes that this accounting policy involves a critical accounting estimate because it is subject to change from period to period as a result of variations in economic conditions and business performance.

When assessing whether an impairment indicator may exist, the Company evaluates both internal and external sources of information, such as the following:

- whether significant changes with an adverse effect on the entity have taken place during the period, or will take place in the near future, in the technological, market, economic or legal environment in which the entity operates or in the market to which an asset is dedicated;
- whether market interest rates or other market rates of return on investments have increased during the period, and those increases are likely to affect the discount rate used in calculating an asset's value in use and decrease the asset's recoverable amount materially;
- whether the carrying amount of the net assets of the entity is more than its market capitalization;
- whether evidence is available of obsolescence or physical damage of an asset.
- whether significant changes with an adverse effect on the entity have taken place during the period, or are expected to take place in the near future, in the extent to which, or manner in which, an asset is used or is expected to be used. These changes include the asset becoming idle, plans to discontinue or restructure the operation to which an asset belongs, plans to dispose of an asset before the previously expected date, and reassessing the useful life of an asset as finite rather than indefinite; and
- whether evidence is available from internal reporting that indicates that the economic performance of an asset is, or will be, worse than expected.

Considering the economic situation in Argentina, the Company tested the recoverability of its investment in Ternium Argentina as of December 31, 2019, resulting in no impairment charges to be recognized.

Considering that no impairment indicators were identified in the rest of subsidiaries as of December 31, 2019 and 2018, the Company additionally tested the value of the goodwill for impairment, resulting in no impairment charges to be recognized.

(6) Mining reserve estimates

Reserves are estimates of the amount of product that can be economically and legally extracted from the Company's mining concessions. In order to estimate reserves, a range of geological, technical and economic factors is required to be considered. Estimating the quantity and/or grade of reserves requires complex and difficult geological judgments to interpret the data. Because the economic assumptions used to estimate reserves change from period to period, and because additional geological data is generated during the course of operations, estimates of reserves may change from period to period.

Changes in reported reserves may affect the Company's financial results and financial position, including the following:

- Asset carrying amounts may be affected due to changes in estimated future cash flows.
- Depreciation and amortization charges may change where such charges are determined by the units of production basis, or where the useful economic lives of assets change.
- Stripping costs recognized in Mining assets or charged to results may change due to changes in stripping ratios or the units of production basis of depreciation.
- Asset retirement obligations may change where changes in estimated reserves affect expectations about the timing or cost of these activities.

4. ACCOUNTING POLICIES (Continued)*(7) Post-employment obligation estimates*

The Company estimates at each year-end the provision necessary to meet its post-employment obligations in accordance with the advice from independent actuaries. The calculation of post-employment and other employee obligations requires the application of various assumptions. The main assumptions for post-employment and other employee obligations include discount rates, compensation growth rates, pension growth rates and life expectancy. Changes in the assumptions could give rise to adjustments in the results and liabilities recorded and might have an impact on the post-employment and other employee obligations recognized in the future.

(8) Business combinations

The recognition of business combinations requires the excess of the purchase price of acquisitions over the net book value of assets acquired to be allocated to the assets and liabilities of the acquired entity. The Company makes judgments and estimates in relation to the fair value allocation of the purchase price. If any unallocated portion is positive, it is recognized as goodwill, and if negative, it is recognized in the income statement. See further information in Note 3.

(9) Valuation of lease liabilities and right-of-use assets

The application of IFRS 16 requires the Company to make judgments that affect the recognition and valuation of the lease liabilities and the right-of-use assets, including the determination of the contracts within the scope of the Standard, the contract term and the interest rate used for the discount of future cash flows.

The lease term determined by the Company generally comprises non-cancellable period of leases contracts, periods covered by an option to extend the lease if the Company is reasonably certain to exercise that option and periods covered by an option to terminate the lease if the Company is reasonably certain not to exercise that option. The same term is applied as economic useful life of right-of-use assets.

The present value of the lease payments is determined using the discount rate representing a risk-free interest rate, adjusted by a spread related to the credit quality of the Company in each location and currency rate in connection with each lease contract.

(cc) Application of IAS 29 in financial reporting of Argentine subsidiaries and associates

IAS 29 “Financial Reporting in Hyperinflationary Economies” requires that the financial statements of entities whose functional currency is that of a hyperinflationary economy to be adjusted for the effects of changes in a suitable general price index and to be expressed in terms of the current unit of measurement at the closing date of the reporting period. Accordingly, the inflation produced from the date of acquisition or from the revaluation date, as applicable, must be computed in the non-monetary items.

In order to conclude on whether an economy is categorized as hyperinflationary under the terms of IAS 29, the Standard details a series of factors to be considered, including the existence of a cumulative inflation rate in three years that approximates or exceeds 100%.

Considering that the downward trend in inflation in Argentina observed in the previous year has reversed and observing a significant increase in inflation during 2018, which exceeded the 100% three-year cumulative inflation rate, and that the rest of the indicators do not contradict the conclusion that Argentina should be considered a hyperinflationary economy for accounting purposes, the Company considered that there was sufficient evidence to conclude that Argentina is a hyperinflationary economy under the terms of IAS 29 as from July 1, 2018, and, accordingly, applied IAS 29 as from that date in the financial reporting of its subsidiaries and associates with the Argentine peso as functional currency.

4. ACCOUNTING POLICIES (Continued)

According to this principle, the financial statements of an entity that reports in the currency of a hyperinflationary economy should be stated in terms of the measuring unit current on the date of the financial statements. All statement of financial position amounts that are not stated in terms of the measuring unit current on the date of the financial statements must be restated by applying a general price index. All income statement components must be stated in terms of the measuring unit current on the date of the financial statements, applying the change in the general price index that occurred since the date when revenues and expenses were originally recognized in the financial statements.

The inflation adjustment on the initial balances was calculated by means of conversion factor derived from the Argentine price indexes published by the National Institute of Statistics (“INDEC”). The price index for the year period ended December 31, 2019, was 1.54.

The main procedures for the above-mentioned adjustment are as follows:

- Monetary assets and liabilities which are carried at amounts current at the balance sheet date are not restated because they are already expressed in terms of the monetary unit current at the balance sheet date.
- Non-monetary assets and liabilities which are not carried at amounts current at the balance sheet date, and components of shareholders' equity are adjusted by applying the relevant conversion factors.
- All items in the income statement are restated by applying the relevant conversion factors.
- The effect of inflation on the Company's net monetary position is included in the income statement, in Other financial income (expenses), net, under the caption “Inflation adjustment results”.
- The ongoing application of the re-translation of comparative amounts to closing exchange rates under IAS 21 and the hyperinflation adjustments required by IAS 29 will lead to a difference in addition to the difference arising on the adoption of hyperinflation accounting.

The comparative figures in these consolidated financial statements presented in a stable currency are not adjusted for subsequent changes in the price level or exchange rates. This resulted in an initial difference, arising on the adoption of hyperinflation accounting, between the closing equity of the previous year and the opening equity of the current year. The Company recognized this initial difference directly in equity.

5. SEGMENT INFORMATION

REPORTABLE OPERATING SEGMENTS

The Company is organized in two reportable segments: Steel and Mining.

The Steel segment includes the sales of steel products, which comprises slabs, hot rolled coils and sheets, cold rolled coils and sheets, tin plate, welded pipes, hot dipped galvanized and electro-galvanized sheets, pre-painted sheets, billets (steel in its basic, semi-finished state), wire rod and bars and other tailor-made products to serve its customers' requirements. It also includes the sales of energy.

The Steel segment comprises four operating segments: Mexico, Southern Region, Brazil and Other markets. These four segments have been aggregated considering the economic characteristics and financial effects of each business activity in which the entity engages; the related economic environment in which it operates; the type or class of customer for the products; the nature of the products; and the production processes. The Mexico operating segment comprises the Company's businesses in Mexico. The Southern region operating segment manages the businesses in Argentina, Paraguay, Chile, Bolivia and Uruguay. The Brazil operating segment includes the business generated in Brazil. The Other markets operating segment includes businesses mainly in United States, Colombia, Guatemala, El Salvador, Honduras, Costa Rica and Nicaragua.

The Mining segment includes the sales of mining products, mainly iron ore and pellets, and comprises the mining activities of Las Encinas, an iron ore mining company in which Ternium holds a 100% equity interest and the 50% of the operations and results performed by Peña Colorada, another iron ore mining company in which Ternium maintains that same percentage over its equity interest. Both mining operations are located in Mexico. For Peña Colorada, the Company recognizes its assets, liabilities, revenue and expenses in relation to its interest in the joint operation.

Ternium's Chief Operating Decision Maker (CEO) holds monthly meetings with senior management, in which operating and financial performance information is reviewed, including financial information that differs from IFRS principally as follows:

- The use of direct cost methodology to calculate the inventories, while under IFRS is at full cost, including absorption of production overheads and depreciation.
- The use of costs based on previously internally defined cost estimates, while, under IFRS, costs are calculated at historical cost (with the FIFO method).
- Other timing and non-significant differences.

Most information on segment assets is not disclosed as it is not reviewed by the CEO.

5. SEGMENT INFORMATION (continued)

	Year ended December 31, 2019			
	Steel	Mining	Inter-segment eliminations	Total
IFRS				
Net sales	10,186,171	364,058	(357,411)	10,192,818
Cost of sales	(8,552,493)	(259,535)	359,588	(8,452,440)
Gross profit	1,633,679	104,523	2,177	1,740,378
Selling, general and administrative expenses	(885,146)	(12,330)	—	(897,475)
Other operating income, net	21,931	(268)	—	21,663
Operating income - IFRS	770,466	91,924	2,177	864,566
Management view				
Net sales	10,230,650	417,619	(410,972)	10,237,297
Operating income	841,169	146,636	2,177	989,982
Reconciliation items:				
Differences in Cost of sales				99,315
Effect of inflation adjustment (Note 4 (cc))				(224,731)
Operating income - IFRS				864,566
Financial income (expense), net				(98,969)
Equity in earnings (losses) of non-consolidated companies				60,967
Income before income tax expense - IFRS				826,564
Depreciation and amortization - IFRS	(612,744)	(48,368)	—	(661,112)
Year ended December 31, 2018				
	Steel	Mining	Inter-segment eliminations	Total
IFRS				
Net sales	11,453,420	282,000	(280,613)	11,454,807
Cost of sales	(8,524,890)	(239,893)	281,455	(8,483,328)
Gross profit	2,928,530	42,107	842	2,971,479
Selling, general and administrative expenses	(860,881)	(15,883)	—	(876,764)
Other operating income, net	12,950	706	—	13,656
Operating income - IFRS	2,080,599	26,930	842	2,108,371
Management view				
Net sales	11,723,883	333,892	(332,505)	11,725,270
Operating income	1,768,115	91,418	(6,213)	1,853,319
Reconciliation items:				
Differences in Cost of sales				541,492
Effect of inflation adjustment (Note 4 (cc))				(286,440)
Operating income - IFRS				2,108,371
Financial income (expense), net				(179,576)
Equity in earnings (losses) of non-consolidated companies				102,772
Income before income tax expense - IFRS				2,031,567
Depreciation and amortization - IFRS	(537,885)	(51,415)	—	(589,299)

5. SEGMENT INFORMATION (continued)

	Year ended December 31, 2017			
	Steel	Mining	Inter-segment eliminations	Total
IFRS				
Net sales	9,700,260	271,477	(271,441)	9,700,296
Cost of sales	(7,465,751)	(212,860)	275,586	(7,403,025)
Gross profit	2,234,509	58,617	4,145	2,297,271
Selling, general and administrative expenses	(811,487)	(12,760)	—	(824,247)
Other operating income, net	(17,011)	771	—	(16,240)
Operating income - IFRS	1,406,011	46,628	4,145	1,456,784
Management view				
Net sales	9,700,260	287,152	(287,116)	9,700,296
Operating income	1,065,605	66,694	(1,291)	1,131,008
Reconciliation items:				
Differences in Cost of sales				325,776
Operating income - IFRS				1,456,784
Financial income (expense), net				(165,090)
Equity in earnings (losses) of non-consolidated companies				68,115
Income before income tax expense - IFRS				1,359,809
Depreciation and amortization - IFRS	(424,529)	(49,770)	—	(474,299)

GEOGRAPHICAL INFORMATION

The Company has revenues attributable to the Company's country of incorporation (Luxembourg), related to a contract acquired as a part of the business combination disclosed in note 3.

For purposes of reporting geographical information, net sales are allocated based on the customer's location. Allocation of depreciation and amortization is based on the geographical location of the underlying assets.

	Year ended December 31, 2019			
	Mexico	Southern region	Other markets (2)	Total
Net sales	5,477,690	1,704,132	3,010,996	10,192,818
Non-current assets (1)	4,584,802	1,008,860	1,889,757	7,483,419
	Year ended December 31, 2018			
	Mexico	Southern region	Other markets (2)	Total
Net sales	6,345,137	1,941,168	3,168,502	11,454,807
Non-current assets (1)	4,093,288	1,071,705	1,665,140	6,830,133
	Year ended December 31, 2017			
	Mexico	Southern region	Other markets (2)	Total
Net sales	5,629,267	2,316,444	1,754,585	9,700,296
Non-current assets (1)	4,042,914	643,411	1,756,007	6,442,332

(1) Includes Property, plant and equipment and Intangible assets.

