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RECENT MARKET DEVELOPMENTS IN THE GLOBAL STEEL INDUSTRY

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FOREWORD

This document provides a short overview of recent steel market developments. The OECD Steel Committee discussed a draft of the report at its meeting on 30 November-1 December 2015 and has approved it for declassification following comments from delegates. The report will be made available on the Steel Committee website: oe.cd/stlmktdev. This paper was written by Anthony de Carvalho, Senior Economist, of the OECD Secretariat.

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Summary

The outlook for the steel sector has, unfortunately, weakened further in recent months, reflecting not only cyclical factors such as the slowdown in world economic growth but also growing structural challenges such as excess capacity. With the global business cycle expected to remain subdued over the next few years, resolving the structural factors that are inhibiting the industry from reaching its full potential will remain a key priority going forward.

This document provides a short overview of recent market developments and provides a few thoughts about the risks of oversupply. Some key developments discussed in this report include:

- The economic outlook has weakened, and the OECD has recently lowered its forecasts for world economic growth, reflecting slowdowns and recessions in some major emerging market economies.
- Steel market sentiment has deteriorated over the past weeks and months, in line with falling or slowing growth of many economic activity indicators that are linked to steel demand, such as manufacturing activity and fixed investment, in many steel-producing countries.
- Monthly steel consumption figures have been very negative for some major steel-consuming economies during the course of 2015. In the first eight months of 2015, a monthly indicator of consumption of hot-rolled steel products in major economies declined by more than 4% from its level in the same time period one year earlier.
- Steel production growth has slowed sharply. Following growth of 1.2% in 2014, in the first 10 months of 2015 world crude steel production contracted by 2.5% in year-on-year terms. The production decline has been broad-based, affecting almost all regions of the world. In many economies, local producers are adjusting output in response to heightened import competition.
- Despite significant production and demand declines this year, world steel exports have increased by more than 4% in January-July 2015 relative to their level a year earlier. A large number of trade cases have been introduced recently, but import levels are increasing in regions such as NAFTA, the EU, South America and parts of Asia.
- The combined effect of weakening global steel demand, growing imports in many economies, and decreases in steelmaking costs has led to a very sharp decline in steel prices this year. An index of the average world steel price was down by 25% in November 2015 compared to its January 2015 level. In November, the world average hot-rolled coil price stood at USD 332 per tonne, down from USD 480 in January 2015.
- Prices of steelmaking raw materials have also fallen sharply, reflecting oversupply issues in some markets. In November 2015, the spot price of iron ore to China fell to USD 48 per tonne. Coking coal and ferrous scrap prices have fallen by 30% and 43%, respectively, since the start of 2015.

- Despite falling costs in recent years, the profitability of the steel industry is under severe pressure. Most steelmakers are experiencing negative cash flows and, as a result, an increase in debt, particularly short-term debt.
- In October, the World Steel Association lowered its forecasts for world steel demand in 2015 and 2016. Global apparent finished steel use is now projected to decline by 1.7% in 2015, before increasing modestly by 0.7% in 2016. The downward revisions reflect a steeper demand contraction in China than was previously anticipated and a significantly weaker outlook for the CIS economies, South America and many developed countries this year. Not all economies are slumping, however, with Africa, India, the Middle East and Southeast Asia expected to register solid growth in demand.
- Demand weakness coupled with further increases in steelmaking capacity over the next few years – in an environment of already low steel prices, unsustainably weak profitability, and mounting debt – suggests that adjustment pressures are likely to grow significantly in the short to medium term.

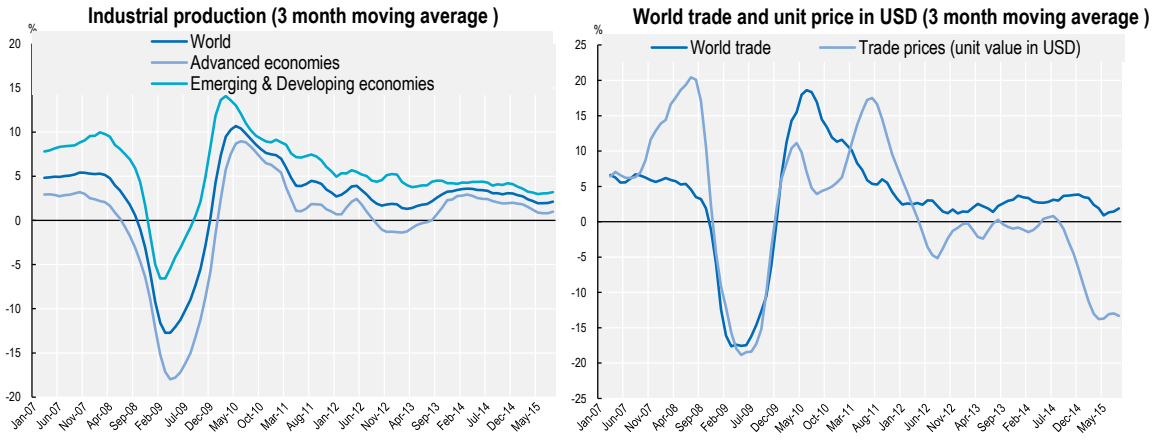
Recent developments

The economic outlook has weakened

Recent months have been characterised by increased volatility in equity markets, weakness in a number of emerging market currencies, and significant declines in commodity prices. Emerging market economies have experienced further slowdowns in growth, which is weighing on global industrial production and trade (see Figure 1). In the advanced economies, investment and productivity growth is subdued, constraining the momentum of economic recovery in those countries. According to the OECD's latest Economic Outlook (released on 9 November 2015), world GDP growth is projected to remain modest in the next few years, despite a gradual improvement from 2.9% in 2015 to 3.3% in 2016 and 3.6% in 2017. The forecasts for global growth were revised downwards significantly compared to the projections made in June 2015. (See Table 1 for the latest GDP growth forecasts.)

Figure 1. World industrial production, trade, and trade price

% change from one year earlier



Source: Netherlands Bureau for Economic Policy Analysis (CPB).

In the euro area, the modest economic recovery has continued, with GDP increasing at an annual rate of around 1.5% so far this year. In the second quarter of 2015, GDP increased by 0.4% from the previous quarter (1.5% year-on-year), supported mainly by net exports – facilitated in turn by the depreciation of the euro since late 2013 – and consumer spending. However, fixed and inventory investment declined. In the third quarter of 2015, economic growth slowed slightly to 0.3%, with private consumption providing the main boost to GDP. The latest OECD forecasts suggest that the recovery will strengthen, supported by accommodating monetary policy, lower oil prices and an easing of the pace of budget tightening. Euro Area GDP is expected to grow by 1.8% in 2016 and 1.9% in 2017. Although the overall economy is growing at a moderate pace, of relevance for steel is that economic activity indicators suggest weaker activity in manufacturing than in services.

In the U.S., after a sharp slowdown in economic growth in the first quarter of 2015, the expansion has resumed, with growth of 3.9% in the second quarter and 1.5% in the third quarter, both at annual rates. Industrial production growth has gradually declined during 2015, from a year-on-year rate of 4.5% in January to 1% in June and only 0.3% in October 2015. Employment growth has also moderated this year, despite a decline in the unemployment rate to 5% in October 2015. The OECD forecasts point to solid GDP growth of 2.5% in 2016 and 2.4% in 2017, supported by the expansion of household demand.

