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Executive Summary
SSINA's Submission Regarding Global Steel Situation

- SSINA is a trade association representing virtually all the producers of specialty steel in North America. SSINA members produce a variety of products including bar, rod, wire, angles, plate, sheet and strip, in stainless steel and other specialty steels.
- Global overcapacity has had a detrimental impact on the U.S. stainless steel industry. Four U.S. stainless flat-rolled producers (AK Steel Corporation, Allegheny Ludlum, LLC, North American Stainless, and Outokumpu Stainless USA, LLC) are currently petitioners in the antidumping and countervailing duty investigations concerning stainless steel sheet and strip from China. In that case, as is true of other steel products, massive excess capacity in third countries has resulted in a surge of low-priced imports that has caused the financial deterioration of the U.S. steel industry in recent years.
- Based on [ ] global stainless melt capacity increased from [ ] metric tons in 2010 to [ ] metric tons in 2015, representing an increase of [ ] percent. Although China accounted for the vast majority of the capacity increase, [ ] have all reported recent or projected stainless capacity expansions.
- With investment projects continuing to increase in a number of countries, and while steel consumption growth is projected to remain moderate, the global imbalance between capacity and demand will continue to pose risks for the industry for the foreseeable future. Based on [ ] global stainless melt capacity is projected to increase to [ ] metric tons in 2017, up from [ ] metric tons in 2015.

- As the world's largest stainless steel producing country with over 50 percent of global stainless steel production, China has been the dominant offender in terms of overcapacity. Based on [ ] China's stainless melt capacity almost doubled from [ ] metric tons in 2010 to [ ] metric tons in 2015.
- China's excess capacity of [ ] metric tons in 2015 was more than [ ] times U.S. stainless melt output of [ ] metric tons during the same year.
- As a result of these expansions and this significant excess capacity, Chinese producers are exporting an increasing volume of their steel to overseas markets, including the United States.
- Despite the Chinese government's promise to restructure the steel industry and remove excess capacity, multiple Chinese stainless steel producers have recently expanded capacity with new investments and/or restarted previously idled facilities.
- The rapid growth in capacity has been supported and fueled by numerous government subsidies and preferential policies that have conferred countervailable benefits on foreign producers.
- The global overcapacity in the stainless steel sector is having injurious effects on steel producers around the world, but the U.S. producers have been hit particularly hard as the United States is the primary target market for global steel exports.
- SSINA urges the U.S. Government to strictly enforce the U.S. trade laws and to continue to treat China as a non-market economy so that U.S. producers will no longer be forced to endure the significant negative effects of excess capacity.

March 29, 2016

USTR-2016-0001
PUBLIC VERSION

Jim Sanford
Assistant U.S. Trade Representative for Small Business,
Market Access and Industrial Competitiveness
Office of the U.S. Trade Representative
Executive Office of the President
600 17th Street N.W.
Washington, DC 20508

Re: Request for Comments and Notice of Public Hearing Concerning Policy Recommendations on the Global Steel Industry Situation and Impact on U.S. Steel Industry and Market

Dear Mr. Sanford:

On behalf of the Specialty Steel Industry of North America ("SSINA"), we hereby submit the following comments concerning the global steel industry situation pursuant to the Notice of Request for Comments published by the Office of the United States Trade Representative on March 4, 2016.[1] SSINA is a trade association representing virtually all the producers of specialty steel in North America. SSINA members produce a variety of products including bar, rod, wire, angles, plate, sheet and strip, in stainless steel and other specialty steels.

At present, the U.S. stainless and other specialty steel producers are experiencing serious challenges fueled by global overcapacity and unfair trading practices of foreign steel producers. Excess production of steel in third countries such as China has led to increased exports,

[1] See Request for Comments and Notice of Public Hearing Concerning Policy Recommendations on the Global Steel Industry Situation and Impact on U.S. Steel Industry and Market, 81 Fed. Reg. 11,638 (USTR March 4, 2016) (the "Notice of Request for Comments").

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depressed prices, and given rise to an unprecedented wave of unfair trading practices, distorting the global level playing field. Despite the U.S. producers' efforts to innovate and modernize, they have experienced injury due to the surge in U.S. imports of steel in recent years. Four U.S. stainless flat-rolled producers (AK Steel Corporation, Allegheny Ludlum, LLC, North American Stainless, and Outokumpu Stainless USA, LLC) are currently petitioners in the antidumping and countervailing duty investigations concerning stainless steel sheet and strip from China. In the stainless steel market, as well as in markets for other steel products, massive excess capacity in third countries has resulted in a surge of low-priced imports that has caused the financial deterioration of the domestic industry. SSINA requests that the trade laws of the United States be strictly enforced to stem the injury that U.S. producers and their workers are suffering at the hands of unfairly-traded steel imports. The current global overcapacity situation has given rise to an unprecedented need to ensure that the integrity of those laws is maintained.

I. STATUS AND CAUSES OF THE EXCESS CAPACITY SITUATION IN THE GLOBAL STAINLESS STEEL INDUSTRY

The global stainless steel industry continues to suffer from massive overcapacity that is having dire implications for the global stainless steel market including the U.S. market. According to [ ] global stainless melt capacity increased from [ ] metric tons in 2010 to [ ] metric tons in 2015, or by [ ] percent.[2] [ ] projects that global stainless melt capacity will further increase to [ ] metric tons in 2017. Id. While China accounted for the vast majority of this increase, [ ] have all reported recent or projected stainless capacity expansions. Id. at 42-45. This rapid growth in capacity has been supported and fueled by

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2 [ ] at Exh. 1.

numerous government subsidies and preferential policies, including subsidies for the creation of new capacity or the maintenance of inefficient capacities.

Despite the surge in capacity, stainless steel consumption growth has been modest in recent years. [ ] reported that global stainless steel output rose by just [ ] percent in 2015, noting that [ ][3] China's stainless steel output declined in 2015 for the first time since 2008, dipping [ ] percent from 2014 to 2015, with [ ] noting that 2015 had been "a year of struggle for stainless producers."[4] According to [ ] global capacity for cold-rolled stainless flat products increased despite a decline in global apparent consumption during 2014-15.[5] Global apparent consumption stood at [ ] metric tons, or about [ ] metric tons below global capacity ([ ] percent capacity utilization). Id. Based on the low utilization rates, OECD reported that the steel industry was experiencing "one of the highest gaps {between demand and capacity} in the history of the global steel industry."[6]

OECD forecasts that the three-year period from 2014 to 2016 is expected to be characterized by "exceptionally slow global steel demand growth."[7] Forecasts for global demand growth were reduced significantly since the Steel Committee last met in May 2015 –

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3 [ ] at Exh. 2.

4 [ ] at Exh. 3.

5 [ ] at Exh. 1.

6 OECD, *Excess Capacity in the Global Steel Industry and the Implications of the New Investment Projects* (2015) at 11, at Exh. 4.

7 OECD, *Steel Market Developments Q4 2015*, (2015) at 18 at Exh. 5.

steel demand is now projected to decline by 1.7 percent in 2015, before increasing modestly by 0.7 percent in 2016. Id. The downward revision reflects steeper demand contraction in China than was previously anticipated. Id. SSINA is deeply concerned that with the additional investment projects that have already begun in several countries, coupled with the continued stagnant steel consumption rates, global overcapacity will continue to pose risks for its U.S. operations and for the U.S. industry as a whole for the foreseeable future.

II. CHINA ACCOUNTS FOR THE MAJORITY OF EXCESS GLOBAL CAPACITY

As the world's largest stainless steel producing country with over 50 percent of global stainless steel production,[8] China has been the dominant offender in terms of overcapacity. Based on [ ] China's stainless melt capacity almost doubled from [ ] metric tons in 2010 to [ ] metric tons in 2015.[9] Efforts to curtail its massive capacity have been largely ineffective as China's capacity is projected to increase an additional [ ] percent to [ ] metric tons by 2018. Id. With a capacity utilization rate of [ ] in 2015, China's excess capacity reached almost [ ] metric tons, which was more than [ ] times total U.S. stainless melt output of [ ] tons during the same year.[10]

Despite China's substantial excess capacity, [ ] reported that China's stainless capacity is still rising, noting that [

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[8] Based on the International Stainless Steel Forum statistics, China accounted for 52.0 percent of world production of steel melt production in 2014. See www.worldstainless.org at Exh. 6.

[9] [ ] at Exh. 1.

[10] [ ] at Exh. 1.

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]11 With

regard to stainless long products, [

]12

The massive overhang in Chinese capacity to produce stainless steel is all the more troubling given that demand for the product in China has slowed dramatically in 2015:

[

]

[ ] at Exh. 8.

This slowdown in demand resulted in an increased incentive for Chinese producers and exporters to ship stainless steel to the U.S. market: [

] Id. at 21.

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11 [ ] at Exh. 2.

12 [ ] at Exh. 7.

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[

] Id.

Despite the Chinese government's promise to restructure the steel industry and remove some excess steel capacity, multiple Chinese stainless producers have recently restarted idled facilities as recently as first quarter 2016. [

]13 Mysteel stated that [

] Id.

This small sample of Chinese producers' massive future growth in stainless steel capacity, particularly when current capacity is underutilized and lacks a meaningful domestic market, makes clear the significance and imminence of the threat that the excess capacity from China has on the U.S. market. As a result of these expansions, Chinese producers are exporting an increasing volume of their steel to overseas markets, including to the United States. With demand in China expected to remain sluggish in the near future, the global steel markets will be flooded with even more Chinese steel as producers continue to offload their excess production.

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13 [ ] at Exh. 9.

III. THE GROWTH IN CAPACITY HAS BEEN FUELED BY GOVERNMENT SUBSIDIES

This rapid growth in capacity has been supported and fueled by numerous government subsidies and preferential policies that have conferred countervailable subsidies on foreign producers. Some of the subsidies are those that are specifically contingent upon export and are prohibited under the agreements of the World Trade Organization. Indeed, the Department of Commerce has initiated investigations into numerous countervailable subsidies provided to the stainless industry by the Chinese government.[14] Some of the major prohibited subsidies include preferential access to foreign trade funds and discount loans, export loans with preferential interest rates, export grants, and preferential income tax treatment for Chinese producers that upgrade their manufacturing operations with domestically-manufactured equipment.[15] These export and import substitution subsidies violate Article 3 of the SCM Agreement and are likely to provide the Chinese stainless steel industry an additional incentive to direct their production toward export markets, particularly the United States.