(2) Includes the assets related to the business acquisition disclosed in note 3.

5. SEGMENT INFORMATION (continued)

REVENUES BY PRODUCT

	Year ended December 31,		
	2019	2018	2017
Semi-finished (1)	51,496	103,099	123,752
Slabs	1,753,090	1,818,235	715,513
Hot rolled (2)	3,275,941	3,961,144	3,366,697
Cold rolled	1,165,406	1,264,940	1,321,663
Coated (3)	3,263,463	3,506,040	3,391,328
Roll-formed and tubular (4)	380,688	437,514	472,253
Other products (5)	302,734	363,835	309,090
TOTAL SALES	10,192,818	11,454,807	9,700,296

(1) Semi-finished includes billets and round bars.

(2) Hot rolled includes hot rolled flat products, merchant bars, reinforcing bars, stirrups and rods.

(3) Coated includes tin plate and galvanized products.

(4) Roll-formed and tubular includes tubes, beams, insulated panels, roofing and cladding, roof tiles, steel decks and pre-engineered metal building systems.

(5) Other products include mainly sales of energy and pig iron.

6. COST OF SALES

	Year ended December 31,		
	2019	2018	2017
Inventories at the beginning of the year	2,689,829	2,550,930	1,647,869
Acquisition of business (Note 3)	—	—	400,047
Effect of initial inflation adjustment (Note 4 (cc))	—	191,708	—
Translation differences	(21,919)	(413,436)	(97,148)
Plus: Charges for the year			
Raw materials and consumables used and other movements	6,165,654	6,961,704	6,337,283
Services and fees	151,373	158,551	110,949
Labor cost	611,615	699,447	673,821
Depreciation of property, plant and equipment	508,934	456,522	348,415
Amortization of intangible assets	17,805	25,374	35,275
Maintenance expenses	467,090	519,625	480,496
Office expenses	8,513	8,586	7,350
Insurance	9,674	8,769	7,968
Charge of obsolescence allowance	8,413	17,322	(4,028)
Recovery from sales of scrap and by-products	(23,793)	(27,744)	(25,973)
Others	17,550	15,799	31,631
Less: Inventories at the end of the year	(2,158,298)	(2,689,829)	(2,550,930)
Cost of Sales	8,452,440	8,483,328	7,403,025

7. SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

	Year ended December 31,		
	2019	2018	2017
Services and fees (1)	79,283	76,066	86,990
Labor cost	215,418	241,552	229,529
Depreciation of property, plant and equipment	16,034	13,561	12,345
Amortization of intangible assets	118,339	93,842	78,264
Maintenance and expenses	4,894	5,096	5,038
Taxes	104,014	95,072	98,786
Office expenses	35,956	35,663	35,922
Freight and transportation	307,958	300,676	259,898
(Decrease) Increase of allowance for doubtful accounts	(293)	1,629	685
Others	15,872	13,607	16,790
Selling, general and administrative expenses	897,475	876,764	824,247

(1) For the year ended December 31, 2019, it includes fees accrued for professional services rendered by PwC to Ternium S.A. and its subsidiaries that amounted to \$3,804, including \$3,485 for audit services, \$54 for audit-related services, \$190 for tax services and \$75 for all other services.

For the year ended December 31, 2018, it includes fees accrued for professional services rendered by PwC to Ternium S.A. and its subsidiaries that amounted to \$4,704, including \$3,937 for audit services, \$61 for audit-related services, \$281 for tax services and \$425 for all other services.

For the year ended December 31, 2017, it includes fees accrued for professional services rendered by PwC to Ternium S.A. and its subsidiaries that amounted to \$3,501, including \$2,863 for audit services, \$91 for audit-related services, \$229 for tax services and \$318 for all other services.

8. LABOR COSTS (Included Cost of sales and Selling, General and Administrative expenses)

	Year ended December 31,		
	2019	2018	2017
Wages, salaries and social security costs	759,678	884,536	849,354
Termination benefits	28,269	26,601	25,783
Post-employment benefits (Note 21 (i))	39,086	29,862	28,213
Labor costs	827,033	940,999	903,350

As of December 31, 2019, 2018 and 2017, the quantity of employees was 19,863, 20,660 and 21,335, respectively.

9. OTHER OPERATING INCOME (EXPENSES), NET

	Year ended December 31,		
	2019	2018	2017
Results of sundry assets	258	1,895	1,190
Provision for legal claims and other matters (Note 19 and 25 (ii))	1,997	7,625	—
Other operating income	19,408	4,136	—
Other operating income	21,663	13,656	1,190
Provision for legal claims and other matters (Note 19 and 25 (ii))	—	—	(2,783)
Other operating expense	—	—	(14,647)
Other operating expense	—	—	(17,430)
Other operating (expenses) income, net	21,663	13,656	(16,240)

10. OTHER FINANCIAL INCOME (EXPENSES), NET

	Year ended December 31,		
	2019	2018	2017
Interest expense	(88,284)	(131,172)	(114,583)
Finance expense	(88,284)	(131,172)	(114,583)
Interest income	29,071	21,236	19,408
Finance income	29,071	21,236	19,408
Net foreign exchange (loss) gain	(136,897)	(177,645)	(65,479)
Inflation adjustment results (Note 4 (cc))	117,956	191,427	—
Change in fair value of financial assets	—	—	(1,057)
Derivative contract results	(10,831)	(99,259)	4,132
Others	(9,984)	15,837	(7,511)
Other financial income (expenses), net	(39,756)	(69,640)	(69,915)

11. INCOME TAX EXPENSE

Income tax expense for each of the years presented is as follows:

	Year ended December 31,		
	2019	2018	2017
Current tax	(256,460)	(588,773)	(450,384)
Effect of changes in tax law (1)	4,178	(28,596)	—
Deferred tax (Note 20)			
Deferred tax	38,785	232,485	106,047
Effect of changes in tax law (1)	16,979	—	7,455
Recovery of income tax (2)	—	15,449	—
Income tax expense	(196,519)	(369,435)	(336,882)

(1) For 2019, it includes mainly the application of the new tax law in Argentina that enables the tax inflation adjustment. The reduction of the tax rate in Argentina enacted in 2017 was modified in 2019, setting the corporate income tax rate to 30% for the year 2020 and to 25% from the year 2021 going forward.

For 2018, it includes mainly the option exercised by the Company of the asset revaluation for tax purpose in Argentina, for which an amount of \$28.6 millions was included.

For 2017, it includes the effects of the Argentine tax reform, which became effective starting January 1, 2018, including a reduction in the corporate income tax rate from 35% to 30% during the first two years (i.e., fiscal years starting on or after January 1, 2018 until December 31, 2019, inclusive) and to 25% going forward. Also, a one-time tax on an asset revaluation for tax purposes was approved.

It also includes the effects of the U.S. tax reform, which among other provisions, reduced the U.S. corporate tax rate from 35% to 21%, effective January 1, 2018. This required a revaluation of the deferred tax assets and liabilities and certain current tax payables to the newly enacted tax rates at the date of enactment. Consequently, the Company has recorded a net adjustment to deferred income tax benefit of \$5.2 million for the year ended December 31, 2017.

(2) It includes the recovery of tax credits in Ternium Brasil Ltda.

Income tax expense for the years ended December 31, 2019, 2018 and 2017 differed from the amount computed by applying the statutory income tax rate in force in each country in which the company operates to pre-tax income as a result of the following:

	Year ended December 31,		
	2019	2018	2017
Income before income tax	826,564	2,031,567	1,359,809
Income tax expense at statutory tax rate	(247,592)	(604,493)	(387,666)
Non taxable income	71,101	102,870	16,232
Non deductible expenses	(476)	(16,201)	(24,070)
Effect of currency translation on tax base (1)	33,133	161,536	51,167
Increase of unrecognized tax losses carried-forward	(73,842)	—	—
Recovery of income tax	—	15,449	—
Effect of changes in tax law	21,157	(28,596)	7,455
Income tax expense	(196,519)	(369,435)	(336,882)

(1) Ternium applies the liability method to recognize deferred income tax on temporary differences between the tax bases of assets and their carrying amounts in the financial statements. By application of this method, Ternium recognizes gains and losses on deferred income tax due to the effect of the change in the value on the tax basis in subsidiaries, which have a functional currency different to their local currency, mainly Mexico.

Tax rates used to perform the reconciliation between tax expense (income) and accounting profit are those in effect at each relevant date or period in each applicable jurisdiction.

12. PROPERTY, PLANT AND EQUIPMENT, NET

(1) Property, plant and equipment, net

	Year ended December 31, 2019							Total
	Land	Buildings and improvements	Production equipment	Vehicles, furniture and fixtures	Work in progress	Spare parts	Right-of-use assets	
Values at the beginning of the year								
Cost	587,174	3,303,174	6,748,644	264,782	617,950	124,220	55,288	11,701,232
Accumulated depreciation	—	(1,520,976)	(4,126,060)	(217,394)	—	(13,275)	(5,918)	(5,883,623)
Net book value at January 1, 2019	587,174	1,782,198	2,622,584	47,388	617,950	110,945	49,370	5,817,609
Opening net book value	587,174	1,782,198	2,622,584	47,388	617,950	110,945	49,370	5,817,609
Effect of initial recognition under IFRS 16	—	—	—	—	—	—	280,493	280,493
Translation differences	(596)	(16,174)	(9,959)	(316)	(1,716)	(1,089)	(1,263)	(31,113)
Additions	7,531	9,367	2,063	4,821	923,599	38,476	40,864	1,026,721
Capitalized borrowing costs	—	—	—	—	16,085	—	—	16,085
Disposals / Consumptions	—	(750)	(117)	(1,204)	(2,988)	(21,489)	(18,901)	(45,449)
Transfers	326	154,544	264,122	14,843	(433,582)	(50)	—	3,125
Depreciation charge	—	(135,163)	(324,112)	(15,167)	—	(6,421)	(44,105)	(524,968)
Closing net book value	594,435	1,794,022	2,554,581	50,365	1,119,348	120,372	306,458	6,539,581
Values at the end of the year								
Cost	594,435	3,412,904	6,931,970	268,398	1,119,348	140,028	355,928	12,823,011
Accumulated depreciation	—	(1,618,882)	(4,377,389)	(218,033)	—	(19,656)	(49,470)	(6,283,430)
Net book value at December 31, 2019	594,435	1,794,022	2,554,581	50,365	1,119,348	120,372	306,458	6,539,581
	Year ended December 31, 2018							
	Land	Buildings and improvements	Production equipment	Vehicles, furniture and fixtures	Work in progress	Spare parts	Right-of-use assets	Total
Values at the beginning of the year								
Cost	562,042	2,096,959	4,927,478	151,883	456,021	113,188	—	8,307,571
Accumulated depreciation	—	(563,523)	(2,286,828)	(104,303)	—	(3,164)	—	(2,957,818)
Net book value at January 1, 2018	562,042	1,533,436	2,640,650	47,580	456,021	110,024	—	5,349,753
Opening net book value	562,042	1,533,436	2,640,650	47,580	456,021	110,024	—	5,349,753
Effect of initial inflation adjustment (Note 4 (cc))	19,646	434,683	282,577	5,698	25,568	19,858	—	788,030
Translation differences	(2,217)	(140,879)	(124,066)	(5,102)	(29,005)	(10,836)	—	(312,105)
Additions	1,888	4,083	3,647	3,569	446,002	23,880	—	483,069
Capitalized borrowing costs	—	—	—	—	7,368	—	—	7,368
Disposals / Consumptions	—	(93)	(2,186)	(1,236)	(3,563)	(24,470)	—	(31,548)
Transfers	5,815	80,197	187,284	11,726	(284,441)	2,543	—	3,124
Depreciation charge	—	(129,229)	(315,952)	(14,847)	—	(10,055)	—	(470,083)
Closing net book value	587,174	1,782,198	2,671,954	47,388	617,950	110,945	—	5,817,609
Values at the end of the year								
Cost	587,174	3,303,174	6,803,932	264,782	617,950	124,220	—	11,701,232
Accumulated depreciation	—	(1,520,976)	(4,131,978)	(217,394)	—	(13,275)	—	(5,883,623)
Net book value at December 31, 2018	587,174	1,782,198	2,671,954	47,388	617,950	110,945	—	5,817,609

12. PROPERTY, PLANT AND EQUIPMENT, NET (continued)**(2) Right-of-use assets**

	Buildings and improvements	Production equipment	Vehicles, furniture and fixtures	Total
Values at the beginning of the year				
Cost	—	55,288	—	55,288
Accumulated depreciation	—	(5,918)	—	(5,918)
Net book value at January 1, 2019	—	49,370	—	49,370
Opening net book value	—	49,370	—	49,370
Effect of initial recognition under IFRS 16	226,936	52,469	1,088	280,493
Translation differences	(115)	(1,148)	—	(1,263)
Net additions	18,931	21,933	—	40,864
Disposal/Derecognition	—	(18,094)	(807)	(18,901)
Depreciation charge	(28,895)	(14,929)	(281)	(44,105)
Closing net book value	216,857	89,601	—	306,458
Values at the end of the year				
Cost	245,752	110,176	—	355,928
Accumulated depreciation	(28,895)	(20,575)	—	(49,470)
Net book value at December 31, 2019	216,857	89,601	—	306,458

The cost related to variable-lease payments that do not depend on an index or rate amounted to USD 17.4 million for the year ended December 31, 2019. The expenses related to leases for which the Company applied the practical expedient described in paragraph 5 (a) of IFRS 16 (leases with contract term of less than 12 months) amounted to USD 3.4 million for the year ended December 31, 2019.