Japan experienced strong GDP growth in the first quarter of 2015, but then the economy contracted by 0.2% in the second quarter (quarter-on-quarter) and again by 0.2% in the third quarter. Renewed weakness in the economy reflects the slowdown in demand from other Asian economies and sluggish consumption. However, the OECD forecasts point to an acceleration in GDP growth to 1% in 2016, before slowing to a 0.5% growth rate in 2017 due to the planned consumption tax hike.

Many emerging economies are currently facing economic headwinds, reflecting weaker commodity prices, tighter credit conditions, and lower potential output growth. GDP growth in China has remained at around 7% in the first three quarters of 2015, with some rebalancing in the economy towards services. Growth in manufacturing activity has been moderating since early 2013, declining from a pace of 8% to 5-6% in recent months, while services growth has been gathering momentum. The OECD is forecasting moderating GDP growth in China to 6.8% in 2015, and a gradual decline to 6.2% in 2017 as activity rebalances towards consumption and services.

Elsewhere, Brazil and Russia have experienced recessions and are not projected to return to positive growth in annual terms until 2017. On the other hand, growth prospects are more favourable for India, with GDP growth forecast at above 7% in the coming years, assuming continued implementation of structural reforms.

Table 1. OECD Economic Projections, November 2015

Table 2. Real GDP growth (year-on-year), %

	2014	2015	2016	2017
World [1]	**3.3**	**2.9**	**3.3**	**3.6**
United States	2.4	2.4	2.5	2.4
Euro area	0.9	1.5	1.8	1.9
Germany	1.6	1.5	1.8	2.0
France	0.2	1.1	1.3	1.6
Italy	-0.4	0.8	1.4	1.4
Spain	1.4	3.2	2.7	2.5
Japan	-0.1	0.6	1.0	0.5
United Kingdom	2.9	2.4	2.4	2.3
Mexico	2.1	2.3	3.1	3.3
Korea	3.3	2.7	3.1	3.6
Canada	2.4	1.2	2.0	2.3
Turkey	2.9	3.1	3.4	4.1
Australia	2.7	2.2	2.6	3.0
China	7.3	6.8	6.5	6.2
India [2]	7.3	7.2	7.3	7.4
Russia	0.6	-4.0	-0.4	1.7
Brazil	0.2	-3.1	-1.2	1.8
Indonesia	5.0	4.7	5.2	5.5
South Africa	1.5	1.5	1.5	2.0
OECD [1]	**1.9**	**2.0**	**2.2**	**2.3**
Non-OECD [1]	**4.7**	**3.7**	**4.2**	**4.6**
World real trade growth	**3.4**	**2.0**	**3.6**	**4.8**

Notes: 1/ Moving nominal GDP weights using purchasing power parities.
2/ Fiscal years starting in April.

Source: OECD Economic Outlook, November 2015.

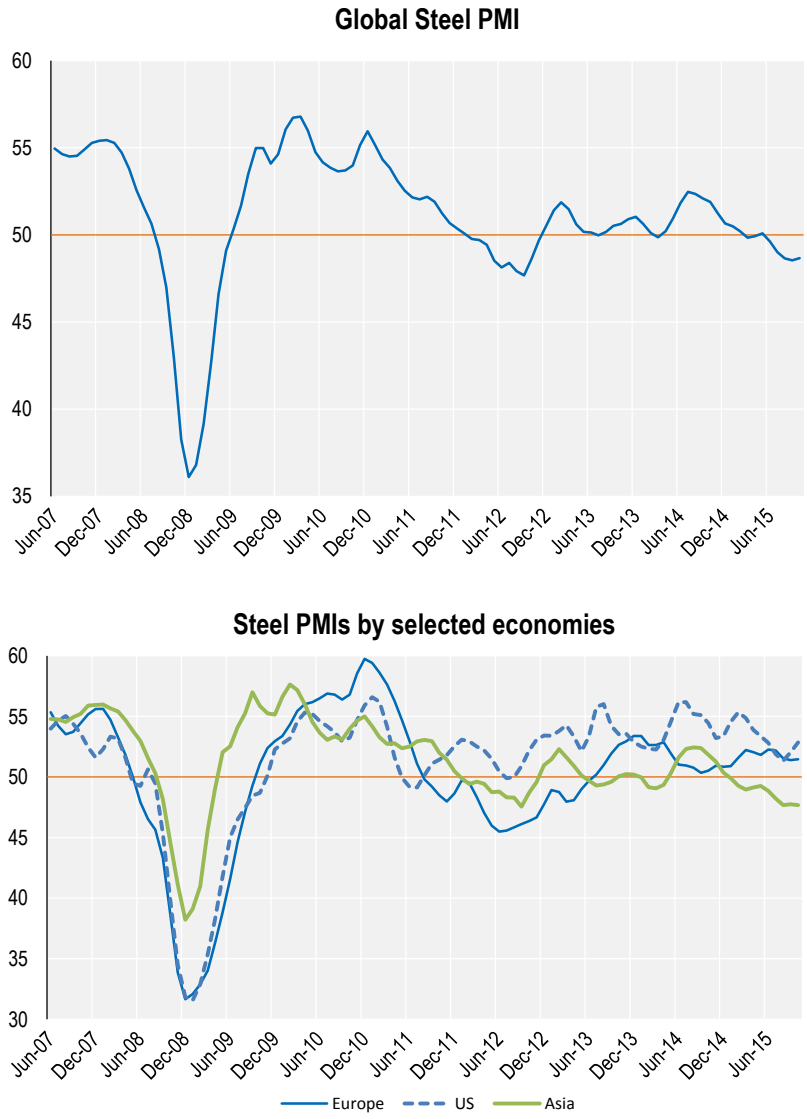
Steel market sentiment

Steel market sentiment has weakened significantly in the past several months, in line with the general downturn in the global market. Purchasers of steel are wary of increasing their inventories, amidst rapidly falling prices of steel, and many indicators that are linked to steel demand, such as manufacturing activity and fixed investment, have either fallen or their growth has slowed in many steel-producing economies.

One indicator of general sentiment is the global Steel Purchasing Managers' Index (PMI), compiled monthly by Markit Economics. The index fell below the threshold reading of 50 (that separates contraction from expansion) in March 2015 for the first time since late 2012, and has continued to trend downwards since then (Figure 2). The decline has been most pronounced in Asia, with a PMI reading of 47.7 points in October 2015. Market sentiment has been stronger in the U.S. and Europe, however with considerable volatility in the indices.