IV. THE LARGE AND OPEN NATURE OF THE U.S. MARKET MAKES IT ATTRACTIVE TO EXPORTS

The large size and open nature of the U.S. market provide producers with excess capacity with a significant incentive to continue shipping massive volumes of steel to the U.S. market. The rapid increase in the volume of imports of steel in 2014 and 2015 demonstrate the attractiveness of this market to subject producers and their interest in and ability to rapidly penetrate the U.S. market.

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[14] See SSSS China CVD Initiation Notice (unpublished) and DOC CVD Initiation Checklist at 6-37.

[15] DOC CVD Initiation Checklist at 9-12, 21-22, 32-33, and 36.

In addition, while several major export markets have imposed some form of trade barrier against subject producers, the vast majority of imports of stainless steel enter the United States duty-free. Moreover, many foreign producers have an established U.S. distribution network in place, as well as existing customers, making it very likely that the U.S. market will remain a primary outlet for foreign producers' excess capacity. Thus, foreign producers have the ability to easily ramp up sales and marketing activities with their existing customers and sales networks to expand their sales and exports to the United States even further. Given relatively stronger demand in the United States vis-à-vis other countries, as well as the size of demand in U.S. commercial market, the United States remains a very attractive market for subject steel imports.

V. STATUS OF THE U.S. STEEL MARKET

The global overcapacity has had a detrimental impact on the U.S. steel industry. The OECD report concluded that "the combined effect of the weakening global demand, growing imports in many economies, and decreases in steelmaking costs has led to a very sharp decline in world steel prices." Based on [ ] prices for cold-rolled grade 304 stainless steel sheet in the United States declined by [ ] percent from 2011 to 2015. Id. [

]16 [

] Id. at 2. [

] Id.

16 [ ] at Exh. 1.

In the U.S. market, the surge in imports of stainless steel during 2014 and 2015 has resulted in significant price declines across virtually all stainless flat and long products. The domestic stainless steel industry has experienced significant underselling by imports that has resulted in price depression and price suppression.

The global overcapacity situation has had a negative impact on the financial condition of the steel industry across the world. The OECD report found that the steel industry as a sector is clearly underperforming most other industries.[17] Globally, the steel industry's average operating margin was ranked 79 out of 96 listed industries. Id. If only manufacturing firms are included in the analysis, steel is ranked amongst the very least profitable industries. Id.

With regard to the U.S. industry, domestic stainless steel producers have suffered financial deterioration, production curtailments, and job losses as result of the surge in low-priced imports during 2014-2015. The American Iron and Steel Institute estimated that the U.S. steel producers were forced to lay off over 12,000 workers due to steel imports from China.[18] In the trade case concerning stainless sheet and strip from China, U.S. industry representatives testified at the International Trade Commission's staff conference that the increase in low-priced imports from China caused dramatic price declines in the U.S. market that contributed greatly to the poor financial deterioration of the domestic industry.[19] On March 25, 2016, the Commission made a preliminary affirmative determination in the trade case concerning sheet and strip from China. The fundamental factor that led to the filing of this trade case was the substantial excess global capacity that has resulted in the increase of low-priced steel exports to the United States.

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[17] OECD, *Steel Market Developments Q4 2015*, (2015) at 18 at Exh. 5.

[18] The American Steel & Iron Institute website (www.steel.org).

[19] U.S. International Trade Commission Transcript of the Staff Conference of Stainless Steel Sheet and Strip from China at 33, attached at Exh. 10.

VI. CONCLUSION/RECOMMENDATIONS

The global overcapacity in the steel sector is having dire implications on steel producers around the world, but the U.S. producers have been hit particularly hard as the United States is the primary target market for global steel exports. SSINA urges the U.S. Government to strictly enforce the U.S. trade laws so that U.S. producers will no longer be forced to endure the significant negative effects of excess capacity.

Respectfully submitted,

David A. Hartquist

DAVID A. HARTQUIST
KATHLEEN W. CANNON
LAURENCE J. LASOFF
R. ALAN LUBERDA

INDEX TO EXHIBITS	
Exhibit No.	**Description**
1	[ ]
2	[ ]
3	[ ]
4	OECD, *Excess Capacity in the Global Steel Industry and the Implications of the New Investment Projects* (2015)
5	OECD, *Steel Market Developments Q4 2015*, (2015)
6	International Stainless Steel Forum Statistics
7	[ ]
8	[ ]
9	[ ]
10	U.S. International Trade Commission Transcript of the Staff Conference of Stainless Steel Sheet and Strip from China

EXHIBIT 1

THE BUSINESS PROPRIETARY EXHIBIT IS NOT SUSCEPTIBLE TO SUMMARIZATION AND THEREFORE IS NOT PROVIDED WITH THIS PUBLIC VERSION

EXHIBIT 2

THE BUSINESS PROPRIETARY EXHIBIT IS NOT SUSCEPTIBLE TO SUMMARIZATION AND THEREFORE IS NOT PROVIDED WITH THIS PUBLIC VERSION

EXHIBIT 3

THE BUSINESS PROPRIETARY EXHIBIT IS NOT SUSCEPTIBLE TO SUMMARIZATION AND THEREFORE IS NOT PROVIDED WITH THIS PUBLIC VERSION

EXHIBIT 4

OECD publishing

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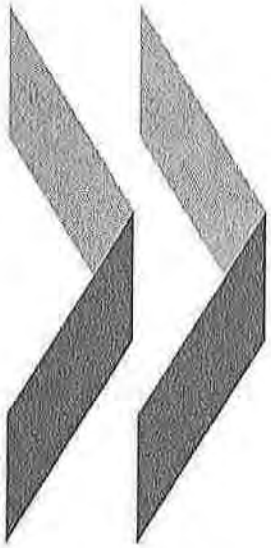

OECD Science, Technology and Industry Policy Papers No. 18

Excess Capacity in the Global Steel Industry and the Implications of New Investment Projects

OECD

EXCESS CAPACITY IN THE GLOBAL STEEL INDUSTRY AND THE IMPLICATIONS OF NEW INVESTMENT PROJECTS

POLICY PAPER

FOREWORD

This paper combines two documents that were approved by the OECD Steel Committee in January 2015.

Note to Delegations:
The two documents that comprise this Policy Paper are also available on OLIS under reference codes DSTI/SU/SC(2014)15/FINAL and DSTI/SU/SC(2014)16/FINAL

Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

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EXCESS CAPACITY IN THE GLOBAL STEEL INDUSTRY AND THE IMPLICATIONS OF NEW INVESTMENT PROJECTS

by Anthony de Carvalho, Naoki Sekiguchi and Filipe Silva

OECD, Paris

ACKNOWLEDGMENTS

Government and industry representatives participating in the OECD Steel Committee are increasingly concerned about excess capacity in the global steel industry. Excess capacity has led to deterioration in the financial situation of steelmakers and is raising questions about its impact on the longer-term economic viability and efficiency of the industry. As a result, the OECD Steel Committee plans to deepen its work on excess capacity in the next biennium. This paper combines two documents that were declassified by the Steel Committee in early 2015, one that summarises the main policy issues regarding excess capacity and one which focusses on monitoring new steel investment projects taking place around the world. The Secretariat would like to thank all delegations that have contributed actively to the Steel Committee's activities on excess capacity, particularly those that provided very useful comments and feedback on the two papers that were combined to form this Policy Paper. Nevertheless, any remaining errors or omissions are the responsibility of the Secretariat.

EXECUTIVE SUMMARY

Governments participating in the OECD Steel Committee consider excess capacity as being one of the main challenges facing the global steel sector today. Following the Ministerial Council Meeting on 6-7 May 2014, where Ministers stressed the need to address the issue of excess capacity in some industries such as steel, the OECD Steel Committee has deepened its discussions on capacity, and will take this work further in the next few years. To increase visibility of the key issues, the Steel Committee declassified two papers linked to excess capacity in early 2015. Those two papers have been combined to form this Policy Paper on excess steelmaking capacity and the implications of new investment projects.

More specifically, this paper examines the extent, causes, and impacts of excess capacity in the global steel industry, and provides detailed information on new investment projects that are taking place around the world in order to help governments and industry better understand the extent to which excess steelmaking capacity may evolve in the future. For readers interested in knowing further details about investment developments taking place in the global steel industry, an Annex is provided that presents tables with detailed information on the companies that are investing and the financial amounts involved, the technologies being invested in, the ownership status of the projects and their expected starting date, as well as some qualitative comments about the projects to provide context where needed.

The results indicate that global steelmaking capacity will continue to expand, with regions that are currently net importers of steel products expected to record the largest capacity increases. Of particular importance for governments in this context will be to work towards removing market distorting policies such as subsidies that promote the emergence of new capacity or delay the closure of failing companies. The main findings of this paper are:

- **Excess capacity remains high.** The global steel industry's capacity to produce steel has more than doubled since the early 2000s to support growing construction and manufacturing activity, as well as to help build infrastructure particularly in emerging economies. With investment projects continuing to increase in a number of economies, and while steel consumption growth is anticipated to remain moderate, the global imbalance between capacity and demand will continue to pose risks for the industry for the foreseeable future, unless more concerted efforts are made by industry and governments to address the challenge. Global nominal steelmaking capacity is projected to increase to 2.36 billion tonnes by 2017, up from 2.16 billion tonnes in 2013. Non-OECD economies will continue to lead the capacity expansion in the global steel industry, with their share of world capacity expected to increase to 71.4% by 2017.
- **Government interventions are contributing to global excess capacity.** Specific concerns related to government steel policies include continued government subsidies (notably subsidies for the creation of new capacity or the maintenance of inefficient capacities) and continued approvals for new steel facilities. Governments have also noted that trade related measures, constraints on foreign investment, and the activities of government financial agencies are also contributing to global excess capacity and creating difficulties for the industry in addition to weak market conditions.