13. INTANGIBLE ASSETS, NET

	Year ended December 31, 2019						
	Information system projects	Mining assets	Exploration and evaluation costs	Customer relationships and other contractual rights	Trademarks	Goodwill	Total
Values at the beginning of the year							
Cost	320,600	216,203	23,209	604,931	73,935	662,307	1,901,185
Accumulated depreciation	(248,839)	(139,915)	—	(425,972)	(73,935)	—	(888,661)
Net book value at January 1, 2019	71,761	76,288	23,209	178,959	—	662,307	1,012,524
Opening net book value	71,761	76,288	23,209	178,959	—	662,307	1,012,524
Translation differences	(463)	—	—	—	—	—	(463)
Additions	31,812	12,580	24,265	—	—	—	68,657
Disposals / Consumptions	—	—	—	—	—	—	—
Transfers	(738)	27,954	(27,952)	—	—	—	(736)
Depreciation charge	(27,991)	(12,305)	—	(95,848)	—	—	(136,144)
Closing net book value	74,381	104,517	19,522	83,111	—	662,307	943,838
Values at the end of the year							
Cost	342,857	256,736	19,522	604,929	73,935	662,307	1,960,286
Accumulated depreciation	(268,476)	(152,219)	—	(521,818)	(73,935)	—	(1,016,44)
Net book value at December 31, 2019	74,381	104,517	19,522	83,111	—	662,307	943,838
	Year ended December 31, 2018						
	Information system projects	Mining assets	Exploration and evaluation costs	Customer relationships and other contractual rights	Trademarks	Goodwill	Total
Values at the beginning of the year							
Cost	249,379	216,196	10,333	604,931	73,935	662,307	1,817,081
Accumulated depreciation	(188,470)	(121,859)	—	(340,238)	(73,935)	—	(724,502)
Net book value at January 1, 2018	60,909	94,337	10,333	264,693	—	662,307	1,092,579
Opening net book value	60,909	94,337	10,333	264,693	—	662,307	1,092,579
Effect of initial inflation adjustment (Note 4 (cc))	4,966	—	—	—	—	—	4,966
Translation differences	(6,674)	—	—	—	—	—	(6,674)
Additions	27,594	10,243	2,641	—	—	—	40,478
Disposals / Consumptions	(87)	—	—	—	—	—	(87)
Transfers	480	(10,237)	10,235	—	—	—	478
Depreciation charge	(15,427)	(18,055)	—	(85,734)	—	—	(119,216)
Closing net book value	71,761	76,288	23,209	178,959	—	662,307	1,012,524
Values at the end of the year							
Cost	320,600	216,203	23,209	604,931	73,935	662,307	1,901,185
Accumulated depreciation	(248,839)	(139,915)	—	(425,972)	(73,935)	—	(888,661)
Net book value at December 31, 2018	71,761	76,288	23,209	178,959	—	662,307	1,012,524

The Company has not registered any impairment charges in connection with Goodwill.

14. INVESTMENTS IN NON-CONSOLIDATED COMPANIES

	As of December 31,	
	2019	2018
At the beginning of the year	495,241	478,348
Equity in earnings of non-consolidated companies	60,967	102,772
Other comprehensive income	(39,449)	(77,042)
Dividends from non-consolidated companies	(3,111)	(8,837)
At the end of the year	513,648	495,241

The principal investments in non-consolidated companies, all of which are unlisted, except for Usiminas, are:

Company	Country of incorporation	Main activity	Voting rights at		Value at	
			December 31, 2019	December 31, 2018	December 31, 2019	December 31, 2018
Usinas Siderurgicas de Minas Gerais S.A. - USIMINAS	Brazil	Manufacturing and selling of steel products	34.39%	34.39%	486,643	480,084
Techgen S.A. de C.V.	Mexico	Provision of electric power	48.00%	48.00%	21,573	10,291
Other non-consolidated companies (1)					5,432	4,866
					513,648	495,241

(1) It includes the investment held in Finma S.A.I.F., Techinst S.A., Recrotek S.R.L. de C.V. and Gas Industrial de Monterrey S.A. de C.V.

(a) *Usinas Siderurgicas de Minas Gerais S.A. – USIMINAS*

Ternium, through its subsidiaries Ternium Investments S.à r.l. (“Ternium Investments”), Ternium Argentina S.A. (“Ternium Argentina”) and Prosid Investments S.A. (“Prosid”), owns a total of 242.6 million ordinary shares and 8.5 million preferred shares, representing 20.5% of the issued and outstanding share capital of Usinas Siderurgicas de Minas Gerais S.A. - USIMINAS (“Usiminas”), the largest flat steel producer in Brazil.

Ternium Investments, Ternium Argentina and Prosid, together with Tenaris S.A.’s Brazilian subsidiary Confab Industrial S.A. (“TenarisConfab”), are part of Usiminas’ control group, comprising the so-called T/T Group. The other members of Usiminas’ control group are Previdência Usiminas (Usiminas’ employee pension fund) and the so-called NSSMC Group, comprising Nippon Steel & Sumitomo Metal Corporation Group (“NSSMC”), Nippon Usiminas Co., Ltd., Metal One Corporation and Mitsubishi Corporation do Brasil, S.A.

As of December 31, 2019, the closing price of the Usiminas ordinary and preferred shares, as quoted on the BM&F Bovespa Stock Exchange, was BRL 9.87 (approximately \$2.45; December 31, 2018: BRL11.44 - \$2.95) per ordinary share and BRL9.51 (approximately \$2.36; December 31, 2018: BRL9.22 - \$2.38) per preferred share, respectively. Accordingly, as of December 31, 2019, Ternium’s ownership stake had a market value of approximately \$614.1 million and a carrying value of \$486.6 million.

The Company reviews periodically the recoverability of its investment in Usiminas. To determine the recoverable value, the Company estimates the value in use of the investment by calculating the present value of the expected cash flows or its fair value less costs of disposal.

14. INVESTMENTS IN NON-CONSOLIDATED COMPANIES (continued)

As of December 31, 2019 and 2018, the value of the investment in Usiminas is comprised as follows:

Value of investment	USIMINAS	
	As of December 31, 2019	As of December 31, 2018
At the beginning of the year	480,084	466,299
Share of results (1)	48,502	97,733
Other comprehensive income	(38,896)	(75,195)
Dividends	(3,047)	(8,753)
At the end of the year	486,643	480,084

(1) It includes the adjustment of the values associated to the purchase price allocation.

The investment in Usiminas is based in the following calculation:

Usiminas' shareholders' equity	3,484,115
Percentage of interest of the Company over shareholders' equity	20.42%
Interest of the Company over shareholders' equity	711,558
Purchase price allocation	73,264
Goodwill	257,879
Impairment	(556,058)
Total Investment in Usiminas	486,643

On February 14, 2020, Usiminas issued its annual accounts as of and for the year ended December 31, 2019.

Summarized balance sheet (in million \$)	USIMINAS	
	As of December 31, 2019	As of December 31, 2018
Assets		
Non-current	4,336	4,697
Current	1,721	1,711
Other current investments	166	151
Cash and cash equivalents	311	286
Total Assets	6,534	6,845
Liabilities		
Non-current	718	544
Non-current borrowings	1,237	1,389
Current	687	740
Current borrowings	30	121
Total Liabilities	2,672	2,794
Non-controlling interest	378	369
Shareholders' equity	3,484	3,682

14. INVESTMENTS IN NON-CONSOLIDATED COMPANIES (continued)

Summarized income statement (in million \$)	USIMINAS	
	As of December 31, 2019	As of December 31, 2018
Net sales	3,790	3,766
Cost of sales	(3,312)	(3,154)
Gross Profit	478	612
Selling, general and administrative expenses	(181)	(213)
Other operating income (loss), net	(100)	(153)
Operating income	197	246
Financial expenses, net	(132)	15
Equity in earnings of associated companies	46	70
Profit (Loss) before income tax	110	331
Income tax benefit	(16)	(110)
Net profit (loss) before non-controlling interest	94	221
Non-controlling interest in other subsidiaries	(41)	(28)
Net profit (loss) for the year	53	193

(b) *Techgen S.A. de C.V.*

Techgen is a Mexican natural gas-fired combined cycle electric power plant in the Pesquería area of the State of Nuevo León, Mexico. The company started producing energy on December 1st, 2016 and is fully operational. As of February 2017, Ternium, Tenaris, and Tecpetrol International S.A. (a wholly-owned subsidiary of San Faustin S.A., the controlling shareholder of both Ternium and Tenaris) completed their investments in Techgen. Techgen is currently owned 48% by Ternium, 30% by Tecpetrol and 22% by Tenaris. Ternium and Tenaris also agreed to enter into power supply and transportation agreements with Techgen, pursuant to which Ternium and Tenaris will contract 78% and 22%, respectively, of Techgen's power capacity of 900 megawatts. During 2017 and 2016, Techgen's shareholders made additional investments in Techgen, in the form of subordinated loans, which in the case of Ternium amounted to \$127.7 million as of December 31, 2019, and which are due in June 2026. For commitments from Ternium in connection with Techgen, see note 25.

15. RECEIVABLES, NET – NON CURRENT AND CURRENT

	As of December 31,	
	2019	2018
Receivables with related parties (Notes 26 and 14 (b))	126,948	151,388
Employee advances and loans	1,572	2,425
Advances to suppliers for the purchase of property, plant and equipment	50,079	74,741
Advances to suppliers for the purchase of property, plant and equipment with related parties (Note 26)	7,827	7,493
Other receivables (Note 3 (c) (iii))	254,446	264,683
Tax credits	150,721	146,711
Others	972	2,006
Receivables, net – Non-current	592,565	649,447

	As of December 31,	
	2019	2018
Value added tax	162,121	156,627
Tax credits	99,315	72,957
Employee advances and loans	3,667	4,701
Advances to suppliers	10,134	15,563
Advances to suppliers with related parties (Note 26)	16,126	2,854
Expenses paid in advance	9,781	15,862
Government tax refunds on exports	14,805	17,311
Receivables with related parties (Note 26)	3,696	9,536
Others	15,068	14,339
Receivables, net – Current	334,713	309,750

16. TRADE RECEIVABLES, NET – NON CURRENT AND CURRENT

	As of December 31,	
	2019	2018
Trade receivables	897	4,766
Trade receivables, net – Non-current	897	4,766
Current accounts	920,937	1,096,072
Trade receivables with related parties (Note 26)	41,696	46,744
Allowance for doubtful accounts (Note 19)	(12,961)	(14,346)
Trade receivables, net - Current	949,672	1,128,470

	Trade receivables, net as of December 31, 2019		
	Total	Fully performing	Past due
Guaranteed	469,087	424,052	45,035
Not guaranteed	494,443	453,184	41,259
Trade receivables	963,530	877,236	86,294
Allowance for doubtful accounts (Note 19)	(12,961)	—	(12,961)
Trade receivables, net	950,569	877,236	73,333

	Trade receivables, net as of December 31, 2018		
	Total	Fully performing	Past due
Guaranteed	564,015	502,822	61,193
Not guaranteed	583,567	532,214	51,353
Trade receivables	1,147,582	1,035,036	112,546
Allowance for doubtful accounts (Note 19)	(14,346)	—	(14,346)
Trade receivables, net	1,133,236	1,035,036	98,200

17. INVENTORIES, NET

	As of December 31,	
	2019	2018
Raw materials, materials and spare parts	731,901	850,182
Goods in process	975,553	1,187,071
Finished goods	396,401	464,154
Goods in transit	116,610	243,876
Obsolescence allowance (Note 19)	(62,167)	(55,454)
Inventories, net	2,158,298	2,689,829

18. CASH, CASH EQUIVALENTS AND OTHER INVESTMENTS – NON CURRENT AND CURRENT

	As of December 31,	
	2019	2018
Investments in companies under cost method	252	252
Investments in debt instruments	3,001	6,943
Other investments, net – Non-current	3,253	7,195

	As of December 31,	
	2019	2018
(i) Other investments		
Other deposits with maturity of more than three months	212,271	44,529
Other investments - Current	212,271	44,529
(ii) Cash and cash equivalents		
Cash and banks	115,575	87,863
Restricted cash	69	2,216
Short-term bank deposits	199,878	140,456
Other deposits with maturity of less than three months	204,443	20,006
Cash and cash equivalents	519,965	250,541

19. ALLOWANCES AND PROVISIONS – NON CURRENT AND CURRENT

Provisions and allowances - Non current

	Liabilities	Liabilities
	Legal claims and other matters	Asset retirement obligation
Year ended December 31, 2019		
Values at the beginning of the year	643,950	24,554
Translation differences	(25,701)	1,077
Additions	2,689	925
Reversals	(4,417)	—
Uses	(3,170)	—
At December 31, 2019	613,351	26,556
Year ended December 31, 2018		
Values at the beginning of the year	768,517	27,829
Effect of initial inflation adjustment (note 4 (cc))	1,315	—
Translation differences	(113,571)	82
Additions	6,438	5,383
Reversals	(14,097)	(8,740)
Uses	(4,652)	—
At December 31, 2018	643,950	24,554

19. ALLOWANCES AND PROVISIONS – NON CURRENT AND CURRENT (continued)

Provisions and allowances - Current	Deducted from assets		Liabilities
	Allowance for doubtful accounts	Obsolescence allowance	Asset retirement obligation
Year ended December 31, 2019			
Values at the beginning of the year	14,346	55,454	9,851
Translation differences	(285)	(458)	348
Additions	787	18,036	5,201
Reversals	(1,080)	(9,623)	—
Uses	(807)	(1,242)	(6,898)
At December 31, 2019	12,961	62,167	8,502
Year ended December 31, 2018			
Values at the beginning of the year	16,543	36,197	2,659
Effect of initial inflation adjustment (note 4 (cc))	202	6,530	—
Translation differences	(2,076)	(2,384)	(10)
Additions	2,732	22,822	7,659
Reversals	(1,103)	(5,500)	—
Uses	(1,952)	(2,211)	(457)
At December 31, 2018	14,346	55,454	9,851

20. DEFERRED INCOME TAX

Deferred income taxes are calculated in full on temporary differences under the liability method using the tax rate of the applicable country.