Figure 2. Steel Purchasing Managers' indices (PMIs)

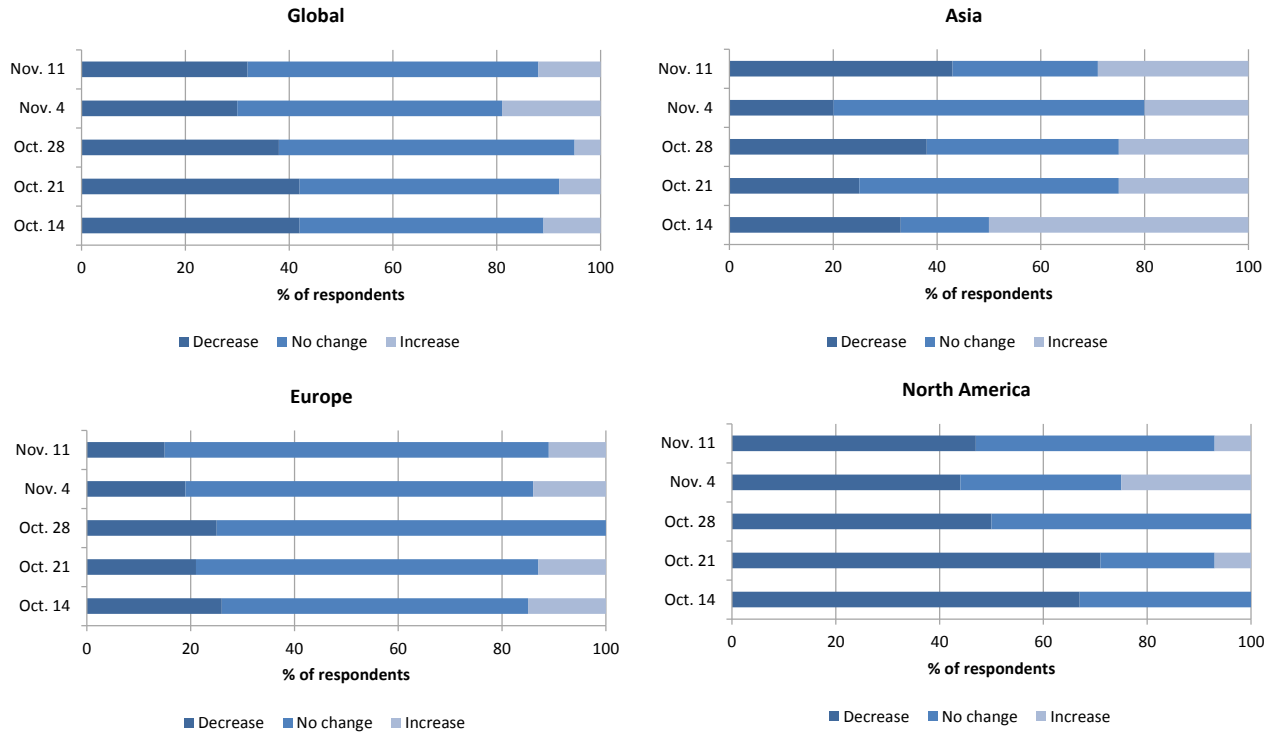
Trend



Source: Markit Economics.

Other indicators of market sentiment include the TSI survey of steel demand expectations. The survey asks industry participants to assess changes in steel demand in their regions over the next three months. Figure 3 displays the survey results over the most recent five-week period. They indicate that expectations are currently quite negative, with the share of respondents expecting production to remain unchanged or to decline fluctuating from 81% to 95% in recent weeks. The latest reading from 11 November suggests that more than 40% of respondents expect North American and Asian demand to contract in the coming three months, while in Europe most respondents expect demand to remain unchanged.

Figure 3. TSI survey of steel demand expectations (next three months)



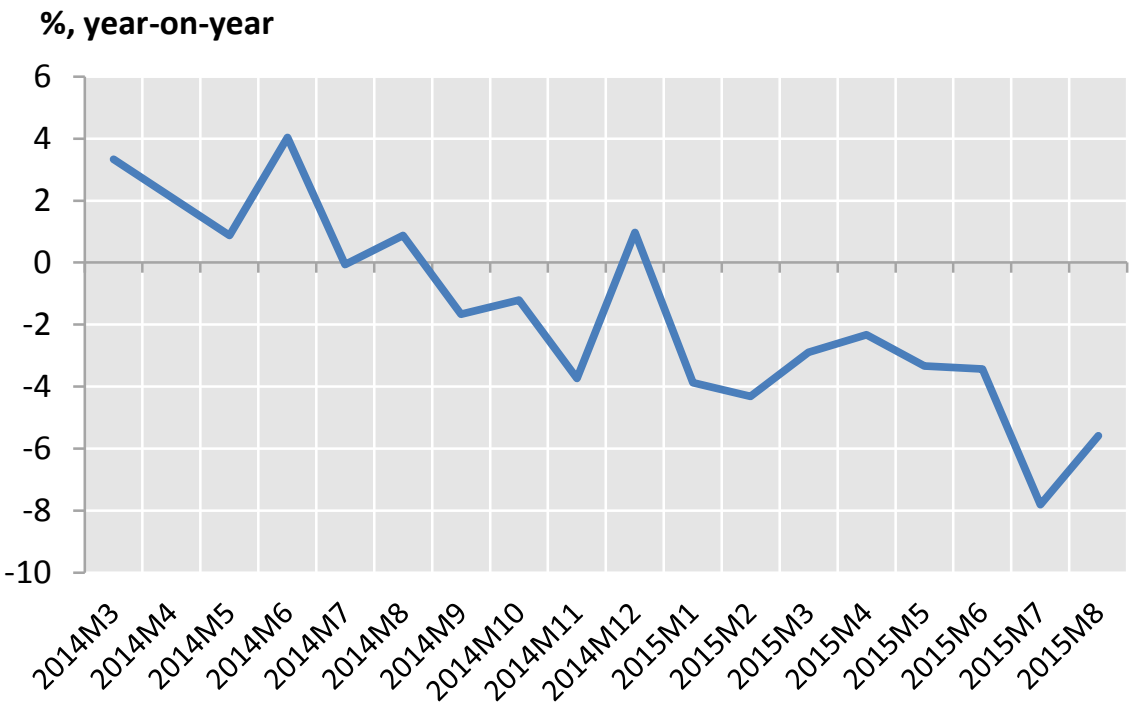
Source: Platts McGraw Hill Financial.

Steel consumption

Monthly steel consumption figures have been very negative for major steel-consuming economies during the course of 2015. Figure 4 presents the year-on-year per cent change in the combined consumption of hot-rolled products for eight of the world's largest steel-consuming economies in Asia, the CIS region, Europe, North America, and South America, which together account for approximately 72% of global steel demand.[1] The data suggest a strong deceleration in consumption growth during 2014, with growth turning negative in the final quarter of 2014 and the downturn gathering momentum during 2015. In the first eight months of 2015, the monthly consumption indicator for the major steel-consuming economies declined by slightly more than 4% in year-on-year terms.