- **Excess capacity is hurting the global steel industry.** Excessive levels of steelmaking capacity have important implications for the steel industry, resulting in over-supply, low prices, weak profitability, bankruptcies and localised job losses. Given the global nature of the industry, excess capacity in one region can displace production in other regions, thus harming producers in those markets and creating risks for trade actions and government interventions to protect domestic industries. It can also lead to wasteful energy use and thus have negative environmental impacts.
- **What should be done?** In competitive economies, it is the responsibility of the steel companies themselves to identify ways to adapt to changing market conditions. The role of governments should be to allow market mechanisms to work properly and avoid measures that artificially support steelmaking capacity. Of particular importance for governments will be to work towards removing market distorting policies such as subsidies that promote the emergence of new capacity or delay the closure of failing companies, eliminating trade and investment barriers that slow the restructuring that is needed for the industry, allowing market-based investment decisions in the steel sector, and ensuring that new plants are subject to standards that protect the environment and uphold worker safety.

1. Introduction

Excess capacity is one of the main challenges facing the global steel sector today. The growing gap between global steelmaking capacity and demand has led to deterioration in the financial situation of steelmakers, and has raised concerns about the longer-term economic viability and efficiency of the industry. Although excess capacity in the global steel industry has increased significantly since the financial crisis, and despite slowing demand growth in global markets, there continues to be new investment projects in many parts of the world.

On the one hand, while the opening and closure of steel plants is usually based on the commercial decisions of private companies, government interventions that support the building of new capacity or keep inefficient facilities in operation can exacerbate the problem of global excess capacity and harm the business conditions of efficient steel producers in all markets. On the other hand, policies that promote the efficient restructuring of the industry or provide assistance to workers who may be displaced by the closure of uneconomic mills can be useful tools to address the problem and promote greater stability in global steel markets.

Following the Ministerial Council Meeting on 6-7 May 2014, where Ministers stressed the need to address the issue of excess capacity in some industries such as steel, the OECD Steel Committee has deepened its discussions on capacity, and will take this work further in the next few years.[1] In addition to monitoring capacity developments, the Committee plans on examining government policies and their effects on global excess capacity, with an aim to reach a common understanding about which policies: i) promote a better functioning of the market and more efficient global steel industry; and ii) contribute to excess steelmaking capacity by distorting trade and competition in domestic and global markets.

This paper examines the extent, reasons and impacts of excess capacity in the global steel industry, as well as the implications of new investment projects that continue to take place at a rapid pace in many parts of the world. By focussing on new investment projects taking place in the global steel industry, this study intends to help governments and industry better understand the extent to which global steelmaking excess capacity may evolve in the future. The information on individual investment projects presented in the Annex of this paper is also provided via an online database available to the public at www.oecd.org/sti/steel.[2]

This Policy Paper finds that global steelmaking capacity will continue to expand, with regions that are currently net importers of steel products expected to record the largest capacity increases. Global nominal

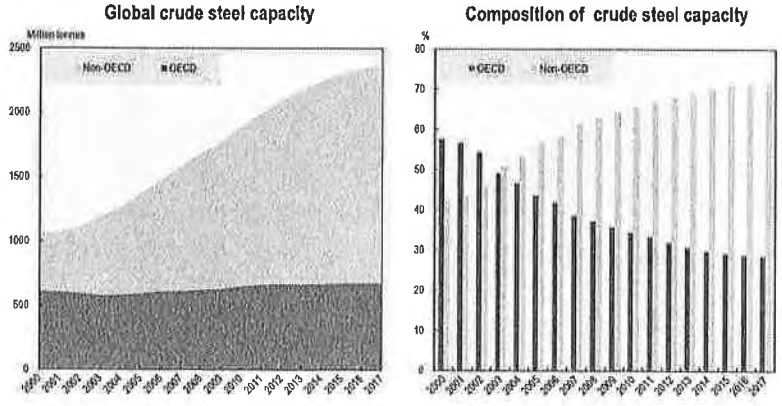
steelmaking capacity is projected to increase to 2.36 billion tonnes by 2017, up from 2.16 billion tonnes in 2013. Non-OECD economies will continue to lead the capacity expansion in the global steel industry, with their share of world capacity expected to increase to 71.4% by 2017. Of particular importance for governments in this context will be to work towards removing market distorting policies such as subsidies that promote the emergence of new capacity or delay the closure of failing companies.

The remainder of the paper is organised as follows. The next two sections briefly summarise the extent and reasons for global excess capacity. The fourth section provides an overview of steel projects currently taking place around the world, but leaves details about the types of equipment and furnaces that companies are investing in for the tables in the Annex. The final two sections summarise some of the OECD's work on the impacts of excess capacity and what should be done to address the challenge. Again, readers interested in the details of investment projects by company and region are invited to refer to the Annex or to the above-mentioned online database.

2. What is the extent of global excess capacity?

The global steel industry's capacity to produce steel has increased rapidly since the early 2000s, after two decades of little growth. Most of the growth in steelmaking capacity has occurred in non-OECD economies, to support growing construction and manufacturing activity, as well as to help build the infrastructure necessary for the economic development of these emerging economies. The world's nominal steelmaking capacity is estimated to have reached 2 241 million metric tonnes (mmt) in 2014, according to the OECD Secretariat, a level that is more than twice as high as the 1 060 mmt capacity level observed in 2000. With investment projects continuing to take place in many parts of the world, nominal global steelmaking capacity is expected to climb by a further 120 mmt in the period to 2017, bringing total worldwide capacity to 2 361 mmt. At that point, non-OECD economies are expected to account for approximately 71.4% of the world's total capacity (Figure 1).

Figure 1. Nominal crude steel capacity in OECD and Non-OECD economies



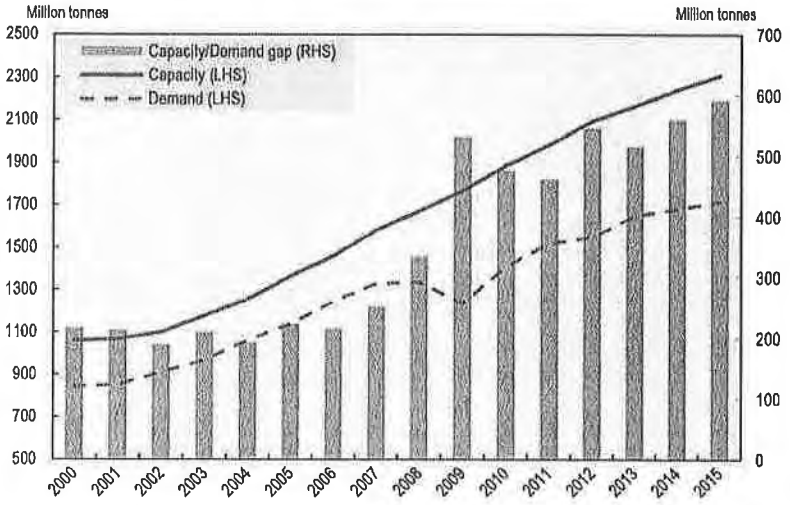
Source: OECD Secretariat.

Whether or not excess capacity arises is a function of whether demand has kept pace with this rapid growth in supply. Although the industry is emerging from a severe cyclical downturn that was triggered by the global economic and financial crisis of 2008-2009, demand recovery has been uneven and sluggish in many economies. In 2013, crude steel demand stood at 1 648 mmt, or about 516 mmt below nominal capacity, representing one of the highest gaps in the history of the global steel industry (Figure 2). With investment projects continuing to increase in a number of economies while steel consumption growth is anticipated to remain moderate, the global imbalance will continue to pose risks for the industry for the

foreseeable future, unless more concerted efforts are made by industry and governments to address the challenge.

However, it is important to note that measures of excess capacity cannot be imputed directly from the gap between nominal capacity and demand. Indeed, it is not economic for the steel industry to run at full capacity, even when pricing is attractive and companies appear to be maximising their output. During the peak of the pre-crisis price upturn in the first half of 2008, for example, monthly global capacity utilisation did not rise above 91%.[1] Seasonal factors as well as the need to occasionally close down operations to refurbish steel plants and add new facilities tend to reduce the effective capacity of steel mills.

Figure 2. World crude steel capacity (nominal) and demand



Notes: The Secretariat assumes demand growth of 2% in 2014 and 2015. These are the most recent rates of growth forecast by the World Steel Association for world apparent steel use (October 2014 Short Range Outlook).

Sources: OECD for nominal capacity and the World Steel Association for demand.

3. What are the reasons for global excess capacity?

The main factors that contribute to capacity imbalances in the steel industry include market downturns, but also a number of government interventions and other market-distorting practices. As noted above, for most steel mills, it is normal to have periods of under-utilised capacity. When demand and prices of steel fall, profit-maximising firms should reduce production and thus leave a certain amount of capacity idle. Profits will tend to be lower because the firms still have to finance their fixed assets, including their under-utilised steelmaking furnaces and rolling facilities. If the situation persists over time, however, then firms operating under normal market conditions would try to minimise their fixed costs by scaling back on capacity, thus making excess capacity a short-run phenomenon. History has nevertheless demonstrated that the adjustment process can be long and arduous in the steel industry, with some regions experiencing extended periods of excess capacity.

1. Monthly capacity utilisation rates are according to World Steel Association data.

On the one hand, this can be due to high exit barriers, namely the costs of closure that discourage rapid adjustments in capacity. For example, capacity closures entail high costs of dismantling the mills, potential clean-up and other environmental and labour-related costs. In the face of market uncertainty firms may choose to delay exit rather than incur such costs. Expectations about future market conditions may also be contributing to current excess capacity; for example, steelmakers in some countries are investing heavily today in new steel production facilities in anticipation of much higher demand several years from now.

On the other hand, excess capacity that persists over time can also be indicative of government actions that hinder adjustments that would normally occur in competitive markets. Due to the importance and strategic nature of the steel industry to many national economies, a tendency during market downturns is to preserve the capacity of the industry, in order to alleviate unemployment and other social problems that would otherwise occur due to capacity closures. In addition, in some large net steel-importing regions, governments are also interested in moving towards greater "self-sufficiency" in steel production in order to reduce their dependency on imports. Research by the Secretariat shows that, despite current market conditions, a large number of new projects are taking place, which will increase global crude steelmaking capacity significantly in the coming years.

In the current context, recent discussions at the OECD Steel Committee have suggested that in some regions excess capacity reflects temporary factors related to the business cycle while in other cases it reflects structural factors connected to government interventions. Specific concerns related to government steel policies include continued government subsidies (notably subsidies for the creation of new capacity or the maintenance of inefficient capacities) and continued approvals for new steel facilities. Governments have also noted that trade related measures, constraints on foreign investment, and the activities of government financial agencies are also contributing to global excess capacity and creating difficulties for the industry in addition to weak market conditions. And finally, policy measures which discourage "optimal" exit of the least productive plants may also contribute to excess capacity.