Changes in deferred income tax are as follows:

	As of December 31,	
	2019	2018
At the beginning of the year	(340,207)	(392,265)
Translation differences	25,166	(7,201)
Effect of changes in tax law (Note 11)	16,979	—
Effect of initial inflation adjustment	—	(182,773)
Credits (Charges) directly to other comprehensive income	19,537	9,547
Deferred tax (charge) credit (Note 11)	38,785	232,485
At the end of the year	(239,740)	(340,207)

20. DEFERRED INCOME TAX (continued)

The changes in deferred tax assets and liabilities (prior to offsetting the balances within the same tax jurisdiction) during the year are as follows:

Deferred tax liabilities	PP&E	Inventories	Intangible assets	Other	Total at December 31, 2019
At the beginning of the year	(522,455)	(41,316)	(15,926)	(1,088)	(580,785)
Translation differences	27,077	2,604	316	—	29,997
Income statement credit (charge)	58,002	(24,748)	(1,499)	(101)	31,654
At the end of the year	(437,376)	(63,460)	(17,109)	(1,189)	(519,134)

Deferred tax assets	Provisions	Trade receivables	Tax losses (1)	Other	Total at December 31, 2019
At the beginning of the year	72,947	11,265	33,382	122,984	240,578
Translation differences	(572)	(539)	—	(3,720)	(4,831)
Credits (Charges) directly to other comprehensive income	—	—	—	19,537	19,537
Effect of changes in tax law	—	—	—	16,979	16,979
Income statement credit (charge)	(26,721)	(526)	9,384	24,994	7,131
At the end of the year	45,654	10,200	42,766	180,774	279,394

(1) As of December 31, 2019, the recognized deferred tax assets on tax losses amount to \$42,766 and there are net unrecognized deferred tax assets of \$0.4 billion and unrecognized tax losses amounting to \$1.4 billion. These two last effects are connected to the acquisition of Ternium Brasil (see Note 3).

Deferred tax liabilities	PP&E	Inventories	Intangible assets	Other	Total at December 31, 2018
At the beginning of the year	(539,839)	(57,006)	(18,692)	(2,056)	(617,593)
Translation differences	9,726	527	497	(688)	10,062
Effect of initial inflation adjustment	(161,044)	(20,967)	(762)	—	(182,773)
Income statement credit (charge)	168,702	36,130	3,031	1,656	209,519
At the end of the year	(522,455)	(41,316)	(15,926)	(1,088)	(580,785)

Deferred tax assets	Provisions	Trade receivables	Tax losses (2)	Other	Total at December 31, 2018
At the beginning of the year	61,101	8,200	43,355	112,672	225,328
Translation differences	(6,036)	(1,089)	—	(10,137)	(17,263)
Charges directly to other comprehensive income	—	—	—	9,547	9,547
Income statement credit (charge)	17,882	4,154	(9,973)	10,903	22,966
At the end of the year	72,947	11,265	33,382	122,984	240,578

(2) As of December 31, 2018, the recognized deferred tax assets on tax losses amount to \$33,383 and there are net unrecognized deferred tax assets of \$0.4 billion and unrecognized tax losses amounting to \$1.3 billion. These two last effects are connected to the acquisition of Ternium Brasil (see note 3).

Deferred tax assets and liabilities are offset when the entity a) has a legally enforceable right to set off the recognized amounts; and b) intends to settle the tax on a net basis or to realize the asset and settle the liability simultaneously.

20. DEFERRED INCOME TAX (continued)

The amounts shown in the statement of financial position (prior to offsetting the balances within the same tax jurisdiction) include the following:

	As of December 31,	
	2019	2018
Deferred tax assets to be recovered after more than 12 months	203,607	153,681
Deferred tax assets to be recovered within 12 months	75,787	86,897
Deferred tax liabilities to be settled after more than 12 months	(454,763)	(538,854)
Deferred tax liabilities to be settled within 12 months	(64,371)	(41,931)
	(239,740)	(340,207)

21. OTHER LIABILITIES – NON CURRENT AND CURRENT

	As of December 31,	
	2019	2018
(i) Other liabilities - Non current		
Post-employment benefits	405,935	312,293
Other employee benefits	44,496	38,891
Asset retirement obligation (Note 19) (1)	26,556	24,554
Other	30,616	38,803
Other liabilities – Non-current	507,603	414,541

(1) The asset in connection with this liability is included in Property, plant and equipment.

Post-employment benefits

The amounts recognized in the consolidated statement of financial position are determined as follows:

	Post-employment benefits	
	As of December 31,	
	2019	2018
Present value of unfunded obligations	405,935	312,293
Liability in the statement of financial position	405,935	312,293

21. OTHER LIABILITIES – NON CURRENT AND CURRENT (continued)

The amounts recognized in the consolidated income statement are as follows:

	Post-employment benefits	
	Year ended December 31,	
	2019	2018
Current service cost	11,776	7,284
Interest cost	27,310	22,578
Total included in labor costs	39,086	29,862

Changes in the liability recognized in the consolidated statement of financial position are as follows:

	Post-employment benefits	
	As of December 31,	
	2019	2018
At the beginning of the year	312,293	275,950
Transfers, new participants and funding of the plan	(6)	(3,177)
Total expense	39,086	29,862
Remeasurements	67,601	38,263
Effect of changes in demographic assumptions	674	22,575
Effect of changes in financial assumptions	55,059	2,272
Effect of experience adjustments	11,868	13,416
Translation differences	12,228	(283)
Contributions paid	(25,267)	(28,322)
At the end of the year	405,935	312,293

The principal actuarial assumptions used were as follows:

Mexico	Year ended December 31,	
	2019	2018
Discount rate	7.25%	8.75%
Compensation growth rate	6.00% - 7.00%	6.00% - 7.00%

Argentina	Year ended December 31,	
	2019	2018
Discount rate	6.00% - 7.00%	6.00% - 7.00%
Compensation growth rate	2.00% - 3.00%	2.00% - 3.00%

21. OTHER LIABILITIES – NON CURRENT AND CURRENT (continued)

The sensitivity of the defined benefit obligation to changes in the weighted principal assumptions is as follows:

	Impact on defined benefit obligation		
	Change in assumption	Increase in assumption	Decrease in assumption
Discount rate	1.00%	-9.4%	11.7%
Compensation growth rate	1.00%	1.8%	-4.3%
Pension growth rate	1.00%	-1.3%	1.6%
Life expectancy	1 year	-1.7%	1.7%

The estimated future payments for the next five years will be between \$25.1 million and \$32.6 million per year.

	As of December 31,	
	2019	2018
(ii) Other liabilities - Current		
Payroll and social security payable	107,999	177,407
VAT liabilities	58,799	79,060
Other tax liabilities	38,153	36,203
Termination benefits	493	1,501
Related Parties (Note 26)	2,074	3,341
Asset retirement obligation (Note 19)	8,502	9,851
Others	24,914	43,853
Other liabilities – Current	240,934	351,216

22. DERIVATIVE FINANCIAL INSTRUMENTS**Net fair values of derivative financial instruments**

The net fair values of derivative financial instruments at December 31, 2019 and 2018 were as follows:

	As of December 31,	
	2019	2018
Contracts with positive fair value		
Interest rate swap contracts	—	818
Foreign exchange contracts	1,196	770
	1,196	1,588
Contracts with negative fair value		
Interest rate swap contracts	(17)	—
Foreign exchange contracts	(3,007)	(12,981)
	(3,024)	(12,981)

22. DERIVATIVE FINANCIAL INSTRUMENTS (continued)

Derivative financial instruments breakdown is as follows:

(a) Interest rate contracts

Fluctuations in market interest rates create a degree of risk by affecting the amount of the Company's interest payments and the value of its floating-rate debt. As of December 31, 2019, most of the Company's long-term borrowings were at variable rates.

During 2012 and 2013, Ternium entered into several forward starting interest rate swap agreements in order to fix the interest rate to be paid over an aggregate amount of \$100 million, at an average rate of 1.92%. These agreements are effective from July 2014, will due on July 2022 and have been accounted for as cash flow hedges. As of December 31, 2019, the after-tax cash flow hedge reserve related to these agreements amounted to \$(0.1) million.

Changes in fair value of derivative instruments designated as cash flow hedges for each of the years presented are included below:

	Cash flow hedges		
	Gross amount	Income tax	Total
At December 31, 2017	810	(129)	681
(Decrease) / Increase	(14)	(108)	(122)
Reclassification to income statement	(117)	35	(82)
At December 31, 2018	679	(202)	477
(Decrease) / Increase	(475)	142	(333)
Reclassification to income statement	(276)	83	(193)
At December 31, 2019	(72)	23	(49)

The gross amount of the pre-tax reserve recorded in other comprehensive income at December 31, 2019 (amounting to a loss of \$0.1 million) is expected to be reclassified to the income statements in accordance to the payments of interests in connection with the borrowings hedged by these derivative contracts, during 2020 and up to the end of the life of the borrowing in 2022.

(b) Foreign exchange contracts

From time to time, Ternium's subsidiaries enter into derivative agreements to manage their exposure to currencies other than the \$, in accordance with the Company's policy for derivative instruments.

During 2019, Ternium Argentina entered into several non-deliverable forward agreements in order to manage the exchange rate exposure generated by Argentine peso-denominated financial assets and liabilities.

Furthermore, during 2019, 2018 and 2017, Ternium Colombia S.A.S. has entered into non-deliverable forward agreements to manage the exposure of certain actual and future trade receivables denominated in its local currency. As of December 31, 2019, the notional amounts on these agreements amounted to \$70.2 million.

During 2018 and 2017, Ternium Mexico entered into a forward agreement in order to manage the exchange rate exposure generated by future payables in EUR related to the investment plan. As of December 31, 2019, the notional amount on this agreement amounted to \$146.5 million.

During 2019 and 2018, Ternium Investments S.à.r.l., entered into a several forward agreements in order to manage the exchange rate exposure generated by the consolidated financial position in EUR, including future payables in EUR related to the investment plan of Ternium del Atlántico and future receivables in EUR related to sales of Ternium Internacional España, among others. As of December 31, 2019, the notional amount on these agreements amounted to \$10.9 million.

22. DERIVATIVE FINANCIAL INSTRUMENTS (continued)

The net fair values of the exchange rate derivative contracts as of December 31, 2019 and December 31, 2018 were as follows:

Currencies	Contract	Notional amount	Fair value at December 31,	
			2019	2018
EUR/\$	ND Forward - Buy EUR	140.8 million EUR	1,196	(12,954)
COP/\$	ND Forward - Sell COP	241.9 billion COP	(3,007)	109
BRL/\$	ND Forward - Buy BRL	34.5 million BRL	—	(493)
EUR/\$	ND Forward - Sell EUR	1.9 million EUR	—	(27)
BRL/\$	ND Forward - Sell BRL	32.0 million BRL	—	1,154
			(1,811)	(12,211)

COP: Colombian pesos; EUR: E.U. euros; \$: U.S. dollars; BRL: Brazilian reais.