1 The economies are Brazil, China, Germany, India, Japan, Korea, Russia and the United States.

Figure 4. Consumption of hot-rolled steel products, major economies



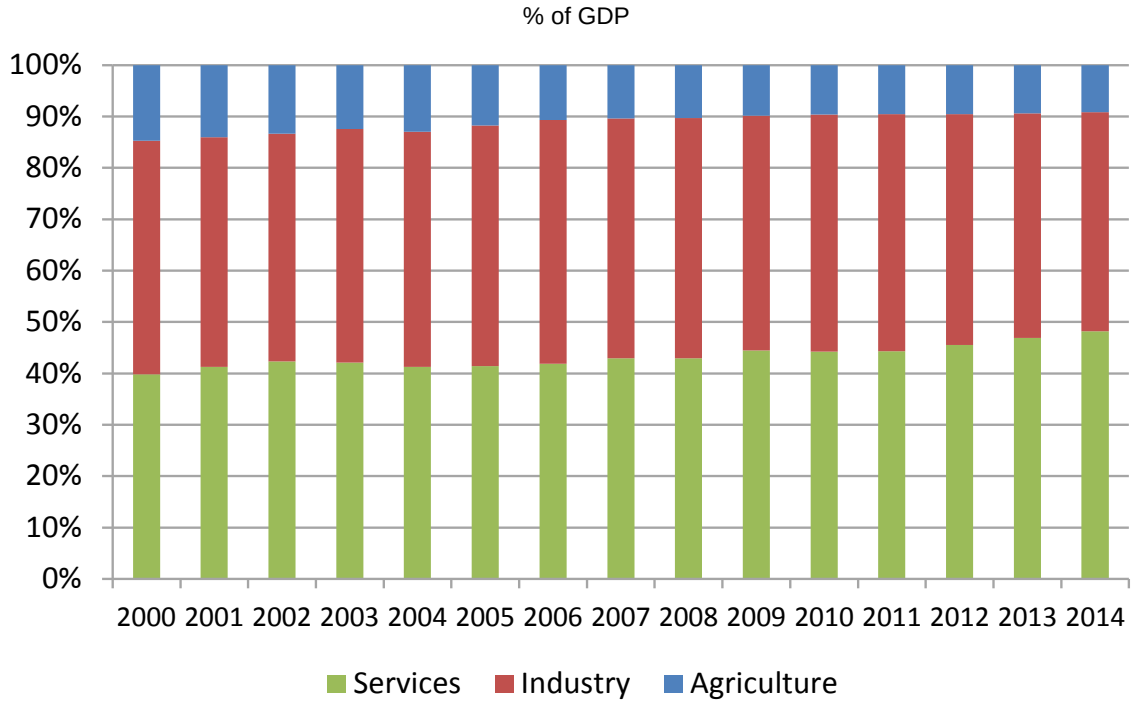
Note: Combined consumption of the following economies: Brazil, China, Germany, India, Japan, Korea, Russia and the United States.

Source: ISSB.

The global demand downturn is largely due to significant steel consumption declines in China, Brazil and Russia. The steel demand downturn in China reflects the ongoing economic rebalancing process that is taking place. Although Chinese GDP growth slowed only to 6.9% in the third quarter from 7% in the first and second quarters, domestic steel consumption declined by 5.8% during January-September 2015, according to the National Bureau of Statistics.

The decoupling of China's steel demand from GDP growth reflects the diminishing role of industrial activity relative to services. Figure 5 shows that the services sector overtook industry as the major driver of economic growth around 2012, and its share of GDP has continued to increase since then. Thus, despite still relatively strong macroeconomic growth in China, economic activity indicators relevant for steel (e.g., industrial production, fixed asset investment, and investment in the property market) have registered slowing growth rates during 2015.

Figure 5: Value added by sector, China



Source: World Development Indicators.

Other emerging economies are also adjusting to slower consumption growth. In Brazil, the steel sector is facing a severe crisis, with the Brazilian Steel Institute recently indicating that consumption fell by 14% year-on-year in the first nine months of 2015. This weakness is largely due to slumping durable goods manufacturing, particularly motor vehicle production, which is depressing steel consumption and offsetting the positive impact of construction activity associated with the summer 2016 Olympic Games to be held in Rio de Janeiro. The steep devaluation of the real, however, has provided a boost to Brazil's exports, particularly of semi-finished products.

In Russia, although the economy is in a deep recession, activity in the steel industry has held up fairly well. This is partly due to the rouble's significant depreciation, which has helped support Russian exports and production of steel. However, construction activity, which accounts for around two-thirds of Russia's steel consumption, and new car sales have declined significantly in 2015, thus depressing domestic steel demand considerably. Large pipeline projects, on the other hand, are providing some support to demand.

India, on the other hand, has better steel consumption prospects than other major emerging market economies. Expectations of consumption growth are optimistic, in view of the ongoing economic reform process, infrastructure development, the implementation of "Make in India", and smart city initiatives. However, recent demand developments have disappointed and the financial performance of domestic producers has deteriorated.

Across the OECD, steel demand developments have been supported particularly by the strength of the automotive sector. However, renewed economic weakness and subdued investment activity are clouding the outlook, and domestic producers are struggling to adjust to greater import competition. In the EU, apparent steel consumption growth has gained some momentum in 2015, with growth picking up to 5.5% in the second quarter. The demand improvement has been supported by improving production activity in key downstream sectors, particularly the automotive industry, and rebounding construction activity. In NAFTA, the slump in oil prices is negatively impacting demand for steel from energy companies (an

important steel-using sector in the region) as exploration companies reduce capital expenditures. In Japan and Korea, the manufacturing industry is struggling with the effects of weaker export markets and the Chinese industrial slowdown, which is constraining consumption particularly of flat steel.

Steel production

Growth in world crude steel production has decelerated significantly in the past three years. Following growth of 5.8% in 2013 (to 1.65 billion tonnes), production growth slowed to 1.2% in 2014 and has turned negative in 2015. In the first 10 months of 2015, crude steel production declined by 2.5% compared to the corresponding time period one year earlier (Table 2). The world production decline appears to have been gathering some momentum during the course of this year, with the rate of contraction reaching 3.1% in October 2015. These developments imply that world production is likely to register an annual contraction in 2015 for the first time since 2009.

The production decline has been broad-based in 2015, affecting almost all regions of the world. North American production has declined the most, in relative terms, reflecting a sharp, 8.8% steel output decline in the United States as several mills reduced output or idled furnaces in response to the market downturn. Canadian output is down by slightly more than 1%, reflecting weakening steel consumption in the energy and mining industries in the wake of declining commodity prices. Mexican steel production is also down about 1% so far in 2015, as local producers adjust output in response to heightened import competition.

Production in the EU fell by 1.8% in 2015, mainly due to output declines in the UK, Italy and France, against almost flat production in Germany and positive growth in Poland. Steel output in the UK declined by a steep 10.4% in 2015, reflecting plant closures in the latter part of the year. The Italian steel industry is in a serious recession, with steel output declining by 7.1% in 2015, marking the fourth consecutive year of contraction. French output fell by 7.2% in 2015.

The so-called Other Europe region and the CIS economies have also experienced steep production declines, with Turkish steel output down almost 7% and Ukrainian production down 18% so far in 2015. Turkey is becoming a net importer of steel this year, with exports facing greater competition on world markets. Ukrainian production has suffered from infrastructure damage in the eastern part of the country and difficult economic conditions. Russian output has also declined in 2015, albeit only slightly, due to the economic recession.

In Asia, production is in decline in most of the region's economies – at a rate of 2.1% in China, 5.1% in Japan, 3.6% in Korea and 3.6% in Chinese Taipei – with the exception of India where production has increased by 3.3% in the first 10 months of this year. Chinese production is on track to decline in 2015 for the first time in more than three decades. However, the market is still in oversupply, with many producers operating at losses and prices declining significantly this year. With production running at an annualised level of 810 mmt, the Chinese steel industry is operating at a capacity utilisation rate of only around 71%.

In South America, the industry is in recession in the two largest producing economies, Brazil and Argentina, where production has fallen by 1.3% and 7.2%, respectively, so far in 2015. Brazilian mills have increased exports, but the considerable domestic demand downturn has led to production cuts. A number of temporary capacity closures have occurred in Brazil as low market prices have depressed the industry's profitability. Like other parts of the world, South American steel producers are also adjusting to greater import competition. Although steel output in many smaller producing economies, such as Colombia, Ecuador, Paraguay, Peru, Uruguay and Venezuela, has increased during 2015, the region overall has registered a decline of 1.6% in steel production during the first ten months of 2015.