4. Future investment projects in the global steel industry

4.1. Brief summary of regional investment developments

Since the start of the 21st century, many blast furnaces have been built around the world, particularly in Asia (see Box 1). That region will continue to lead BF/BOF capacity expansions, supported by large-scale integrated projects. As a consequence, the BF/BOF route is likely to remain the major technology for iron/steelmaking, despite the announcement of many mini-mill projects in recent years. However, this paper shows that regional differences are very large. Detailed information can be found in the tables in the Annex, while a summary of key developments by region is provided below:

- There are no capacity additions being planned in the **European Union.**

- In the region referred to as "**Other Europe**",[3] crude steelmaking capacity is forecast to increase to 64.4 million tonnes per year (tpy) by 2017. All of the increase in this region will occur in Turkey, where many EAF projects are taking place. In line with EAF capacity expansions, imports of scrap are expected to grow further in "Other Europe". Iron ore imports into the region are also expected to increase to some extent as some projects are intensive in iron ore/coking coal.

- In the **Commonwealth of Independent States (CIS)** region, steel mills are replacing out-dated OHFs with BOF and EAF furnaces. Numerous EAF projects have been planned, which may result in higher future scrap demand. Nevertheless, the BOF process is likely to remain the main

production process in the region. As a consequence of several investment projects, steelmaking capacity in the region is expected to reach 152.9 million tpy by 2017.

- In the **North American Free Trade Agreement (NAFTA)** region, the share of EAF in steel production is expected to rise due to many DRI-based mini-mill projects, supported by the shale gas boom and the relatively low natural gas prices associated with this development. DRI is expected to be an increasingly important feedstock for producers in the region. Steelmaking capacity in the region is projected to increase from 158.0 million tpy in 2013 to 163.5 million tpy in 2017.

- In **Latin America**, BOF's share is likely to grow in the future owing to many greenfield slab-for-export projects, even though some projects have been postponed. Also, some projects in the long products segment are under way. As a result of these investment projects, steelmaking capacity in the region is forecast to reach 77.4 million tpy by 2017.

- Although **Africa** is still reliant on imports to meet demand, some DRI-based mini-mill projects are expected to raise the region's self-sufficiency (domestic production as a share of demand) gradually. Steel production via the EAF route is expected to remain the major steelmaking process. Steelmaking capacity in the region is forecast to increase from 33.2 million tpy in 2013 to 40.2 million tpy by 2017.

- In the **Middle East**, steelmaking is expected to be predominantly EAF-based, and the preferred feedstock would remain DRI (due to natural gas availability). Many DRI-based EAF projects have been announced recently in the region, and are expected to contribute to reducing import dependency. The region's production capacity is projected to increase to 69.5 million tpy by 2017.

- In **China**, steel production via the BOF route is expected to continue to play a dominant role in steelmaking. However, EAF's share could gradually increase in the future, along with the increasing availability of scrap, thus affecting the balance between BOF and EAF technologies. Steelmaking capacity in the country is expected to reach 1.1 billion tpy by 2017.[4]

- Although EAF is still the major steelmaking process in **India**, BOF's share may increase significantly, supported by new investment projects that are iron ore/coking coal-intensive. The country's crude steelmaking capacity was estimated to have reached more than 100 million tpy in 2013, and is expected to continue to increase to a level of 132.7 million tpy by 2017.

- In ASEAN-6, BOF's share in the region's crude steel production is expected to increase gradually due to many BF/BOF investment projects. Therefore, iron ore/coking coal are expected to become important raw materials for the region. Scrap imports have also been increasing due to several mini-mill projects. The region's total steelmaking capacity is expected to increase to 58.8 million tpy by 2017.

Table 1. Change in steelmaking capacity (million tonnes)

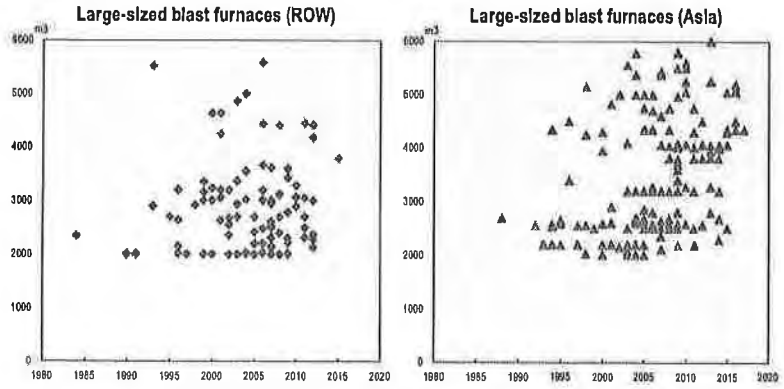
	2013 (A)	2017 (B)	Changes (B-A)	(B/A %)
European Union	233.6	231.6	-2.0	-0.9
Other Europe	58.7	64.4	5.8	9.8
CIS	145.9	152.9	7.0	4.8
NAFTA	158.0	163.5	5.5	3.5
Latin America	70.0	77.4	7.4	10.6
Africa	33.2	40.2	7.0	20.9
Middle East	46.2	69.5	23.3	50.5
Asia	1409.2	1552.2	143.0	10.1
Oceania	9.1	9.1	0.0	0.0
Total	2163.9	2360.9	197.0	9.1

Note: Some projects listed in the Annex tables have been announced, but are not likely to come on stream. In calculating future capacity, only those projects likely to come on stream have been taken into account.

Source: OECD Secretariat.

Box 1. Asia will continue to lead the capacity expansion in terms of the BF/BOF process

Since the start of the 21st century, Asia has experienced a steel mill construction boom, supported by investments in many large-sized blast furnaces (with inner volumes of more than 2000 m^3). The figure below maps blast furnaces with inner volumes greater than 2000 m3 in Asia compared to the rest of the world. As a consequence, Asian pig iron production expanded rapidly over the decade, rising from 361.3 mmt in 2003 to 900.2 mmt in 2013 and accounting for 77.0% of global pig iron production in 2013. Compared with other regions, Asian integrated mills are typically more modern and have a larger capacity. The region is expected to continue to lead the capacity expansion in the integrated steelmaking route, not least since the figure below indicates a trend towards ever-larger plants in Asia, but not in ROW.



Source: OECD calculations based on data from World Steel Dynamics, China Iron and Steel Association, the Japan Iron and Steel Federation and Korea Iron and Steel Association.

4.2. Regional steel investments in more detail

4.2.1. Other Europe

The EAF route is common in Turkey and the country has one of the highest shares of EAF output in the world. However, the BF/BOF route has gained some importance in recent years.[5] Platts (2014b) recently reported that the Turkish government plans to reduce the domestic industry's dependency on scrap by providing more incentives for domestic iron ore and ferro-alloy production. This could encourage a change in the structure of steel production in favour of BOF based integrated mills. The Turkish industry aims to reach 85 mmt of steelmaking capacity and 70 mmt of steel production by 2023 (ISPAT, 2013). Major projects taking place in Turkey include:

- *Kardemir* (one of Turkey's three integrated steelmakers) has begun to fire up its new blast furnace No. 5 with an inner volume of 1 280 m^3 at its Karabuk works in the northern part of the country. As a result, and also due to converter upgrades, its crude steel capacity is expected to increase to 3.4 million tpy. *Habas* has just entered the flat product market in Turkey with a new hot strip mill (2.5 million tpy of capacity) and is now building an electric steelmaking complex with a capacity of 3 million tpy.

4.2.2. The Commonwealth of Independent States (CIS)

In the CIS region, numerous mini-mill projects have been planned, reflecting good prospects for the construction sector at least before the recent political unrest. However, the BF/BOF route is likely to remain the main process in the region.[6] Between 2003 and 2013, the share of crude steel production via the EAF route has risen from 13.5% to 24.4%, according to World Steel Association data. The growth in EAFs (notably in Russia) should have a significant impact on scrap demand. Scrap demand may surpass domestic collection due to new EAFs, though some integrated producers — equipped with both BOFs and EAFs — have an option to increase the use of pig iron in their EAFs in order to reduce their dependence on scrap (Platts, 2012). Some important developments include the following:

Russian electric arc furnace steelmaking is expanding and the government expects the share of EAF production to reach 39% by 2020 (Platts, 2014c).[7] Between 2013 and 2014, some long product mini-mills were commissioned to meet steel demand from the growing construction sector in the country. *Abinsk Electrometallurgical Plant* and *NLMK Kaluga* commissioned their new EAF melting shops, both with a capacity greater than 1 million tpy. Furthermore, *Severstal* aimed to begin commercial-scale production at its 1 million tpy mini-mill in Balakovo (in central Russia's Saratov region) by the end of the second quarter of 2014.

4.2.3. North American Free Trade Agreement (NAFTA)

In NAFTA, some steelmakers are exploring opportunities for building DRI-based plants. Several DRI plant projects have been announced in recent years to take advantage of shale gas developments. DRI provides opportunities for mini-mill steelmakers to minimize the impact of typically more volatile steel scrap markets (AMM, 2013). Growing DRI production is also likely to affect demand for substitute materials such as pig iron and scrap. EAF's share of steel production in the NAFTA region is expected to rise due to both DRI and scrap-based EAF projects. The upstream (crude) projects that are underway in the region include:

- Some DRI technology suppliers forecast DRI capacity in the United States could reach 10 million tpy by 2020 (Platts, 2014d and 2014e). On 24 December 2013, *Nucor* commissioned its first DRI facility with a capacity of 2 million tpy in Louisiana. Moreover, the European

integrated steelmaker *Voestalpine* is investing USD 740 million to build a 2 million tpy DRI plant in Texas. Also, *Big River Steel* broke ground on its USD 1.3 billion EAF-based steel mill in Osceola, Arkansas on 24 September 2014.

- In Mexico, some mini-mill projects are underway to meet growing demand from the construction sector. For example, *Talleres y Aceros (Tyasa)* has been testing its new EAF with a capacity of 1.2 million tpy in Orizaba. In addition to this, *Altos Hornos de México (Ahmsa)*'s 1.5 million tpy EAF, (part of its USD 1.5 billion *Fenix* program) is expected to be commissioned in 2014. *Gerdau Corsa*'s new EAF plant is expected to come on stream in 2015.