23. LEASE LIABILITIES

	Lease liabilities		
	Current	Non Current	Total
Values at the beginning of the year	8,030	65,798	73,828
Effect of initial recognition under IFRS 16	34,848	245,645	280,493
Translation differences	2,659	(7,139)	(4,480)
Net proceeds	1,474	24,545	26,019
Repayments	(38,569)	—	(38,569)
Interest accrued	16,755	—	16,755
Interest paid	(15,281)	—	(15,281)
Reclassifications	30,630	(30,630)	—
As of December 31, 2019	40,546	298,219	338,765

The weighted average lessee's incremental borrowing rate applied to the lease liabilities on January 1, 2019, was of 4.05%.

23. LEASE LIABILITIES (continued)

	As of December 31, 2019	As of December 31, 2018
Commitments in relation to finance leases are payable as follows:		
Within one year	55,670	8,328
Later than one year but not later than five years	197,956	33,312
Later than five years	204,101	71,482
Minimum lease payments	457,727	113,122
Future finance charges	(118,962)	(39,294)
Total Financial lease liabilities	338,765	73,828
The present value of finance lease liabilities is as follows:		
Within one year	40,546	8,030
Later than one year but not later than five years	149,830	27,208
Later than five years	148,389	38,590
Total minimum lease payments	338,765	73,828

24. BORROWINGS

	As of December 31,	
	2019	2018
(i) Non-current		
Bank borrowings	1,639,604	1,648,124
Less: debt issue costs	(10,712)	(11,023)
	1,628,892	1,637,101
(ii) Current		
Bank borrowings	564,497	404,390
Less: debt issue costs	(4,715)	(4,534)
	559,782	399,856
Total Borrowings	2,188,674	2,036,957

The maturity of borrowings is as follows:

	Expected Maturity Date				
	2020	2021	2022 and thereafter	At December 31, (1)	
				2019	2018
Fixed Rate	165,623	—	—	165,623	289,883
Floating Rate	394,159	308,847	1,320,045	2,023,051	1,747,074
Total	559,782	308,847	1,320,045	2,188,674	2,036,957

(1) As most borrowings incorporate floating rates that approximate market rates and the contractual repricing occurs mostly every 1 month, the fair value of the borrowings approximates their carrying amount and it is not disclosed separately. Fixed rate borrowings are uncommitted short-term revolving loans and their fair value approximates to their carrying amount.

The weighted average interest rates - which incorporate instruments denominated mainly in U.S. dollars and which do not include the effect of derivative financial instruments nor the devaluation of these local currencies - at year-end were as follows:

	As of December 31,	
	2019	2018
Bank borrowings	2.94%	3.65%

The nominal average interest rates shown above were calculated using the rates set for each instrument in its corresponding currency and weighted using the dollar-equivalent outstanding principal amount of said instruments at December 31, 2019 and 2018, respectively.

24. **BORROWINGS (continued)**

Breakdown of borrowings by currency is as follows:

Currencies	Contract	As of December 31,	
		2019	2018
USD	Floating	1,977,617	1,747,074
USD	Fixed	148,712	262,873
ARS	Floating	10	—
MXN	Floating	14,789	—
COP	Floating	30,634	—
COP	Fixed	16,912	17,009
GTQ	Fixed	—	10,001
		2,188,674	2,036,957

USD: U.S. dollars; ARS: Argentine pesos; COP: Colombian pesos; GTQ: Guatemalan quetzales; MXN: Mexican pesos.

Ternium's most significant borrowings as of December 31, 2019, were those incurred under Ternium México's syndicated loan facilities, in order to finance the construction of its hot rolling mill, hot-dip galvanizing and painting lines in Pesquería, under Tenigal's syndicated loan facility, in order to finance the construction of its hot-dipped galvanizing mill in Pesquería, Mexico, under Ternium Investments S.à r.l., in order to finance the acquisition of Ternium Brasil, and under Ternium Brasil's syndicated loan facility, in order to finance solely activities related to its exports of goods:

Date	Borrower	Type	In \$ million		Maturity
			Original principal amount	Outstanding principal amount as of December 31, 2019	
Years 2012 and 2013	Tenigal	Syndicated loan	200	75	July 2022
September 2017	Ternium Investments S.à r.l.	Syndicated loan	1,500	400	September 2022
June 2018	Ternium Mexico	Syndicated loan	1,000	875	June 2023
August 2019	Ternium Brasil	Syndicated loan	1,000	400	August 2024

The main covenants on these loan agreements are limitations on liens and encumbrances, limitations on the sale of certain assets and compliance with financial ratios (i.e. leverage ratio). As of December 31, 2019, Ternium was in compliance with all of its covenants.

25. CONTINGENCIES, COMMITMENTS AND RESTRICTIONS ON THE DISTRIBUTION OF PROFITS

Ternium is from time to time subject to various claims, lawsuits and other legal proceedings, including customer, employee, tax and environmental-related claims, in which third parties are seeking payment for alleged damages, reimbursement for losses, or indemnity. Management with the assistance of legal counsel periodically reviews the status of each significant matter and assesses potential financial exposure.

Some of these claims, lawsuits and other legal proceedings involve highly complex issues, and often these issues are subject to substantial uncertainties and, therefore, the probability of loss and an estimation of damages are difficult to ascertain. Accordingly, with respect to a large portion of such claims, lawsuits and other legal proceedings, Ternium is unable to make a reliable estimate of the expected financial effect that will result from ultimate resolution of the proceeding. In those cases, Ternium has not accrued a provision for the potential outcome of these cases.

If a potential loss from a claim, lawsuit or other proceeding is considered probable and the amount can be reasonably estimated, a provision is recorded. Accruals for loss contingencies reflect a reasonable estimate of the losses to be incurred based on information available to management as of the date of preparation of the financial statements and take into consideration litigation and settlement strategies. In a limited number of ongoing cases, Ternium was able to make a reliable estimate of the expected loss or range of probable loss and has accrued a provision for such loss but believes that publication of this information on a case-by-case basis would seriously prejudice Ternium's position in the ongoing legal proceedings or in any related settlement discussions. Accordingly, in these cases, the Company has disclosed information with respect to the nature of the contingency but has not disclosed its estimate of the range of potential loss.

The Company believes that the aggregate provisions recorded for potential losses in its consolidated financial statements are adequate based upon currently available information. However, if management's estimates prove incorrect, current reserves could be inadequate and Ternium could incur a charge to earnings which could have a material adverse effect on Ternium's results of operations, financial condition, net worth and cash flows.

For the contingencies related to Ternium Brasil, please refer to Note 3.

(i) Tax claims and other contingencies

(a) *Companhia Siderúrgica Nacional (CSN) – Tender offer litigation*

In 2013, the Company was notified of a lawsuit filed in Brazil by Companhia Siderúrgica Nacional, or CSN, and various entities affiliated with CSN against Ternium Investments, its subsidiary Ternium Argentina, and TenarisConfab. The entities named in the CSN lawsuit had acquired a participation in Usiminas in January 2012. The CSN lawsuit alleges that, under applicable Brazilian laws and rules, the acquirers were required to launch a tag-along tender offer to all non-controlling holders of Usiminas ordinary shares for a price per share equal to 80% of the price per share paid in such acquisition, or BRL 28.8, and seeks an order to compel the acquirers to launch an offer at that price plus interest. If so ordered, the offer would need to be made to 182,609,851 ordinary shares of Usiminas not belonging to Usiminas' control group; Ternium Investments and Ternium Argentina's respective shares in the offer would be 60.6% and 21.5%.

On September 23, 2013, the first instance court dismissed the CSN lawsuit, and on February 8, 2017, the court of appeals of São Paulo maintained the understanding of the first instance court. On March 6, 2017, CSN filed a motion for clarification against the decision of the court of appeals, which was rejected on July 19, 2017. On August 18, 2017, CSN filed with the court of appeals an appeal seeking the review and reversal of the decision issued by the court of appeals by the Superior Court of Justice. On March 5, 2018, the court of appeals ruled that CSN's appeal did not meet the requirements for review by the Superior Court of Justice and rejected such appeal. On May 8, 2018, CSN appealed against such ruling and on January 22, 2019, the court of appeals rejected such appeal and ordered that the case be submitted to the Superior Court of Justice. On September 10, 2019, the Superior Court of Justice declared CSN's appeal admissible. The Superior Court of Justice will review the case and will then render a decision on the merits. The Superior Court of Justice is restricted to the analysis of alleged violations to federal laws and cannot assess matters of fact.

**25. CONTINGENCIES, COMMITMENTS AND RESTRICTIONS ON THE DISTRIBUTION OF PROFITS
(continued)**

Ternium continues to believe that all of CSN's claims and allegations are groundless and without merit, as confirmed by several opinions of Brazilian legal counsel, two decisions issued by the Brazilian securities regulator (CVM) in February 2012 and December 2016, and the first and second instance court decisions referred to above. Accordingly, no provision has been recorded in these Consolidated Financial Statements.

(b) Shareholder claims relating to the October 2014 acquisition of Usiminas shares

On April 14, 2015, the staff of CVM, determined that an acquisition of additional ordinary shares of Usiminas by Ternium Investments made in October 2014, triggered a requirement under applicable Brazilian laws and regulations for Usiminas' controlling shareholders to launch a tender offer to all non-controlling holders of Usiminas ordinary shares. The CVM staff's determination was made further to a request by NSSMC and its affiliates, who alleged that Ternium's 2014 acquisition had exceeded a threshold that triggers the tender offer requirement. In the CVM staff's view, the 2014 acquisition exceeded the applicable threshold by 5.2 million shares. On April 29, 2015, Ternium filed an appeal to be submitted to the CVM's Board of Commissioners. On May 5, 2015, the CVM staff confirmed that the appeal would be submitted to the Board of Commissioners and that the effects of the staff's decision would be stayed until such Board rules on the matter.

On June 15, 2015, upon an appeal filed by NSSMC, the CVM staff changed its earlier decision and stated that the obligation to launch a tender offer would fall exclusively on Ternium. Ternium's appeal has been submitted to the CVM's Board of Commissioners and it is currently expected that such Board will rule on the appeal in 2020. In addition, on April 18, 2018, Ternium filed a petition with the CVM's reporting Commissioner requesting that the applicable threshold for the tender offer requirement be recalculated taking into account the new ordinary shares issued by Usiminas in connection with its 2016 BRL 1 billion capital increase and that, in light of the replenishment of the threshold that would result from such recalculation, the CVM staff's 2015 determination be set aside. In the event the appeal is not successful, under applicable CVM rules Ternium may elect to sell to third parties the 5.2 million shares allegedly acquired in excess of the threshold, in which case no tender offer would be required.

(c) Potential Mexican income tax adjustment

In March 2015, the Mexican tax authorities, as part of a tax audit to Ternium Mexico with respect to fiscal year 2008, challenged the deduction by Ternium Mexico's predecessor IMSA Acero of a tax loss arising from an intercompany sale of shares in December 2008. Although the tax authorities have not yet determined the amount of their claim, they have indicated in a preliminary report that they have observations that may result in an income tax adjustment currently estimated at approximately \$59.7 million, including interest and fines. Additionally, in September 2018, the Mexican tax authority, as a result of a tax audit for the fiscal year 2011 to Ternium Mexico, as predecessor of APM, objected mainly the deduction of the tax loss remaining for the year 2008, for which the estimated income tax adjustment would be of approximately \$27.3 million, including interest and fines.

Ternium Mexico requested an injunction from the Mexican courts against the audit observations for the year 2008 and the fiscal credit of the year 2011, and also filed its defense and supporting documents with the Mexican tax authorities. The Company, based on the advice of counsel, believes that an unfavorable outcome in connection with this uncertain tax position is not probable and, accordingly, no provision has been recorded in its financial statements.

**25. CONTINGENCIES, COMMITMENTS AND RESTRICTIONS ON THE DISTRIBUTION OF PROFITS
(continued)***(d) Putative class action*

Following the Company's November 27, 2018 announcement that its chairman Paolo Rocca had been included in an Argentine court investigation known as the Notebooks Case (a decision subsequently reversed by a higher court), a putative class action complaint was filed in the U.S. District Court for the Eastern District of New York. On January 31, 2019, the court appointed lead plaintiff and lead counsel. On June 17, 2019, the lead plaintiff filed an amended complaint purportedly on behalf of purchasers of Ternium securities from May 1, 2014 through November 27, 2018. The individual defendants named in the amended complaint are our chairman, our former CEO, our current CEO and our CFO. That complaint alleges that during the class period, the Company and the individual defendants inflated the price of Ternium's ADSs by failing to disclose that sale proceeds received by Ternium when Sidor was expropriated by Venezuela were received or expedited as a result of alleged improper payments made to Argentine officials. The complaint does not specify the damages that plaintiff is seeking. Defendants' motions to dismiss are expected to be decided during 2020. Management believes the Company has meritorious defenses to these claims; however, at this stage the Company cannot predict the outcome of the claim or the amount or range of loss in case of an unfavorable outcome.

(ii) Commitments

The following are Ternium's main off-balance sheet commitments:

(a) Ternium Argentina signed agreements to cover 80% of its required iron ore, pellets and iron ore fines volumes until December 31, 2021, for an estimated total amount of \$462.4 million. Although they do not set a minimum amount or a minimum commitment to purchase a fixed volume, under certain circumstances a penalty is established for the party that fails of:

- 7% in case the annual operated volume is between 70% and 75% of the total volume of purchases of the Company; such percentage is applied over the difference between the actual purchased volume and the 80% of the total volume of purchases.