In the Middle East, production growth has slowed following several years of rapid expansion, stemming in part from the oil market downturn which has lowered income growth and, consequently, sales of steel. In the first 10 months of 2015, the region's steel output was roughly unchanged compared to the same time period in 2014, with growth in Iran and the United Arab Emirates being offset by falling production elsewhere in the region. Declining oil revenues have translated into reduced government expenditure on construction projects in some countries, which have been a major driver of steel demand in recent years.

African steel production in the first 10 months of 2015 was approximately unchanged from the same time period in 2014, as strong production growth in South Africa was offset by falling production in Egypt and Libya. However, the South African production figures are still estimates at this point, and the local industry is facing very uncertain conditions and possible plant closures. Energy shortages and political disturbances are contributing to production declines in northern Africa.

Table 2. World crude steel production developments in 2015

	Level, thousand mmt		% change, year-on-year	
	Oct-15	**Jan.-Oct. 2015**	**Oct-15**	**Jan.-Oct. 2015**
EU	14,754	141,586	-3.8	-0.7
Other Europe	2,996	28,663	3.0	-5.5
CIS	8,284	84,568	-0.7	-4.9
North America	9,606	94,553	-6.1	-6.8
South America	3,961	37,281	-2.5	-1.6
Africa	1,096	11,781	-1.5	-0.2
Middle East	2,267	23,175	-8.9	-0.1
Asia, of which:	90,737	919,542	-3.0	-2.1
China	66,124	675,104	-3.1	-2.2
Oceania	501	4,835	-2.5	4.8
World	133,640	1,345,955	-3.1	-2.5

Source: World Steel Association.

World steel trade

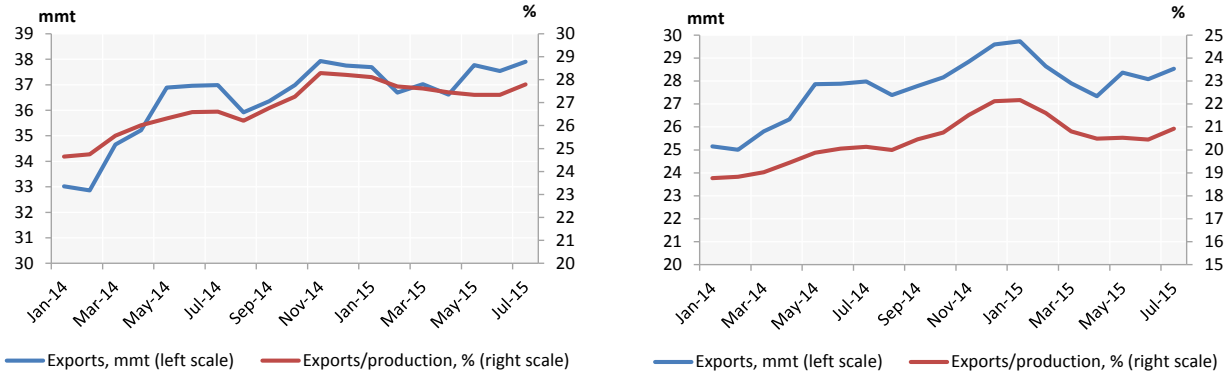
Despite significant production declines in most regions of the world, the November 2015 report by ISSB shows that world steel exports have increased by more than 4% in January-July 2015 relative to their level in the same time period last year. However, much of the growth observed so far this year reflects a so-called "carry-over effect" from 2014. That is, although monthly export volumes have levelled off during 2015, they had increased significantly during the course of 2014, thus yielding still strong year-on-year growth rates in recent months.

The monthly data from ISSB, taking into account internal EU and other inter-regional trade, point to global steel exports of 453 thousand tonnes, annualized, in the first half of 2015, up from 433 thousand tonnes in 2014 (Figure 6, Panel A). As a result of these developments (production declining while exports are increasing), the world steel export ratio, i.e. exports as a share of production, has increased from around 25% at the start of 2014 to almost 30% in July 2015. Excluding intra-EU trade, the overall trends are roughly similar, with total export growth of 4.3% in January-July 2015, in year-on-year terms, and an increase in the world export ratio from around 19% in early 2014 to 22% in July 2015 (Figure 6, Panel B).

Figure 6. World exports of steel: monthly volume (mmt) and export ratio (% of production)

(3-month moving averages)

Figure 2. A. Including intra-EU trade B. Excluding intra-EU trade



Source: OECD calculations based on data from ISSB.

Table 3 presents export developments during 2015 in the six largest steel-exporting economies. The latest month for which trade data are available varies across economies, ranging from July to September 2015. World export growth has been supported mainly by China, whose exports in 2015 (until September) amount to an annualised 106.7 mmt, up 16.6 mmt or 18.4% from the 2014 annual figure. Chinese exports to the ASEAN region, Korea, the EU, India, and the Middle East are up significantly this year. Other major steel-exporting economies have seen their annualised export volumes decline in 2015, at rates ranging from almost 1% in Japan to more than 18% in Ukraine. Global exports from these economies to the Middle East have generally held up well, but have declined to many other regions.

The increase in global exports amid weak domestic demand conditions has led to a flurry of trade cases in recent months, in many economies and regions around the world [DSTI/SU/SC(2015)10]. Despite these trade measures, steel imports are up in, e.g., NAFTA (almost 3% in January-August 2015, year-on-year), the EU (9.2% in January-July), South America (4.4% in January-July) and in Asia excluding China (6.3% in January-July). The increase in supply has led to significant price declines in all regions of the world, analysed below.

Table 3. Steel export developments in 2015 (annualised to latest month available in 2015)

Largest steel exporting economies, thousands of metric tonnes

Exporter	2014	2015 annualised (latest month)	Change (2015/2014) volume	Change (2015/2014) %
China (Sep)	90,103	106,674	16,571	18.4
Japan (Sep)	41,247	40,943	-304	-0.7
EU, external trade (Jul)	36,557	35,272	-1,285	-3.5
Korea (Sep)	31,803	30,811	-992	-3.1
Russia (Aug)	26,939	26,002	-937	-3.5
Ukraine (Aug)	21,469	17,521	-3,948	-18.4

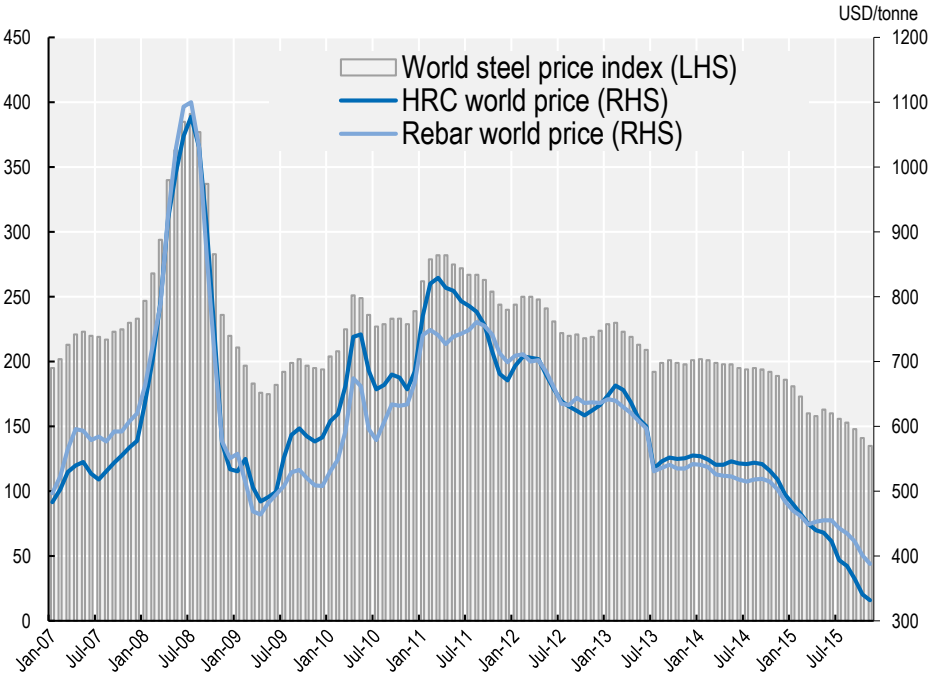
Note: The definition of steel used in this table is HS 7206 to 7302, 7304-7306, and 7307.21-7307.99 excluding some forgings (7326.19), points and switches/crossings (7302.30 and 7302.90), some forged cold finished sections (7216.69 and 7216.99), some cold formed sections (7216.61 and 7216.91), welded shapes and sections (7301.20) and steel castings (7325.99). This definition differs somewhat from the total steel exports figures provided by ISSB in Figure 6 above.