4.2.4. Latin America

In Latin America, many greenfield slab-for-export projects have been announced by major mining groups. However, some projects have been postponed due to reasons such as the global economic slowdown, weak markets and logistical problems. Most of the capacity expansion projects in Latin America will occur in Brazil, where some new slab projects are currently in progress. Some projects in the region are starting in the long products segment to meet demand for construction steel. Major projects occurring in Brazil are provided below.

- Future slab maker *Companhia Siderúrgica do Pecém (CSP)* is a joint venture between Brazilian mining group *Vale* (50%) and Korean steel producers *Dongkuk Steel* (30%) and *POSCO* (20%). The project is expected to begin producing 3 million tpy of slabs in December 2015. *CSP*'s first export shipment is scheduled for March 2016 through the Port of Pecém, in north-eastern Ceará State. Apart from this project, another two slab projects — *Acos Laminados do Para plant (ALPA)* and *Companhia Siderurgica Ubu (CSU)* — have been planned in the country.[8]

4.2.5. Africa

Currently, Africa is aiming to lower its dependence on imports through various upstream projects. Although Egypt and South Africa have played a key role in supplying steel products in Africa, the region still has a low self-sufficiency rate. To increase its self-sufficiency and press forward with industrialisation, many upstream projects (mainly DRI based mini-mill plants) have been planned. These projects are concentrated in North Africa and have the objective of supplying steel for housing and infrastructure projects. The DRI-EAF route has been the preferred steelmaking technology in the region due to its lower capital expenditure requirements and because the region has a shortage of steel scrap.[9] Projects taking place in some of the major producing countries in Africa include:

- Many DRI-EAF projects are underway in Egypt. However, the country is experiencing a shortage in natural gas allocation, which has delayed the launch of a number of steelworks.[10] *Ezz Steel*, the largest steel producer in Egypt and North Africa, is expected to commission its 1.8 million tpy DRI plant and a 850 000 tpy EAF by end-2014. Moreover, *Beshay Steel*, the second largest steelmaker in Egypt, is building a 1.76 million tpy DRI and 1.3 million tpy EAF. *Egyptian Steel* is building an EAF-based steelworks in Beni Suef and Sokhna that will each have a capacity of 850 000 tpy of square billet.
- Algeria is one of the fastest steel-consuming markets in Africa due to government plans to build infrastructure facilities (OECD, 2014). With domestic steelmakers not producing enough to meet growing demand for steel, the government announced in mid-2011 that it would invest considerable amounts over five years to boost domestic steel production (Oxford Business Group, 2012). Most of the capacity additions will be implemented by state-owned companies. For example, the governments of Qatar and Algeria have decided to enter into a joint venture, the

Algerian Qatari Solb Company. Moreover, state-owned *Sider* and *ArcelorMittal* aim to boost capacity at their Annaba plant.

- In South Africa, *ArcelorMittal South Africa* is a major producer, accounting for more than 70% of the country's steel production (Kumba Iron Ore, 2011). However, large scale steel plant projects have been announced in the country recently. China's state-owned *Hebei Iron & Steel (Hegang)* announced plans to build a 5 million tpy greenfield steelworks to be supplied by output from its iron ore mine in the country.[11] On 10 September 2014, *Hegang* signed a memorandum of understanding with *China-Africa Development Fund* and the South African government's *Industrial Development Corp.* for developing *Hegang's* steelworks project in South Africa. This steel plant will be China's largest steel mill outside the Chinese mainland (WSJ, 2014).

4.2.6. Middle East

With oil-exporting countries within the Gulf Cooperation Council aiming to diversify their economies (IMF, 2014), steel demand from downstream industries is expected to expand in the region. Many projects have been announced recently in the Middle East, often with the objective to reduce import dependency.[12] However, these developments have led to concerns that the industry's expansion might lead to over-supply issues in the region, particularly in the square billet market (Metal Expert, 2014a). Steelmaking is predominantly EAF-based, and the preferred feedstock is DRI, owing to plentiful (and thus relatively low priced) natural gas availability in the region.[13] DRI is generally expected to remain a major feedstock in EAF steelmaking, and the EAF process, in turn, is expected to continue to play a dominant role in steelmaking route in the region. Major projects taking place in the Middle East include:

Iran aims to expand its steelmaking capacity to 55 million tpy by 2025 (Reuters, 2014). Most new plants will be based on the DRI-EAF route. The country has significant resources of iron ore deposits and low-cost natural gas, and these factors are affecting the choice of raw materials used to produce steel in Iran. Although eight new steelworks have been under construction by state-owned *IMIDRO* since 2006, and numerous projects have been announced, a number of projects were put on hold because of financing constraints caused by economic sanctions.[14] Currently, *Middle East Mines Industries Development Holding Company (MIDHCO)* is involved in three greenfield projects in the country: *Butia Steel Company (BISCO)*, *Sirjan Iranian Steel Company (SISCO)* and *Zarand Iron & Steel Company (ZISCO)*.

In Oman, growing steel demand (driven by construction activity) is encouraging domestic producers to increase their capacities and is attracting new investors to the steel industry. Scrap consumption is expected to grow due to capacity expansion projects, while some companies plan to install DRI modules because domestic scrap collectors may not be able to supply enough material for several years (Metal Expert, 2014b). An example of capacity expansion projects can be found in *Jindal Shadeed Iron and Steel's* project, which involves a 2 million tpy EAF steelmaking complex, including a DRI module. *Sun Metals* and *Moon Iron & Steel (MISCO)* also plan to install EAF facilities.

Saudi Arabia is currently experiencing fast-growing demand for electricity driven by population growth and industrial development (NOREF, 2013). Although a shortage in natural gas allocation and electricity generation capacity has delayed the launch of a number of steelworks in the country, many EAF projects are currently underway to balance billet imports.[15] For example, *Saudi Iron & Steel Company*, the largest integrated steelmaker in the Middle East, started trial runs at its sixth electric arc furnace of 1 million tpy in February 2014. Also, *Arkan Steel* and *Al Atoun Steel* are building EAF-based plants.

4.2.7. China

Currently, the Chinese government is making efforts to restructure the steel industry, increase its efficiency and remove some excess capacity (EY, 2014). In October 2013, China's State Council released

a Guideline (the Guideline to Resolve Serious Overcapacity), targeting the closure of 80 million tpy of steel capacity by the end of 2017 (OECD, 2014), in addition to addressing overcapacity problems in the cement, aluminium, plate glass and shipbuilding industries. Targets of the plan include reasonable capacity utilisation, improved industrial concentration and structure, higher development quality, efficient environmental protection, a normal level of profit margin and asset-liability ratio, and a long-term effective mechanism in self-regulating capacity.

The Guideline to Resolve Serious Overcapacity includes supply-side management measures, notably the prohibition of new steel projects, the removal of existing illegal capacity, the enhancement of the entry threshold, and phasing out the backward capacity by raising prices of power and water. Financial support could be provided if difficulties linked to capacity shutdowns and unemployment arise. In addition, broad demand side measures as well as systematic management measures will also be used to address overcapacity. On the demand side, efforts will involve the construction sector's use of steel and improving the standards of steel. Systematic management includes encouraging mergers and acquisitions of enterprises to increase industrial concentration and reduce over-competition, among other efforts.

Since July 2014, China's Ministry of Industry and Information Technology (MIIT) has revealed lists of steelmakers that should remove obsolete capacities.[16] Also, provincial governments were requested to submit, by 30 June 2015, their targets for dismantling outdated and excess capacities in 2015 and during the 13th five-year (2016-2020) economic development plan (MIIT, 2014).[17]

Some important coastal steelworks have been put into operation over the last few years in China: *Anshan Iron & Steel* commissioned its 6.5 million tpy Bayuquan works in Liaoning Province in 2008, while *Shougang Jingtang United Iron & Steel* completed its 9.7 million tpy works in Hebei Province in 2010. Many projects have been announced in resource-rich inland regions. For example, Xinjiang's rich raw material resources have attracted many steelmakers to invest in new capacities in the region.[18] Although the BOF production process will remain the dominant production process in China in the years to come, the EAF share may increase gradually along with increasing availability of domestic scrap, but the process is likely to take some time (Japan Metal Bulletin, 2014).[19] Despite a slowdown in China's capacity growth rate compared to previous years, large steelworks that focus on the production of flat products are being built in the country, namely:

Baosteel could commission the first of two 5 050 m^3 blast furnaces at its Zhanjiang steelworks (Guangdong Province) by the end of September in 2015. The entire steelworks is expected to be commissioned by June 2016.[20] On 26 September 2014, *Wuhan Iron & Steel Group* set up the *Fangchenggang Steel Company Limited* that would be responsible for the operations management of its steel project in Guangxi Province. The new integrated steelworks is designed to be able to produce 9.2 million tpy of crude steel with two 5 200 m^3 blast furnaces. *Shandong Iron and Steel Group* plans to launch its 8.5 million tpy Rizhao steelworks in Shandong Province by the end of 2016, with two 5 100 m^3 blast furnaces.

- Other important projects are either underway or being planned. In China's Inner Mongolia, *Baotou Iron & Steel* plans to build two 4 000 m^3 blast furnaces at a new integrated flat steel works, which will have a crude steel capacity of 5 million tpy. Also, on 4 July 2014, a memorandum of understanding for a total investment of USD 3.3 billion was officially signed between *Chongqing Iron & Steel* (*Chonggang*) and *POSCO*. The two companies will cooperate to construct a plant using *POSCO*'s FINEX technology.