- 15% in case the annual operated volume is lower than 70% of the total volume of purchases of the Company; such percentage is applied over the difference between the actual purchased volume and the 80% of the total volume of purchases.

(b) Ternium Argentina has also signed various contracts for the provision of natural gas, including Tecpetrol, a related company of Ternium, assuming firm commitments for a total of \$35.9 million payable until April 2021.

(c) Ternium Argentina signed an agreement with Air Liquide Argentina S.A. for the supply of oxygen, nitrogen and argon until 2021, for an aggregate amount of \$15.8 million, which is due to terminate in 2032.

(d) On April 24, 2017, Ternium Mexico entered into a 25-year contract (effective as of December 1, 2016, through December 1, 2041) with Techgen, S.A. de C.V. for the supply of 699 MW (which represents 78% of Techgen's capacity) and covers most of Ternium Mexico's facilities electricity needs. Monthly payments are determined on the basis of capacity charges, operation costs, back-up power charges, and transmission charges. As of the seventh contract year (as long as Techgen's existing or replacing bank facility has been repaid in full), Ternium Mexico has the right to suspend or early terminate the contract if the rate payable under the agreement is higher than the rate charged by *Comisión Federal de Electricidad* ("CFE") or its successors. Ternium Mexico may instruct Techgen to sell to any affiliate of Ternium Mexico, to CFE, or to any other third party all or any part of unused contracted energy under the agreement and Ternium Mexico will benefit from the proceeds of such sale.

**25. CONTINGENCIES, COMMITMENTS AND RESTRICTIONS ON THE DISTRIBUTION OF PROFITS
(continued)**

(e) On December 20, 2000, Hylsa (Ternium Mexico's predecessor) entered into a 25-year contract with Iberdrola Energía Monterrey, S.A. de C.V. ("Iberdrola"), a Mexican subsidiary of Iberdrola Energía, S.A., for the supply of energy to four of Ternium Mexico's plants. On March 31, 2008, two of those plants were terminated by Iberdrola. The contracted electrical demand as of December 31, 2019, is 51.7 MW. Iberdrola currently supplies approximately 7% of Ternium Mexico's electricity needs under this contract. Although the contract was to be effective through 2027, on April 28, 2014, Ternium Mexico and Iberdrola entered into a new supply contract and terminated the previous one. In consideration of the termination of the previous contract, Iberdrola has granted Ternium Mexico a credit of \$750 thousand per MW of the 111.2 MW originally contracted capacity, resulting over time in a total value of \$83.4 million. In addition, Iberdrola agreed to recognize to Ternium México \$15.0 million through discounted rates. The above-mentioned credit and discount ended in June 2019 and Ternium México's rates under the contract are now market rates with a 2.5% discount; however, Ternium Mexico will be entitled to terminate the contract without penalty.

(f) Following the maturity of a previously existing railroad freight services agreement during 2013, in April 2014, Ternium México and Ferrocarril Mexicano, S. A. de C. V. ("Ferromex") entered into a new railroad freight services agreement pursuant to which Ferromex will transport Ternium Mexico's products through railroads operated by Ferromex for a term of five years through 2019. Subject to Ternium's board approval, both Ternium Mexico and Ferromex would be required to make (within a period of 36 months) certain investments to improve the loading and unloading of gondolas. The total investment commitment of Ternium México and Ferromex was already invested as of December 31, 2019. Under the agreement, Ternium Mexico has guaranteed to Ferromex its service for the minimum average transport load of 200,000 metric tons per month in any six-month period. In the event that the actual per-month average transport loads in any six-month period were lower than such guaranteed minimum, Ternium Mexico would be required to compensate Ferromex for the shortfall so that Ferromex receives a rate equivalent to a total transport load of 1,200,000 metric tons for such six-month period. However, any such compensation will not be payable if the lower transport loads were due to adverse market conditions, or to adverse operating conditions at Ternium Mexico's facilities.

(g) Ternium México issued a guarantee letter covering up to approximately \$25.0 million of the obligations of Gas Industrial de Monterrey, S.A. de C.V. ("GIMSA"), under the natural gas trading agreement between GIMSA and BP Energía México. The credit line granted by BP Energía México in connection with this natural gas trading agreement amounted to approximately \$25.0 million. As of December 31, 2019, the outstanding amount under the natural gas trading agreement was \$14.0 million, which is below the amount included in the guarantee letter issued by Ternium México.

(h) On June, 2018, Ternium Mexico entered into a loan agreement with a syndicate of banks for a \$1,000 million syndicated loan facility for the purpose of financing capital expenditures, the repayment or prepayment of existing debt, and other general corporate purposes. The loan has a one year availability period in which Ternium Mexico can disburse in one or several drawings. The Company entered the Facility on June 12, 2018, and the final maturity date is on June 12, 2023, being payable in eight consecutive and equal semi-annual installments commencing on December 13, 2019. The main financial covenant that the Facility requires to meet is the consolidated net senior leverage ratio to be not greater than 3.5 to 1.00. As of December 31, 2019, \$1,000 million were disbursed under the facility and the Company complied with the aforementioned financial covenant.

(i) Ternium Mexico issued a guarantee letter covering up to approximately \$60.8 million of the obligations of Techgen, S.A. de C.V. ("Techgen"), under the Clean Energy Certificates trading agreement between Techgen and Enel Rinnovabile SA de CV ("ENEL"). The amount of the guarantee is equal to 78% of the amount payable by Techgen if Techgen decides to terminate the agreement prior to the expiration date (and therefore decreases as the term of the contract passes). The trading agreement was signed on May 25, 2018, and terminates on June 30, 2041.

**25. CONTINGENCIES, COMMITMENTS AND RESTRICTIONS ON THE DISTRIBUTION OF PROFITS
(continued)**

(j) Techgen is a party to gas transportation capacity agreements with Kinder Morgan Gas Natural de Mexico, S. de R.L. de C.V., Kinder Morgan Texas Pipeline LLC and Kinder Morgan Tejas Pipeline LLC for a natural gas transportation capacity of 150,000 million BTU per day starting on August 1, 2016 and ending on July 31, 2036. As of December 31, 2019, the outstanding value of this commitment was approximately \$236 million. Ternium's exposure under the guarantee in connection with these agreements amounts to \$115 million, corresponding to the 48% of the agreements' outstanding value as of December 31, 2019.

(k) Ternium issued two stand-by letters of credit covering 48% of the funding of a debt service reserve account under a syndicated loan agreement between Techgen and several banks led by Citigroup Global Markets Inc., Credit Agricole Corporate and Investment Bank, and Natixis, New York Branch acting as joint bookrunners. The loan agreement dated as of February 13, 2019, amounted to \$640 million and the proceeds were used by Techgen to refinance in full all amounts owed under a previous syndicated loan between Techgen and several banks, which funds were used in the construction of the facility. As of December 31, 2019, the outstanding aggregated amount under the stand-by letters of credit was \$44.6 million, as a result the amount guaranteed by Ternium was approximately \$21.4 million.

(l) During 2006, CSA, the predecessor of Ternium Brasil, has entered into a 15-year contract denominated *Contrato de comercialização de energia elétrica no ambiente regulado - CCEAR* por disponibilidade to provide electric energy to 24 distributors starting on 2011. Under this contract, Ternium Brasil has to provide 200 MW average per year and the price is adjusted by the Brazilian inflation index. The penalty for not delivering the volume of energy of the contract is the difference between the spot price and the unit variable cost (calculated and published by the Agência Nacional de Energia Elétrica), calculated per hour.

(m) Ternium Brasil signed an exclusivity agreement with Vale S.A. for the purchase of iron ore (pellets, sinter feed and lump ore), which is due to terminate in 2029. The total purchased volume, in accordance with the actual production capacity, is of approximately 8.0 million tons per year. Ternium Brasil has not the obligation to take or pay the mentioned volume and only should pay logistic costs in case of not purchasing the contracted volume.

(n) Ternium Brasil, for its activity of energy generation through gas and steam turbines, signed on March 2017 a contract with GE Global Parts and Products GMBH, General Electric International Inc. and Alstom Energia Térmica e Indústria Ltda. for the maintenance services of such turbines (including the supply of spare parts) for a period of 20 years. As of December 31, 2019, the outstanding amount of this commitment was \$157.0 million.

(o) Ternium Brasil also signed on November 2007 a contract with Primetals Technologies Brazil Ltda. for the provision of maintenance services at a central workshop for the entire steel mill complex, including caster maintenance for the steel plant. As of December 31, 2019, the outstanding amount of the mentioned services was approximately \$89.9 million and is due to terminate on November 2024. Ternium Brasil is currently using more hours than the minimum quantity of contracted hours.

(p) Ternium Brasil is a party to a long-term contract with the Consortium formed by Air Liquide Brasil Ltda., AirSteel Ltda., White Martins Gases Industriais Ltda., White Martins Steel Ltda. and ThyssenKrupp MinEnergy GmbH for the supply of air, oxygen, nitrogen and argon to satisfy the requirements up to January 2029. The outstanding amount was approximately \$307.2 million as of December 31, 2019. The contract has minimum daily-required volumes.

(q) Ternium Brasil signed on January 2015 a contract with Naturgy (formerly Companhia Distribuidora de Gás do Rio de Janeiro) for the supply of natural gas, which was due to terminate on December 2019. This agreement was automatically renewed for another year and is due to terminate on December 2020, but it is still under negotiation. The aggregate amount for the year 2019 was of \$33.3 million per year or 61.5 million m3 per year. Ternium Brasil is currently purchasing more than the minimum volume required by the contract, which is 85% of the volume mentioned before.

(r) Ternium Brasil signed on May 2016 a contract with Stahllog Solução Logísticas Ltda. for logistic services. This agreement is due to terminate on May 2021 and the outstanding amount was \$18.2 million as of December 31, 2019. The contract has minimum required volumes.

**25. CONTINGENCIES, COMMITMENTS AND RESTRICTIONS ON THE DISTRIBUTION OF PROFITS
(continued)**

(s) Ternium Brasil signed on May 2019 a contract with LSI Logistica S.A. for mobile equipment rental. This agreement is due to terminate on May 2024 and the outstanding amount was USD 18.3 million as of December 31, 2019. The contract only has a penalty in case of anticipated termination.

(t) Ternium Brasil signed on December 2018 a contract with Gas Verde S.A. for the supply of bio methane gas for a period of two years since the beginning of the supply, which started on October 2019. The outstanding amount for this agreement was USD 16.5 million (or 46.1 million m³) as of December 31, 2019. The contract has a penalty for early termination and requires minimum volumes.

(iii) Restrictions on the distribution of profits

In accordance with Luxembourg law, the Company is required to transfer a minimum of 5% of its net profit for each financial year to a legal reserve until such reserve equals 10% of the issued share capital.

As of December 31, 2019, this reserve is fully allocated and additional allocations to the reserve are not required under Luxembourg Law. Dividends may not be paid out of the legal reserve.

The Company may pay dividends to the extent, among other conditions, that it has distributable retained earnings calculated in accordance with Luxembourg Law and regulations.

26. RELATED PARTY TRANSACTIONS

As of December 31, 2019, Techint Holdings S.à r.l. (“Techint”) owned 62.02% of the Company’s share capital and Tenaris Investments S.à r.l. (“Tenaris”) held 11.46% of the Company’s share capital. Each of Techint and Tenaris were controlled by San Faustin S.A., a Luxembourg company (“San Faustin”). Rocca & Partners Stichting Administratiekantoor Aandelen San Faustin (“RP STAK”), a private foundation (Stichting) located in the Netherlands, held voting rights in San Faustin sufficient in number to control San Faustin. No person or group of persons controls RP STAK.

For commitments with Related parties, see note 25.