Source: OECD calculations based on data from ISSB.

Steel prices

The combined effect of weakening global steel demand, growing imports in many economies, and decreases in steelmaking costs has led to a very sharp decline in world steel prices (Figure 7). The world steel price index,[2] which has been trending downwards since the second quarter of 2011, fell to 135 points in November 2015, down 25% from its level in January 2015. World hot-rolled coil (HRC) prices have fallen 31% and rebar prices 17% from their levels at the beginning of 2015. In November 2015, the world average HRC price stood at USD 332 (down from USD 480 in January 2015) and the world rebar price at USD 388 per tonne (down from USD 470 in January 2015).

Figure 7. World steel prices (latest month November 2015)



Source: Platts Steel Business Briefing.

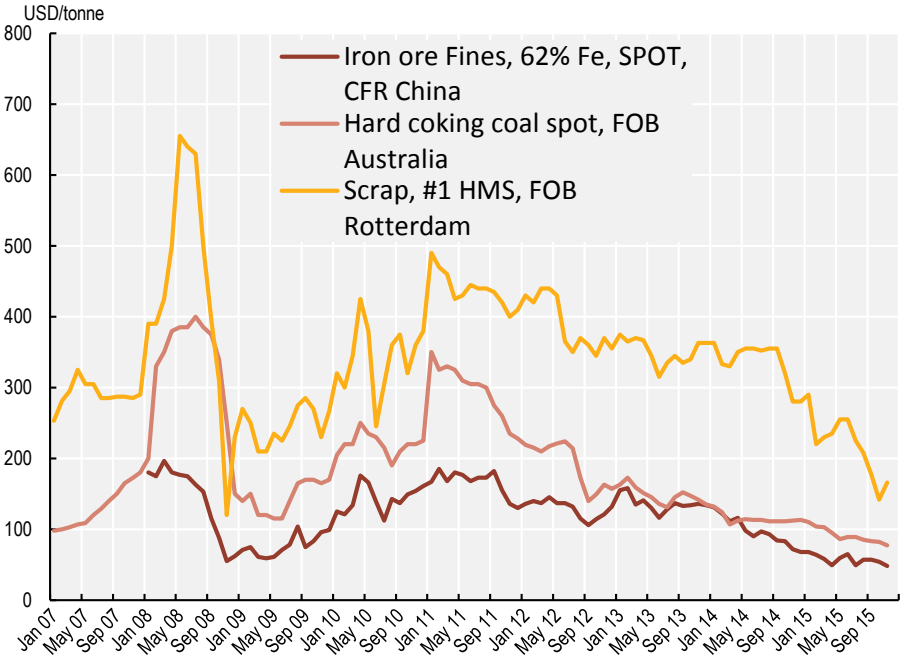
Steelmaking costs

Prices of steelmaking raw materials have also declined, helping to bring steel production costs down significantly over the past several years (Figure 8). The iron ore market is currently in oversupply, reflecting reduced demand due to falling world production of steel and supply increases particularly from Australia. Low-cost iron ore miners in Australia, the largest producer of iron ore, are increasing supply to gain market share, in spite of the weak price environment. For example, exports of iron ore from Australia increased by nearly a quarter last year, while exports from Brazil, the second largest producer in the world, increased by only 4%. In November 2015, the spot price of iron ore (CFR to China), fell to USD 48 per tonne. The iron ore price has thus fallen 29% from its level at the beginning of the year and 63% compared to January 2014.

2. The world prices referred to here are publicly available on the Platts Steel Business Briefing website: www.steelbb.com.

The coking coal and scrap markets have been slumping for almost five years now, and prices have fallen sharply this year. In November 2015, the coking coal (spot) and scrap prices were down by 30% and 43%, respectively, relative to their January 2015 levels. Contract negotiations for coking coal deliveries from Australia to Japanese steel mills for the fourth quarter of 2015 concluded with another price reduction, of 4% to USD 89 per tonne. Scrap price declines have been reinforced by falling prices of substitute materials, such as direct reduced iron.

Figure 8. Key raw material price indicators

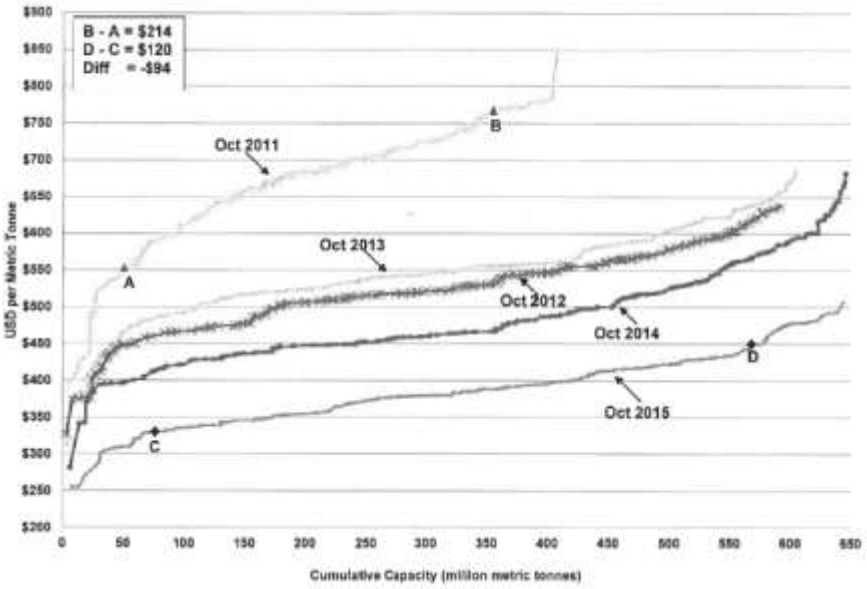


Source: Commodity Research Unit.

In line with these developments, a recent report by World Steel Dynamics notes that the world cost curve for hot-rolled band, based on data for 189 steel plants, has declined since 2011, with the median plant facing operating costs of around USD 380 per tonne in October 2015 (Figure 9).[3] The median producer, therefore, currently faces higher operating costs than the world average price for hot-rolled coil. In addition, the cost curve appears to have become flatter in recent years, implying less diversity in costs across steel producers and, thus, also profitability challenges for a large segment of the industry given current steel prices.

[3] See World Steel Dynamics, Truth and Consequences report # 75, 19 November 2015.