4.2.8. India

Based on forecasts for steel consumption, India's authorities expect that steelmaking capacity may have to increase to 300 million tpy by 2025-26 in order to meet future demand (Government of India, Ministry of Steel, 2013). In order to reach that level of capacity, the industry may need to invest around 12 trillion rupees, according to some news sources, with investment being concentrated in the mineral-rich states of Odisha and Jharkhand (Platts, 2014i). New investment projects that are iron ore/coking coal intensive should have significant impacts on the balance between BOF and EAF production in the future. Despite the declining trend over the last 10 years, BOF's share in Indian production is expected to grow significantly as many BF/BOF projects have been announced or are currently being built in the country.[21] Many important BF/BOF projects are taking place in India, amongst which:

- Some upstream projects are underway by state-owned companies that have already launched their strategic plans.[22] *National Mineral Development Corp (NMDC)* has delayed commissioning of its 3 million tpy integrated steel plant with a 4 506 m^3 blast furnace, currently under construction at Nagarnar in the eastern state of Chhattisgarh. *Steel Authority of India Ltd. (SAIL)* is also building two blast furnaces with inner volumes of 4 060 m^3 at IISCO Burnpur works and Bhilai works. Also, India's leading private company, *Tata Steel*, expects to commission the first phase of its 3 million tpy integrated mill by March 2015, including a 4 300 m^3 blast furnace.

4.2.9. Association of Southeast Asian Nations (ASEAN)

Although the Association of Southeast Asian Nations (ASEAN) has traditionally been a large net importer of steel, a steel mill construction boom has been taking place in the region, as well as in other East Asian economies that export to ASEAN.[23] Many steel projects should support the increase in ASEAN's self-sufficiency rate. However, these developments have led to concerns that the industry's expansion might lead to over-supply problems (OECD, 2013a). DRI and scrap have been the major feedstock for steel production in the region because production takes place primarily in EAF-based facilities. However, BOF's share in the region's production is expected to increase gradually, thus affecting the balance of steelmaking technologies and, ultimately, raw material demand. Below is a brief summary of the major projects taking place in ASEAN.

- In Indonesia, investment in new steelmaking capacity is taking place in view of relatively favourable demand prospects. Examples of investment projects include *PT Krakatau POSCO*, which formally began operating its first blast furnace (the size of which is 3 950 m^3) on 23 December 2013 in Cilegon. The plant has a capacity of 3 million tpy. This project is part of Indonesia's Master Plan to accelerate economic development (OECD, 2013b). *PT Krakatau POSCO* will make a decision on whether to proceed with the second stage expansion in 2015. Moreover, *PT Gunung Raja Paksi* is building a 2 500 m^3 blast furnace with a capacity of 1.5 million tpy in West Java, along with a sinter plant and a coke battery.
- In Viet Nam, strong steel demand growth has attracted many foreign investors and numerous projects have been planned. According to the government of Viet Nam, capacity is targeted to reach 40 million tpy of steel billets by 2025 (Ministry of Industry and Trade of Vietnam, 2013). Currently, some BF-BOF projects are underway in the country. For example, *Formosa Ha Tinh Steel Corp* has already started construction, with the first phase of a 10.5 million tpy plant to be fully commissioned by end-May 2017.[24] In addition, state-owned *Vietnam Steel Corporation (VSC)* has commissioned its new steel plant. Also, *POSCO Specialty Steel* aims to officially inaugurate its 1 million tpy EAF in Ba Ria-Vung Tau province either in December 2014 or slightly thereafter.[25]

5. Concluding remarks

Excessive levels of steelmaking capacity have important implications for the steel industry, often associated with over-supply, low prices, weak profitability, bankruptcies and localised job losses. Recent work conducted by the OECD has examined the financial health of the steel industry and established a link between excess capacity and profitability. It has shown that the financial performance of the industry is perhaps worse now than it was during the global steel crisis of the late 1990s, in large part due to the significant excess capacity that exists today.

Given the global nature of the industry, excess capacity in one region can displace production in other regions, thus harming producers in those markets and creating risks for trade actions and government interventions to protect domestic industries. It can also lead to wasteful energy use and thus have negative environmental impacts.

Increased trade frictions are already visible amongst trading partners today. Subsidies and government support measures that promote investment in steelmaking facilities or sustain companies in distress that would otherwise shut down are a major source of this trade friction. Subsidies that encourage steelmakers to keep production running at high levels, even under weak market conditions, have had significant effects on trade, with unfair trade practices such as dumping having resulted in injury to the industries of other economies.

In competitive economies, it is the responsibility of the steel companies themselves to identify ways to adapt to changing market conditions. That is, businesses are best placed to decide on when to invest in new capacity or when to scale it back when market conditions change. The role of governments should be to allow market mechanisms to work properly and avoid measures that artificially support steelmaking capacity.

A key priority, therefore, is to identify appropriate policy approaches to address excess capacity. In this context, of particular importance for governments will be to work towards removing market distorting policies such as subsidies that promote the emergence of new capacity or delay the closure of failing companies, eliminating trade and investment barriers that slow the restructuring that is needed for the industry, allowing market-based investment decisions in the steel sector, and ensuring that new plants are subject to standards that protect the environment and uphold worker safety.

The OECD Steel Committee has continued to deepen its discussions on capacity, and plans to take this work further in its programme of work and budget for 2015-2016. For example, the Committee's programme of work calls for analyses of government policies and their implications for global excess capacity developments, as well as maintaining a database of ongoing investment projects, including the sources of finance for steel projects and any government support measures provided. At a later stage, the Committee may consider organising a high-level meeting to facilitate discussion on excess capacity issues at a higher political level. A key aim of this work will be to establish common perspectives on ways to avoid practices that create harmful trade and competitive distortions, and which can lead to a long-lasting positive impact on the effective functioning of the global steel market.

NOTES

1. An important item discussed at the OECD Ministerial Council Meeting (MCM), which was held in May 2014 and chaired by Japan, was about resilient economies and societies. The MCM Chair's Summary made specific reference to steel: "Ministers also discussed positive shifts in employment and production patterns, the future of manufacturing as well as entrepreneurship, including the role of young firms and SMEs, and stressed the need to address the issue of excess capacity in some global industries, such as steel, in relation to supporting measures."

2. Readers who identify changes in project characteristics are encouraged to contact the Secretariat.

3. This comprises Albania, Bosnia-Herzegovina, Croatia, Macedonia, Montenegro, Norway, Serbia, Switzerland, and Turkey.

4. Recent reports suggest that China's actual crude steelmaking capacity could be higher than estimated. A Platts (2014a) report notes that Chinese capacity reached 1.11 billion tpy in 2013 and will increase to 1.14 billion tpy in 2014, according to China Iron and Steel Association.

5. For example, Isdemir blew-in its No. 4 blast furnace with an inner volume of 2 500 m^3 in 2011. In 2013, scrap imports decreased by 12.0% to 19.7 mmt compared with 2012, while iron ore imports were up by 3.5% to 8.1 mmt, according to data from the World Steel Association.

6. According to the World Steel Association data, the share of BOF in the CIS region has grown to 67.7% in 2013, i.e. by 10 percentage points from its level 10 years earlier.

7. The Russian steel industry is aiming to replace all of its OHF facilities by 2015 (Russian Steel Consortium, 2013). Ukraine expects to complete the replacement of its OHF technology by 2018 (SE UEX, 2014).

8. These projects do not seem however to be progressing as expected.

9. The BOF to EAF ratio in South Africa is high (59:41), according to the World Steel Association data. This reflects the important role of iron ore and coking coal in the country.

10. Egypt has decided to remove natural gas subsidies, and some observers expect the price of gas used by cement, iron and durable good factories to increase by 30-75% (Al-Monitor, 2014). This measure will affect those steelmakers operating DRI modules that use natural gas. Observers have noted that scrap imports could increase due to natural gas shortage (Platts, 2013a).

11. *Hegang* already owns iron-ore mining assets in South Africa, having participated in a consortium established to buy *Rio Tinto*'s 57.7% interest in *Palabora Mining Company* (Creamer Media, 2014).

12. Observers have noted, however, that the fast growth in power consumption may curb future capacity growth (Markaz, 2013).

13. According to data from the World Steel Association, the region's share of crude steel production via the EAF route has risen significantly to 92.4% in 2013 (9.3 percentage points higher than 10 years earlier).

14. Although the Iranian government is making efforts to attract private investors. See Platts (2014f) for more on this.

15. Saudi Arabia's government aims to boost power-generation capacity by more than 50% from less than 60 gigawatts (GW) to approximately 91 GW by 2020 (ABB, 2014).

16. In July 2014, MIIT announced the first list of steelmakers that should remove obsolete capacities in 2014, including iron and steel and a total of 25.45 million tpy of ironmaking capacities and 22.60 million tpy of steelmaking capacities should be removed by end-2014. Furthermore, MIIT released the second list on 18 August 2014 and the third list on 25 August 2014.

17. This information is available at: http://cys.miit.gov.cn/n11293472/n11295023/n11297848/16159494.html

18. Observers have noted that the central government's keenness to develop western China's economy caused a rush of new steel projects in Xinjiang, which may lead to oversupply (Platts, 2013b).

19. China Iron and Steel Association (CISA) expects EAF output will be 25-30% of the total crude steel production by 2025 (Platts, 2014g).

20. The Guangdong Provincial Development & Reform Commission decided to remove 4.5 million tpy of crude steel capacity in the province by 2017, in order to make room for the Zhanjiang steelworks (Platts, 2014h).

21. India has faced several barriers to capacity expansions. For example, the acquisition of land, the granting of environmental and forest clearances, the availability of raw materials and the lack of infrastructure are major challenges (OECD, 2014).

22. SAIL aims to increase its steelmaking capacity to 50 million tpy by 2025. On the other hand, RINL plans to expand capacity of its Visakhapatnam steelworks to 12 million tpy by 2020.

23. For example, in East Asian economies, operations at large-scale blast furnaces were started in both Korea and Chinese Taipei in 2013.

24. The commissioning of the No. 1 blast furnace with an inner volume of 4 350 m^3 is expected to be delayed until November 2015 due to the protests which occurred in May 2014. When fully implemented by 2020, this steelworks will be the largest integrated steel plant in the ASEAN region (OECD, 2013a).

25 Ferrous scrap imports have been increasing, notably in Viet Nam, while Australia has become a major scrap exporter to ASEAN.