26. RELATED PARTY TRANSACTIONS (continued)

The following transactions were carried out with related parties:

	Year ended December 31,		
	2019	2018	2017
(i) Transactions			
(a) Sales of goods and services			
Sales of goods to non-consolidated parties	515,123	774,526	453,551
Sales of goods to other related parties	77,375	141,230	164,694
Sales of services and others to non-consolidated parties	171	176	177
Sales of services and others to other related parties	1,060	1,286	660
	593,729	917,218	619,082
(b) Purchases of goods and services			
Purchases of goods from non-consolidated parties	408,309	483,182	404,891
Purchases of goods from other related parties	71,324	50,928	57,941
Purchases of services and others from non-consolidated parties	14,563	10,266	13,126
Purchases of services and others from other related parties	155,289	90,536	111,439
Purchases of goods and services in connection with lease contracts from other related parties	8,859	—	—
	658,343	634,912	587,397
(c) Financial results			
Income with non-consolidated parties	9,478	9,330	7,611
Expenses in connection with lease contracts from other related parties	(945)	—	—
	8,533	9,330	7,611
(d) Dividends received			
Dividends from non-consolidated parties	3,111	8,837	3,360
	3,111	8,837	3,360
(e) Other income and expenses			
Income (expenses), net with non-consolidated parties	929	1,012	2,723
Income (expenses), net with other related parties	986	492	247
	1,915	1,504	2,970
		As of December 31,	
		2019	2018
(ii) Year-end balances			
(a) Arising from sales/purchases of goods/services and other transactions			
Receivables from non-consolidated parties		167,312	201,693
Receivables from other related parties		5,027	5,975
Advances from non-consolidated parties		8,017	2,812
Advances to suppliers with other related parties		15,936	7,534
Payables to non-consolidated parties		(44,784)	(37,384)
Payables to other related parties		(41,849)	(23,495)
Lease liabilities with other related parties		(7,310)	—
		102,349	157,135

26. RELATED PARTY TRANSACTIONS (continued)

(iii) Officers and Directors' compensation

During the year ended December 31, 2019 the cash compensation of Officers and Directors amounted to \$26,942 (\$16,205 for the year ended December 31, 2018). In addition, Officers received 1,075,500 Units for a total amount of \$3,546 (\$2,851 for the year ended December 31, 2018) in connection with the incentive retention program mentioned in note 4 (o)(3).

27. OTHER REQUIRED DISCLOSURES

(a) Statement of comprehensive income

	Cash flow hedges			Currency translation adjustment
	Gross amount	Income tax	Total	
At December 31, 2017	810	(129)	681	(3,257,038)
(Decrease) / Increase	(14)	(108)	(122)	(449,981)
Reclassification to income statement	(117)	35	(82)	—
At December 31, 2018	679	(202)	477	(3,707,019)
(Decrease) / Increase	(475)	142	(333)	(61,925)
Reclassification to income statement	(276)	83	(193)	—
At December 31, 2019	(72)	23	(49)	(3,768,944)

(b) Statement of cash flows

	Year ended December 31,		
	2019	2018	2017
(i) Changes in working capital (1)			
Inventories	510,972	(186,409)	(540,162)
Receivables and others	6,175	8,652	(108,257)
Trade receivables	161,454	(123,388)	(303,114)
Other liabilities	(95,131)	17,138	40,230
Trade payables	(10,786)	55,430	46,333
	572,684	(228,577)	(864,970)
(ii) Income tax accrual less payments			
Tax accrued (Note 11)	196,519	369,435	336,882
Taxes paid	(405,324)	(523,801)	(610,325)
	(208,805)	(154,366)	(273,443)
(iii) Interest accruals less payments			
Interest accrued (Note 10 and 23)	104,855	131,172	114,583
Interest paid	(101,450)	(144,186)	(95,099)
	3,405	(13,014)	19,484

(1) Changes in working capital are shown net of the effect of exchange rate changes.

27. OTHER REQUIRED DISCLOSURES (continued)**(c) Financial debt reconciliation**

	Financial debt			Total
	Finance lease liabilities	Short term borrowings	Long term borrowings	
As of December 31, 2017	(77,035)	(1,505,570)	(1,716,337)	(3,298,942)
Cash flows	7,565	1,492,568	(401,725)	1,098,408
Reclassifications	—	(459,520)	459,520	—
Foreign exchange adjustments	(47,390)	(121,801)	—	(169,191)
Other non cash movements	43,032	194,467	21,441	258,940
As of December 31, 2018	(73,828)	(399,856)	(1,637,101)	(2,110,785)
Cash flows	53,850	231,967	(297,780)	(11,963)
Reclassifications	—	(306,262)	306,262	—
Effect of initial recognition under IFRS 16	(280,493)	—	—	(280,493)
Acquisitions - finance leases	(26,019)	—	—	(26,019)
Foreign exchange adjustments	(8,834)	(79,365)	—	(88,199)
Other non cash movements	(3,441)	(6,266)	(273)	(9,980)
As of December 31, 2019	(338,765)	(559,782)	(1,628,892)	(2,527,439)

28. CHANGE IN THE FUNCTIONAL CURRENCY OF ARGENTINE SUBSIDIARIES

The determination of the functional currency requires management to make significant judgements. Ternium Argentina has performed a review of its functional currency and concluded that the currency that most faithfully represents the economics effects of the entity is the US dollar and therefore its functional currency has changed from the local currency to the US dollar. This change is prospective from January 1, 2020, and does not affect the balances at December 31, 2019, nor results or cash flows for the year then ended.

It is based on the following considerations:

- In the last two years, the exchange rate of the Argentine peso has been severely affected by devaluations against the US dollar and Argentina continues to be a highly inflationary economy. These events had very limited impact on sale's price in US dollar;
- In this context, there is also a greater proportion of total production cost in US dollar;
- Furthermore, new global trade restrictions, affecting the international trade of steel along with limited restrictions of imports in Argentina, have led to a greater correlation of local prices to global prices.
- Factors to determine the functional currency were always mixed. However, currently most of revenue and costs of production are negotiated and priced in US dollar.

The change in functional currency of Ternium Argentina will significantly reduce the volatility of the Company's earnings that was due to foreign exchange movements and application of IAS29 - Financial Reporting in Hyperinflationary Economies.

29. RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

The following amendments, standards and interpretations have been applied on the year starting January 1, 2019:

International Financial Reporting Standard 16, "Leases"

In January 2016, the IASB issued IFRS 16, "Leases", which will result in almost all leases being recognized on the balance sheet, as the distinction between operating and finance leases is removed. Under the new standard, an asset (the right to use the leased item) and a financial liability to pay rentals are recognized.

IFRS 16 was adopted following the simplified approach, without restating comparative. The reclassifications and the adjustments arising from the new lease accounting rules are directly recognized in the opening balance sheet on January 1, 2019.

	Property, plant and equipment	Lease liabilities Current (*)	Lease liabilities Non Current (*)
Closing balance as of December 31, 2018 - IFRS 16	5,817,609	8,030	65,798
Initial recognition of right-of-use assets	280,493	—	—
Initial recognition of lease liabilities	—	34,848	245,645
Opening balance as of January 1, 2019 - IFRS 16	6,098,102	42,878	311,443

(*) Lease liabilities in the Consolidated Financial Statements as of December 31, 2018.

On adoption of IFRS 16, the Company recognized lease liabilities in relation to leases which had previously been classified as 'operating leases' under the principles of IAS 17 Leases. For the initial recognition, these liabilities were measured at the present value of the remaining lease payments, discounted using the lessee's incremental borrowing rate as of January 1, 2019. The weighted average lessee's incremental borrowing rate applied to the lease liabilities on January 1, 2019, was of 4.05%.

The difference between the amount of the lease liability recognized in the statement of financial position at the date of initial application and the operating lease commitments under IAS 17 is due to leases with a duration lower than 12 months and leases with a value lower than thirty thousand dollars and/or with clauses related to variable payments.

The adoption of IFRS 16 Leases from January 1, 2019, resulted in changes in accounting policies and adjustments to the amounts recognized in the financial statements.

30. FINANCIAL RISK MANAGEMENT**1) Financial risk factors**

Ternium's activities expose the Company to a variety of risks: market risk (including the effects of changes in foreign currency exchange rates, interest rates and commodities prices), credit risk and liquidity risk.

Ternium's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the financial performance. Ternium's subsidiaries may use derivative financial instruments to hedge certain risk exposures.

1.1) Market Risk*(i) Foreign exchange rate risk*

Ternium operates and sells its products in different countries, and as a result is exposed to foreign exchange rate volatility. In addition, the Company entered into several borrowings that contain covenants providing for the compliance with certain financial ratios, including ratios measured in currencies other than the U.S. dollar. This situation exposes Ternium to a risk of non-compliance derived from volatility in foreign exchange rates. Ternium's subsidiaries may use derivative contracts in order to hedge their exposure to exchange rate risk derived from their trade and financial operations.

Ternium's foreign exchange policy is to minimize the negative impact of fluctuations in the value of other currencies with respect to the U.S. dollar. Ternium's subsidiaries monitor their net cash flows in currencies other than the U.S. dollar, and analyze potential hedging according to market conditions. This hedging can be carried out by netting positions or by financial derivatives. However, regulatory or legal restrictions in the countries in which Ternium's subsidiaries operate, could limit the possibility of the Company carrying out its hedging policy.

Ternium has foreign operations, whose net assets are exposed to foreign currency translation risk, some of which may impact net income. The fact that some subsidiaries have measurement currencies other than the U.S. dollar may, at times, distort the results of the hedging efforts as reported under IFRS.

The following table shows a breakdown of Ternium's assessed financial position exposure to currency risk as of December 31, 2019. These balances include intercompany positions where the intervening parties have different functional currencies.

\$ million Exposure to	Functional currency	
	\$	ARS
U.S. dollar (\$)	—	(56)
EU euro (EUR)	(85)	(3)
Argentine peso (ARS)	(7)	—
Mexican peso (MXN)	(561)	—
Brazilian real (BRL)	(184)	(2)
Colombian peso (COP)	(25)	—
Other currencies	(4)	—

30. FINANCIAL RISK MANAGEMENT (continued)

The main relevant exposures correspond to:

(a) Argentine peso vs. U.S. dollar

The cumulative devaluation for the Argentine peso during 2019 was 37.1% (2018: 50.5%) and the cumulative inflation during 2019 was 53.8% (2018: 47.6%). The devaluation, net of the impact of inflation, generated a negative effect of \$43 million (2018: \$37 million), included as currency translation adjustment in Other comprehensive income in connection with the valuation of Ternium's Argentine subsidiaries' equities (mainly Ternium Argentina S.A.), and a loss of \$111 million (2018: \$184 million), included as net foreign exchange results in the Income Statement, partially offset by the positive impact of the inflation adjustment of \$118 million (2018: \$191 million).

If the Argentine peso had weakened by 1% against the U.S. dollar, it would have generated a pre-tax loss of \$0.6 million as of December 31, 2019, and a pre-tax loss of \$2.1 million as of December 31, 2018.

(b) Mexican peso vs. U.S. dollar

If the Mexican peso had weakened by 1% against the U.S. dollar, it would have generated a pre-tax gain of \$5.6 million and \$5.8 million as of December 31, 2019 and 2018, respectively.

(c) Colombian peso vs. U.S. dollar

If the Colombian peso had weakened by 1% against the U.S. dollar, it would have generated a pre-tax gain of \$ 0.3 million and a pre-tax loss of \$ 0.2 million as of December 31, 2019 and 2018, respectively.

(d) Brazilian real vs. U.S. dollar

If the Brazilian real had weakened by 1% against the U.S. dollar, it would have generated a pre-tax gain of \$1.8 million and a pre-tax gain of \$1.5 million as of December 31, 2019 and 2018, respectively.

We estimate that if the Argentine peso, Mexican peso, Colombian peso and Brazilian real had weakened simultaneously by 1% against the U.S. dollar with all other variables held constant, total pre-tax income for the year would have been \$7.1 million higher (\$5.0 million higher as of December 31, 2018), as a result of foreign exchange gains/losses on translation of U.S. dollar-denominated financial position, mainly trade receivables, trade payables, borrowings and other liabilities.

Considering the same variation of the currencies against the U.S. dollar of all net investments in foreign operations amounting to \$1.9 billion, the currency translation adjustment included in total equity would have been \$18.5 million lower (\$17.7 million lower as of December 31, 2018), arising mainly from the adjustment on translation of the equity related to the Argentine peso and the Brazilian real.

(ii) Interest rate risk

Ternium manages its exposure to interest rate volatility through its financing alternatives and hedging instruments. Borrowings issued at variable rates expose the Company to the risk of increased interest expense in the event of a raise in market interest rates, while borrowings issued at fixed rates expose the Company to a variation in its fair value. The Company's interest-rate risk mainly arises from long-term borrowings that bear variable-rate interest that is partially fixed through different derivative transactions, such as interest rate swaps.

30. FINANCIAL RISK MANAGEMENT (continued)

Ternium's nominal weighted average interest rate for its debt instruments, which do not include neither the effect of derivative financial instruments, nor the devaluation of the local currencies, was 2.94% and 3.65% for 2019 and 2018, respectively. These rates were calculated using the rates set for each instrument in its corresponding currency and weighted using the dollar-equivalent outstanding principal amount of each instrument.

Ternium's total variable interest rate debt amounted to \$2,023 million (92.4% of total borrowings) at December 31, 2019 and \$1,747 million (85.8% of total borrowings) at December 31, 2018.

If interest rates on the aggregate average notional of U.S. dollar denominated borrowings held during 2019, excluding borrowings with derivatives contracts mentioned in Note 22 (a), had been 100 basis points higher with all other variables held constant, total pre-tax income for the year ended December 31, 2019 would have been \$22.4 million lower (\$26.8 million lower as of December 31, 2018).

1.2) Credit risk

Credit risk arises from cash and cash equivalents, deposits with banks and financial institutions, as well as credit exposures to customers, including outstanding receivables and committed transactions. Ternium's subsidiaries have credit guidelines in place to ensure that derivative and treasury counterparties are limited to high credit quality financial institutions.