Figure 9. World steel cost curves for hot-rolled band (USD/metric tonne)

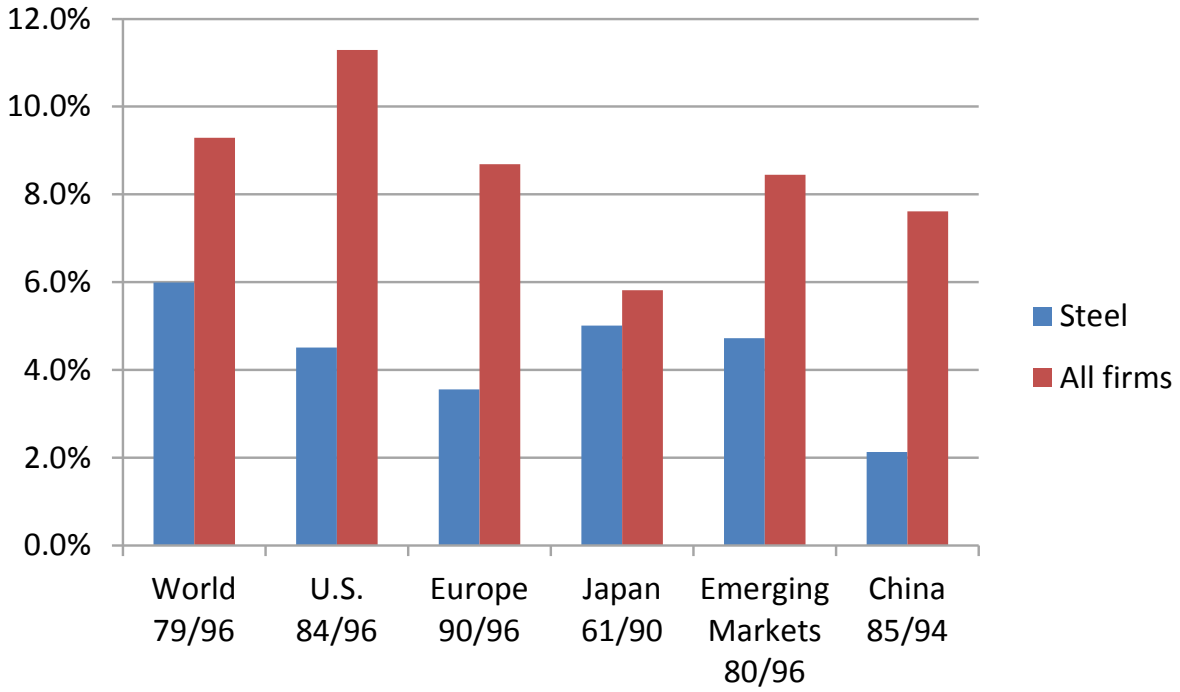


Source: World Steel Dynamics.

The profitability of the steel industry has come under intense pressure, as discussed in detail in document DSTI/SU/SC(2015)12. Profit reports across steel companies illustrate a sector that is clearly underperforming most other industries. The average pre-tax operating margin of 757 publically trade steel companies from October 2013-September 2014 was 5.99%, well below the 9.3% average operating margin for the world's 42 410 publicly traded firms (see Figure 10). Figure 10 also shows the steel sector's profitability ranking relative to all sectors in given economies. Globally, steel's average operating margin was ranked 79th out of 96 listed industries. If only manufacturing firms are included, steel is ranked amongst the very least profitable industries.

Operating margins across economies and regions reveal a similar pattern, with the steel sector reporting some of the lowest pre-tax operating margins of all listed sectors. China's steel industry has one of the lowest operating margins compared not only to the steel industries of many other economies but also relative to other domestic industries. China's steel industry is ranked 85th out of 94 Chinese service and manufacturing sectors, but is last amongst all domestic manufacturing industries. The European steel industry also appears to be facing a troubled profit environment, and is ranked 90th out of 96 European service and manufacturing industries. As discussed in DSTI/SU/SC(2015)12, most steelmakers are experiencing negative cash flows, and as a result an increase in debt. Moreover, there is an increasing reliance on short-term debt, which suggests that firms are either facing difficulties in obtaining long-term loans or are using short-term debt to cover their operational activities.

Figure 10. Pre-tax operating margins (%) and steel industry's economy-level profitability ranking



Note: The data were uploaded in January 2015, before annual 2014 annual reports were available. The figures below the names of each economy denote the steel industry's ranking in the profitability of all sectors (manufacturing and services) in that particular economy or region.

Source: Damodaran online at http://pages.stern.nyu.edu/~adamodar/New_Home_Page/data.html.

The steel market outlook: demand weakness and oversupply

The three-year period from 2014 to 2016 is expected to be characterised by exceptionally slow global steel demand growth. Forecasts for global demand growth have been reduced significantly since the Steel Committee last met in May 2015. According to the October 2015 forecasts of the World Steel Association, world steel demand is now projected to decline in 2015 for the first time since 2009. Global finished apparent steel use is forecast to decline by 1.7% to 1 513.4 million metric tonnes (mmt) in 2015, before increasing modestly by 0.7% to 1 523.4 mmt in 2016 (see Table 4). The previous forecasts, released in April 2015, had indicated positive demand growth of 0.5% and 1.4% in 2015 and 2016, respectively. The downward revisions reflect a steeper demand contraction in China than was previously anticipated and a significantly weaker outlook for the CIS economies, South America and many developed countries this year.

Table 4. Latest forecasts for regional apparent steel use by the World Steel Association

Millions of tonnes of finished steel

	2014		2015 (f)		2016 (f)	
	Volume	% change	Volume	% change	Volume	% change
European Union (28)	148.0	*5.0*	149.8	*1.3*	153.1	*2.2*
Other Europe	36.9	*0.1*	40.1	*8.6*	40.6	*1.3*
CIS	56.1	*-4.6*	49.9	*-10.9*	49.9	*0.0*
NAFTA	144.8	*11.4*	140.8	*-2.7*	143.7	*2.1*
Central and South America	48.8	*-4.7*	45.2	*-7.3*	46.1	*2.0*
Africa	36.6	*3.6*	38.5	*5.1*	40.9	*6.2*
Middle East	51.9	*4.5*	53.9	*4.0*	56.3	*4.3*
Asia and Oceania	1016.8	*-0.9*	995.1	*-2.1*	992.8	*-0.2*
China	710.8	*-3.3*	685.9	*-3.5*	672.2	*-2.0*
World	**1539.9**	***0.7***	**1513.4**	***-1.7***	**1523.4**	***0.7***
World (excl. China)	**829.1**	***4.5***	**827.5**	***-0.2***	**851.3**	***2.9***

Source: World Steel Association's Short Range Outlook, released in October 2015.

Not all economies are slumping, however, and some will contribute positively to global steel demand growth. For example, Africa and the Middle East, are projected to register solid steel demand growth of 4-6% in 2015-16, although political instabilities and oil market weakness present risks for demand in these regions. India and emerging economies in Southeast Asia will also enjoy solid demand growth, supported by economic reforms and rising household incomes, continued infrastructure building and expanding manufacturing activity. Demand is expected to increase moderately in the European Union over the next two years, and at a higher rate relative to the world average. However, this follows several years of weak recovery and even by 2016, EU demand is expected to still be around 25% lower than the pre-crisis level observed in 2007.