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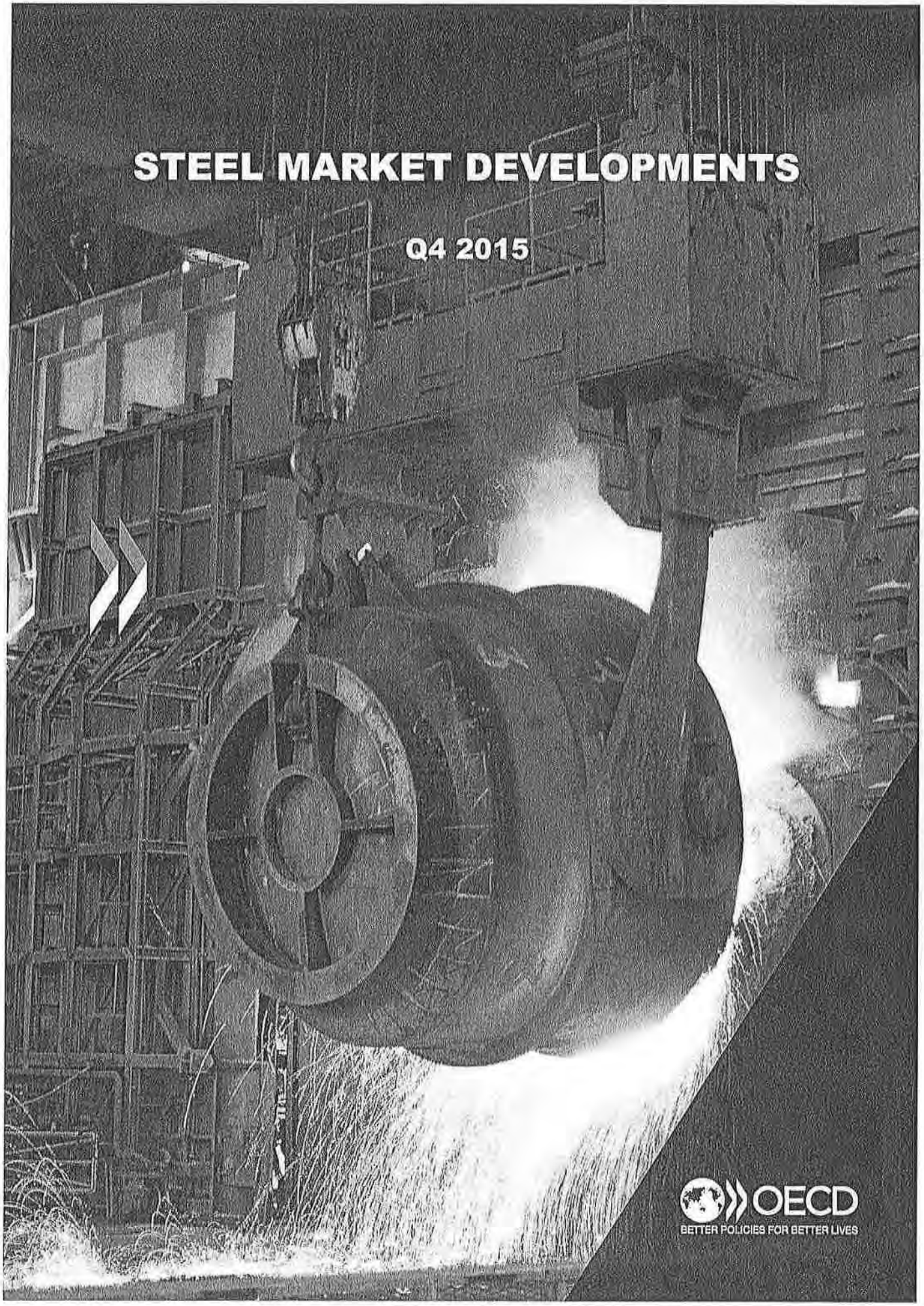
EXHIBIT 5

STEEL MARKET DEVELOPMENTS

Q4 2015



OECD

BETTER POLICIES FOR BETTER LIVES

STEEL MARKET DEVELOPMENTS

Q4 2015

by Anthony de Carvalho

OECD, Paris

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Note for Israel
The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

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RECENT MARKET DEVELOPMENTS IN THE GLOBAL STEEL INDUSTRY

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.

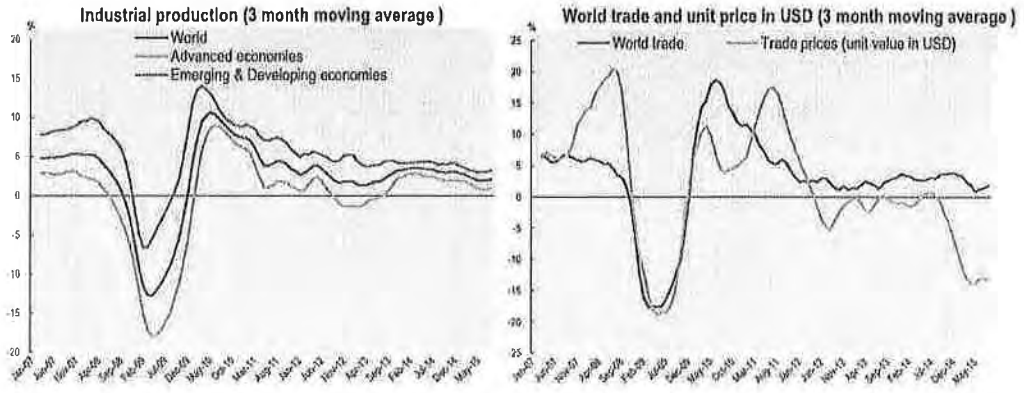
Recent developments

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.

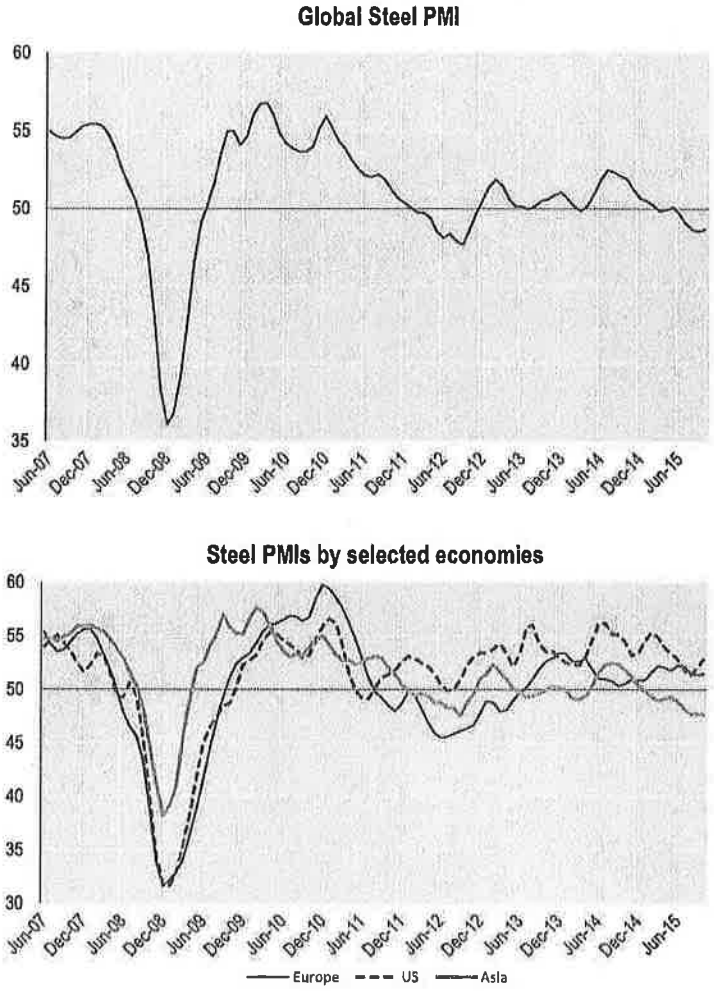
Steel market sentiment

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)

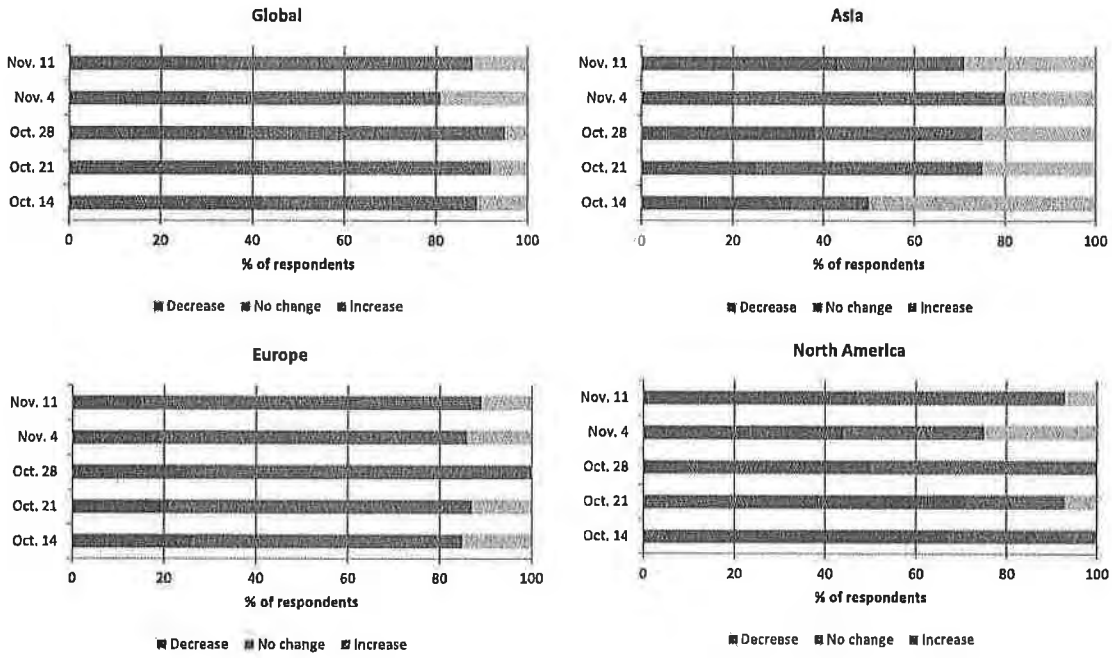
Trend



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)