Ternium invests in financial assets with a minimum credit rating of investment grade established by an international qualification agency renowned in the financial market, in line with corporate investment portfolio policies. Approximately 92.6% of the Company's liquid financial assets correspond to investment grade rated instruments as of December 31, 2019, in comparison with approximately 82.6% as of December 31, 2018.

Ternium has no significant concentrations of credit risk from customers. No single customer accounts for more than ten percent of Ternium's sales. Ternium's subsidiaries have policies in place to ensure that sales are made to customers with an appropriate credit history, and that credit insurances, letters of credit or other instruments are requested to reduce credit risk whenever deemed necessary. The subsidiaries maintain allowances for potential credit losses. The utilization of credit limits is regularly monitored.

Trade and other receivables are carried at face value less allowance for doubtful accounts, if applicable. This amount does not differ significantly from fair value. The other receivables do not contain significant impaired assets.

As of December 31, 2019, trade receivables total \$950.6 million (\$1,133.2 million as of December 31, 2018). These trade receivables are collateralized by guarantees under letter of credit and other bank guarantees of \$3.4 million (\$23.3 million as of December 31, 2018), credit insurance of \$469.3 million (\$506.8 million as of December 31, 2018) and other guarantees of \$16.4 million (\$18.6 million as of December 31, 2018).

As of December 31, 2019, trade receivables of \$877.2 million (\$1,035.0 million as of December 31, 2018) were fully performing.

30. FINANCIAL RISK MANAGEMENT (continued)

As of December 31, 2019, trade receivables of \$86.3 million (\$112.5 million as of December 31, 2018) were past due (mainly up to 180 days).

The amount of the allowance for doubtful accounts was \$13.0 million as of December 31, 2019 (\$14.3 million as of December 31, 2018).

The carrying amounts of the Company's trade and other receivables as of December 31, 2019, are denominated in the following currencies:

Currency	\$ million
U.S. dollar (\$)	965
EU euro (EUR)	36
Argentine peso (ARS)	14
Mexican peso (MXN)	150
Brazilian real (BRL)	387
Colombian peso (COP)	69
Other currencies	2
	1,623

1.3) Liquidity risk

Management maintains sufficient cash and marketable securities and credit facilities to finance normal operations. Management monitors rolling forecasts of the group's liquidity reserve on the basis of expected cash flow.

The table below analyses financial liabilities into relevant maturity groups based on the remaining period at the date of the statement of financial position to the contractual maturity date. The amounts disclosed in the table are the contractual undiscounted cash flows.

\$ million	2020	2021	2022	2023	Thereafter
Borrowings	560	309	660	137	523
Interests to be accrued (1)	60	49	33	19	7
Trade payables and other liabilities	867	9	9	5	30
Lease liabilities	41	42	41	40	175
Total	1,528	409	743	201	735

(1) These amounts do not include the effect of derivative financial instruments.

As of December 31, 2019, total borrowings less cash and cash equivalents and other current and non-current investments amounted to \$1,453.4 million.

30. FINANCIAL RISK MANAGEMENT (continued)

1.4) Capital risk

Ternium seeks to maintain an adequate debt/equity ratio considering the industry and the markets where it operates. The year-end ratio debt over debt plus equity is 0.22 and 0.21 as of December 31, 2019 and 2018, respectively. The Company does not have to comply with regulatory capital adequacy requirements as known in the financial services industry.

2) Financial instruments by category and fair value hierarchy level

The accounting policies for financial instruments have been applied to the line items below. According to the scope and definitions set out in IFRS 7 and IAS 32, employers' rights and obligations under employee benefit plans, and non-financial assets and liabilities such as advanced payments and income tax payables, are not included.

As of December 31, 2019 (in \$ thousands)	Amortized cost	Assets at fair value through profit or loss	Assets at fair value through OCI	Total
(i) Assets as per statement of financial position				
Receivables	406,370	—	—	406,370
Derivative financial instruments	—	1,196	—	1,196
Trade receivables	950,569	—	—	950,569
Other investments	176,470	—	38,803	215,273
Cash and cash equivalents	320,088	199,877	—	519,965
Total	1,853,497	201,073	38,803	2,093,373

As of December 31, 2019 (in \$ thousands)	Liabilities at fair value through profit or loss	Amortized cost	Total
(ii) Liabilities as per statement of financial position			
Other liabilities	—	88,403	88,403
Trade payables	—	836,204	836,204
Derivative financial instruments	3,024	—	3,024
Finance lease liabilities	—	338,765	338,765
Borrowings	—	2,188,674	2,188,674
Total	3,024	3,452,046	3,455,070

30. FINANCIAL RISK MANAGEMENT (continued)

As of December 31, 2018 (in \$ thousands)	Amortized cost	Assets at fair value through profit or loss	Assets at fair value through OCI	Total
(i) Assets as per statement of financial position				
Receivables	449,077	—	—	449,077
Derivative financial instruments	—	1,588	—	1,588
Trade receivables	1,133,236	—	—	1,133,236
Other investments	14,843	—	36,630	51,473
Cash and cash equivalents	110,086	140,455	—	250,541
Total	1,707,242	142,043	36,630	1,885,915

As of December 31, 2018 (in \$ thousands)	Liabilities at fair value through profit or loss	Amortized cost	Total
(ii) Liabilities as per statement of financial position			
Other liabilities	—	105,659	105,659
Trade payables	—	864,827	864,827
Derivative financial instruments	12,981	—	12,981
Finance lease liabilities	—	73,828	73,828
Borrowings	—	2,036,957	2,036,957
Total	12,981	3,081,271	3,094,252

Fair Value by Hierarchy

Following the requirements contained in IFRS 13, Ternium categorizes each class of financial instrument measured at fair value in the statement of financial position into three levels, depending on the significance of the judgment associated with the inputs used in making the fair value measurements:

- Level 1 comprises financial assets and financial liabilities whose fair values have been determined on the basis of quoted prices (unadjusted) in active markets for identical assets or liabilities.
- Level 2 includes financial assets and financial liabilities for which fair values have been estimated using inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices).
- Level 3 comprises financial instruments for which inputs to estimate fair value of the assets or liabilities are not based on observable market data (unobservable inputs).

30. FINANCIAL RISK MANAGEMENT (continued)

The following table presents the assets and liabilities that are measured at fair value as of December 31, 2019 and 2018:

Description	Fair value measurements as of December 31, 2019 (in \$ thousands):		
	Total	Level 1	Level 2
Financial assets at fair value through profit or loss / OCI			
Cash and cash equivalents	199,877	199,877	—
Other investments	38,803	38,803	—
Derivative financial instruments	1,196	—	1,196
Total assets	239,876	238,680	1,196
Financial liabilities at fair value through profit or loss / OCI			
Derivative financial instruments	3,024	—	3,024
Total liabilities	3,024	—	3,024

Description	Fair value measurements as of December 31, 2018 (in \$ thousands):		
	Total	Level 1	Level 2
Financial assets at fair value through profit or loss / OCI			
Cash and cash equivalents	140,455	140,455	—
Other investments	36,630	36,630	—
Derivative financial instruments	1,588	—	1,588
Total assets	178,673	177,085	1,588
Financial liabilities at fair value through profit or loss / OCI			
Derivative financial instruments	12,981	—	12,981
Total liabilities	12,981	—	12,981

There were no significant transfers between Level 1 and Level 2 of the fair value hierarchy and there were no financial assets and liabilities considered as Level 3.

The fair value of financial instruments traded in active markets is based on quoted market prices at the reporting date. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, industry group, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price used for financial assets held by Ternium is the current mid price. These instruments are included in Level 1 and comprise primarily corporate and sovereign debt securities.

30. FINANCIAL RISK MANAGEMENT (continued)

The fair value of financial instruments that are not traded in an active market (such as certain debt securities, certificates of deposits with original maturity of more than three months, forward and interest rate derivative instruments) is determined by using valuation techniques which maximize the use of observable market data when available and rely as little as possible on entity specific estimates. If all significant inputs required to value an instrument are observable, the instrument is included in Level 2. Ternium values its assets and liabilities included in this level using mid prices, interest rate curves, broker quotations, current exchange rates and forward rates volatilities obtained from market contributors as of the valuation date.

If one or more of the significant inputs are not based on observable market data, the instruments are included in Level 3. Ternium values its assets and liabilities in this level using observable market inputs and management assumptions which reflect the Company's best estimate on how market participants would price the asset or liability at measurement date.

3) Accounting for derivative financial instruments and hedging activities

Derivative financial instruments are initially recognized in the statement of financial position at cost and subsequently measured at fair value. Changes in fair value are disclosed under "Other financial income (expenses), net" line item in the income statement. Ternium does not hedge its net investments in foreign entities.

Ternium designates certain derivatives as hedges of a particular risk associated with a recognized asset or liability or a highly probable forecast transaction. These transactions are classified as cash flow hedges (mainly interest rate swaps). The effective portion of the fair value of derivatives that are designated and qualify as cash flow hedges is recognized within other comprehensive income. Amounts accumulated in other comprehensive income are recognized in the income statement in the same period than any offsetting losses and gains on the hedged item. The gain or loss relating to the ineffective portion is recognized immediately in the income statement. The fair value of Ternium derivative financial instruments (asset or liability) continues to be reflected on the statement of financial position.

For transactions designated and qualifying for hedge accounting, Ternium documents at inception the relationship between hedging instruments and hedged items, as well as its risk management objectives and strategy for undertaking various hedge transactions. The Company also documents its assessment, both at hedge inception and on an ongoing basis, of whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair values or cash flows of hedged items. At December 31, 2019, the effective portion of designated cash flow hedges amounts to \$(0.1) million (net of taxes) and is included as "Cash flow hedges" line item in the statement of comprehensive income.

The fair values of various derivative instruments used for hedging purposes are disclosed in Note 22. The full fair value of a hedging derivative is classified as a non-current asset or liability when the remaining maturity of the hedged item is more than 12 months and as a current asset or liability when the remaining maturity of the hedged item is less than 12 months.

Changes in the fair value of any derivative instruments that do not qualify for hedge accounting under IAS 39 are recognized immediately in the income statement.

4) Fair value estimation

The estimated fair value of a financial instrument is the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale.

For the purpose of estimating the fair value of financial assets and liabilities with maturities of less than one year, the Company uses the market value less any estimated credit adjustments. For other investments, the Company uses quoted market prices.

As most borrowings incorporate floating rates that approximate market rates and the contractual repricing occurs mostly every 1 month, the fair value of the borrowings approximates their carrying amount and it is not disclosed separately.

30. FINANCIAL RISK MANAGEMENT (continued)

In assessing the fair value of derivatives and other financial instruments, Ternium uses a variety of methods, including, but not limited to, estimated discounted value of future cash flows using assumptions based on market conditions existing at each year end.

31. SUBSEQUENT EVENTS - COVID-19

In December 2019, a novel strain of coronavirus (“COVID-19”) was reported to have surfaced in China and started spreading to the rest of the world in early 2020. The COVID-19 virus is impacting economic activity worldwide and poses the risk that Ternium or its employees, contractors, suppliers, customers and other business partners may be prevented from conducting certain business activities for an indefinite period of time, including due to shutdowns mandated by governmental authorities or otherwise adopted by companies as a preventive measure. Given the uncertainty around the extent and timing of the future spread of COVID-19 and the imposition or relaxation of protective measures, it is not possible to predict the COVID-19’s effects on the industry, generally, and to reasonably estimate the financial effect on the Company.

Pablo Brizzio
Chief Financial Officer

Item 19. Exhibits

Exhibit Number	Description
1.1	Consolidated Articles of Association of Ternium S.A., dated as of May 2, 2018*
2.1	Deposit Agreement entered into between Ternium S.A. and The Bank of New York**
4.1	Shareholders' Agreement, dated January 9, 2006, between Tenaris S.A. and Inversora Siderurgica Limited***
4.3	Shareholders Agreement, dated April 10, 2018, between Nippon Steel & Sumitomo Metal Corporation, Nippon Usiminas Co., Ltd., Ternium Investments S.à r.l., Confab Industrial S.A., Prosid Investments S.A., Ternium Argentina S.A., Previdência Usiminas, Metal One Corporation and Mitsubishi Corporation do Brasil S.A. ****
8.1	List of subsidiaries of Ternium S.A.
12.1	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
12.2	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
13.1	Certification of Chief Executive Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
13.2	Certification of Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
*	Incorporated by reference to the Annual Report on Form 20-F, filed by Ternium S.A. on April 16, 2019 (File No. 001-32734 19751190).
**	Incorporated by reference to the Registration Statement on Form F-6, filed by Ternium S.A. on January 11, 2006 (File No. 333-130952).
***	Incorporated by reference to the Registration Statement on Form F-1, filed by Ternium S.A. on January 27, 2006 (File No. 333-130950).
****	Incorporated by reference to the Annual Report on Form 20-F, filed by Ternium S.A. on April 24, 2018 (File No. 001-32734 18771303).

SIGNATURE

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

TERNIUM S.A.

/s/ Pablo Brizzio

Name:	<u>Pablo Brizzio</u>
Title:	<u>Chief Financial Officer</u>

Date: April 8, 2020