Overall, then, the global demand outlook is very weak, despite some pockets of growth in several emerging market economies. Demand weakness coupled with further increases in steelmaking capacity over the next few years - in an environment of already very low steel prices, unsustainably weak profitability, and mounting debt - suggest that adjustment pressures are likely to grow in the short to medium term. How this adjustment will occur is extremely difficult to predict, but some thoughts on possible channels of adjustment are described below.

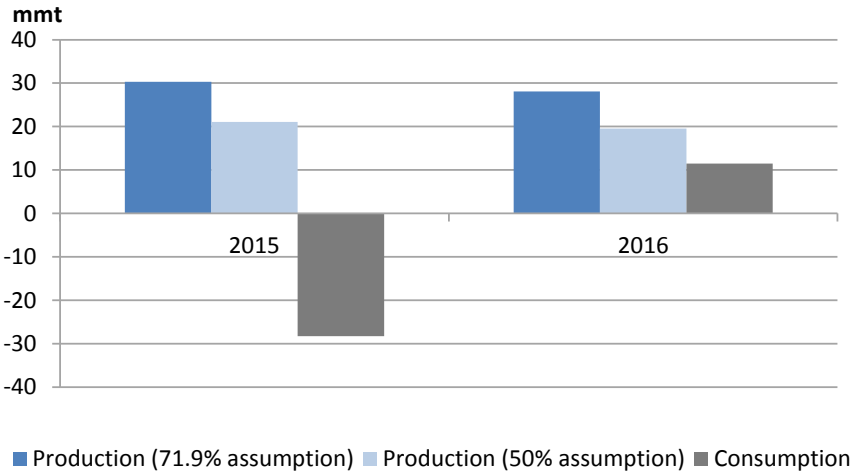
As described in the document on world steelmaking capacity developments [DSTI/SU/SC(2015)8], given the large number of investment projects that are underway, global capacity is expected to increase from 2 321 mmt in 2014 to 2 418 mmt in 2017. The corresponding annual capacity additions amount to 42 mmt in 2015, 39 mmt in 2016 and 16 mmt in 2017. Not all of that nominal capacity is likely to result in equivalent increases in production due to differences between effective and nominal capacity and because market conditions are very weak. However, assuming that only 71.9% of the annual capacity additions eventually turns into steel production (71.9% being the actual global capacity utilization rate in 2014), translates into additional production volumes of 30 mmt in 2015, 28 mmt in 2016 and 11 mmt in 2017. If only 50% of the new capacity is used to make steel, then the corresponding additional production volumes would amount to 21 mmt, 20 mmt, and 8 mmt in 2015, 2016 and 2017, respectively. Obviously, a number

of assumptions can be made about potential output additions, and these are merely two benchmarks for purposes of the exercise.

Figure 11 compares the additional production increases (using the two aforementioned assumptions) with global demand changes. Here, global demand is in crude steel equivalent, and forecasts are generated by using the percent changes in demand for finished steel use, as projected by the World Steel Association in October 2015. The current forecast for demand suggests a decline in the volume of steel consumed in the world from 1 663 mmt in 2014 to 1 646 mmt in 2016, in other words by a cumulative 17 mmt during the period. Under either assumption of capacity use, the potential supply increase exceeds demand by 49-59 mmt in 2015 and by 8-17 mmt in 2016. The cumulative potential oversupply in 2015 and 2016 thus ranges between approximately 57 and 75 mmt (equivalent to more than twice the annual production of the entire Middle East), under the simplistic assumptions made above.

Figure 11. Scenarios of crude steel production and consumption changes

Volume changes in mmt



Note: The 71.9% and 50% assumptions refer to the assumed utilization rates of the capacity additions. Consumption forecasts are based on forecasts by the World Steel Association released in October 2015.

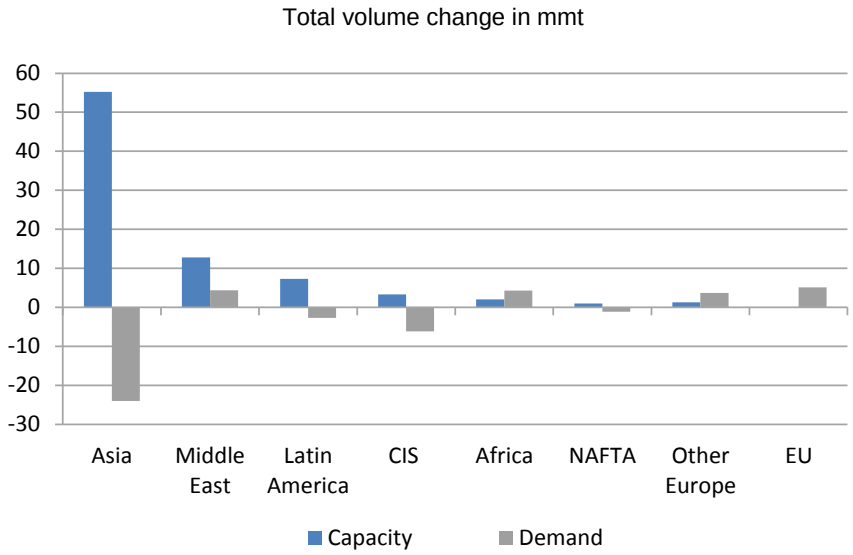
Source: OECD calculations.

This wedge between supply and demand will have to be worked out, either through price changes, quantity (demand and supply) adjustments or capacity closures. Or, perhaps more likely, the adjustment might occur through a combination of these factors. The immediate reaction will likely be further downward pressure on steel prices. Some producers may ignore price signals and decide to maintain production at high levels, with the excess supply worked out through higher exports to, and dislocated production and employment in, trading partner economies. However, should prices remain below unit costs of production, such producers would eventually face mounting losses, and trade actions by trading partners would eventually dampen demand for their output.

In view of the financial difficulties already facing the industry, further price and profitability declines would likely encourage the economically weakest firms to close plants, with negative consequences on possibly thousands of displaced workers. Alternatively, this scenario could lead to calls for government support and other interventions to preserve the viability of inefficient domestic steel producers, but these market distortions would only increase the risks of closure for efficient producers elsewhere and prolong the steel industry's recession. They would also lead to further escalation of trade actions to shield domestic producers from government-created distortions in the market.

The oversupply situation has already led to significant changes in steel trade flows. Figure 12 shows the projected cumulative steel capacity and consumption changes by region during 2015 and 2016. In some regions, capacity is growing in line with expanding steel consumption, which is the case in the Middle East, Africa and Other Europe. In other regions, however, capacity and consumption are expected to move in opposite directions, suggesting potential trade disruptions in the future in response to domestic supply-demand imbalances. Export competition could increase significantly, especially in the Asian region where the potential oversupply situation appears particularly acute according to Figure 12.

Figure 12. Steelmaking capacity and steel consumption changes by region in 2015 and 2016



Source: OECD calculations.

Concluding remarks

In summary, the outlook for the steel industry has weakened significantly, due to cyclical factors associated with sluggish global economic activity and industry-specific structural problems such as overcapacity. It appears that adjustment pressures are growing significantly and will have to be worked out in the coming years. There are many ways in which the industry can adjust, but one possible near-term scenario involves further price and profitability suppression, production declines resulting in low capacity utilisation rates across the board, and possibly plant closures amongst the least efficient firms. There will be growing social and human costs associated with the current market downturn, and governments should prepare effective programmes to help steel workers, who are laid off in the process, adapt to these changes. Alternatively, government interventions may help the industry "muddle through" the crisis, but these would be expected to lead to more market distortions that would eventually create even more severe adjustment challenges in the longer term.