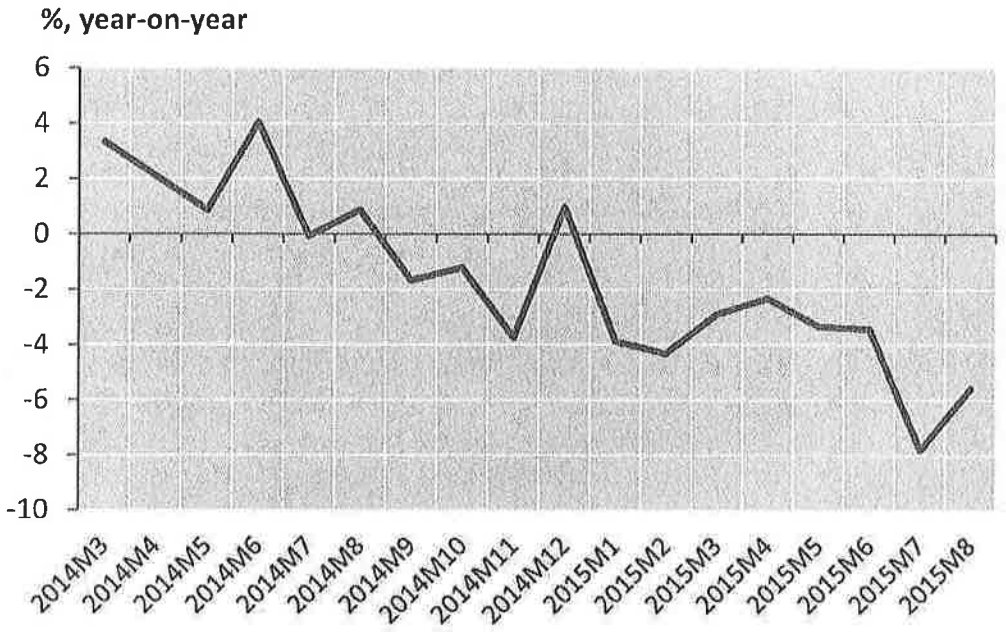
Source: Platts McGraw Hill Financial.

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



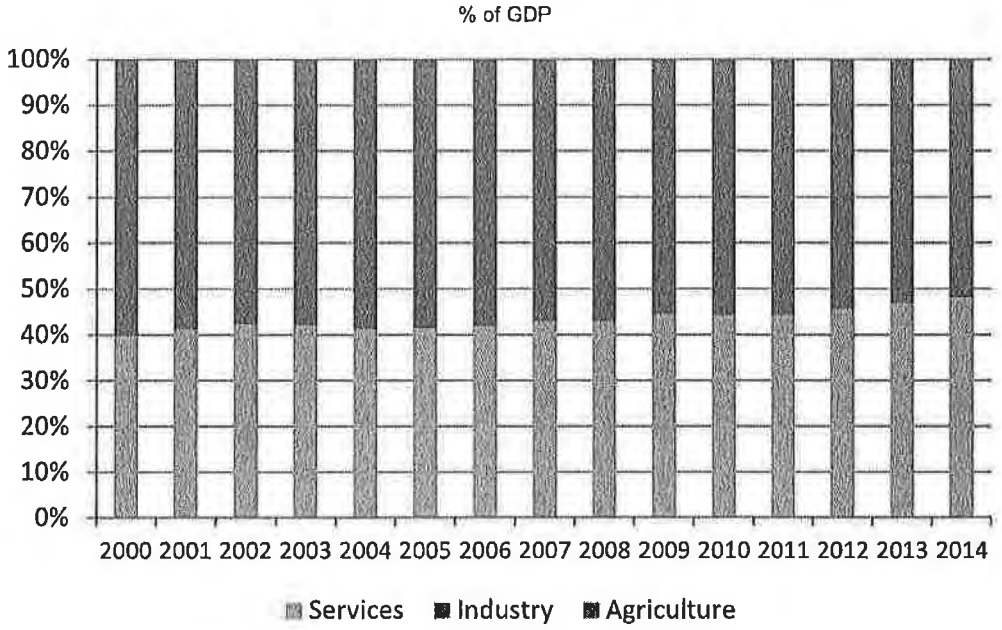
Note: Combined consumption of the following economies: Brazil, China, Germany, India, Japan, Korea, Russia and the United States.

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

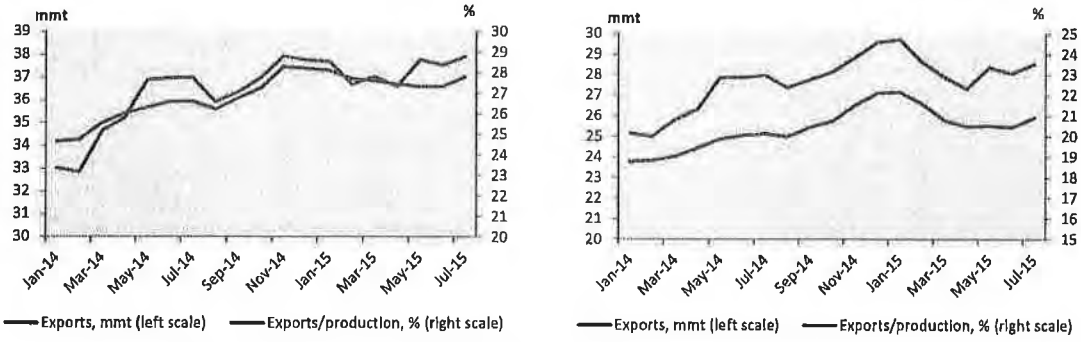
Despite significant production declines in most regions of the world, the November 2015 report by ISSB shows that world steel exports have increased by more than 4% in January-July 2015 relative to their level in the same time period last year. However, much of the growth observed so far this year reflects 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

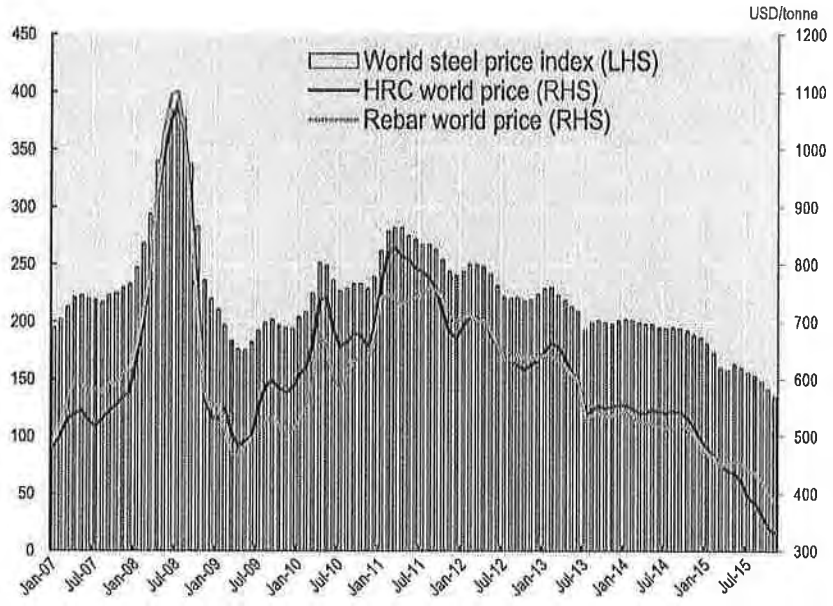
Note: The definition of steel used in this table is HS 7206 to 7302, 7304-7306, and 7307.21-7307.99 excluding some forgings (7326.19), points and switches/crossings (7302.30 and 7302.90), some forged cold finished sections (7216.69 and 7216.99), some cold formed sections (7216.61 and 7216.91), welded 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.

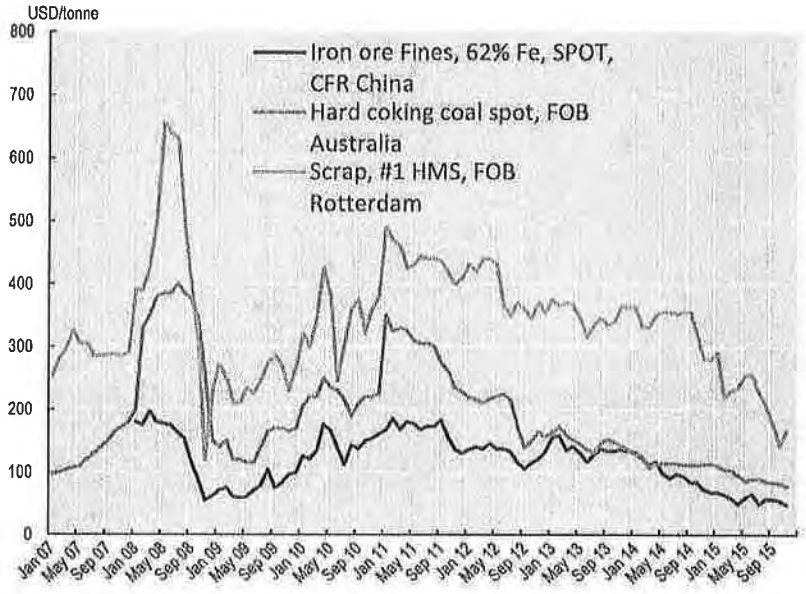
Steelmaking costs

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

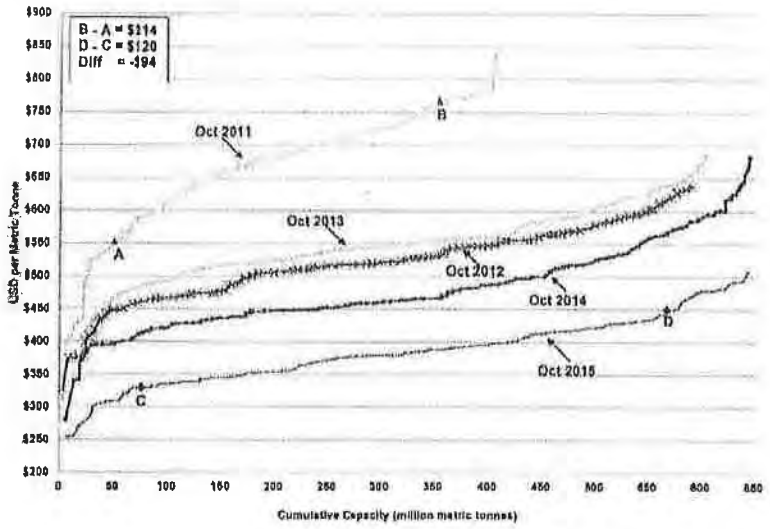


Source: Commodity Research Unit.

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)

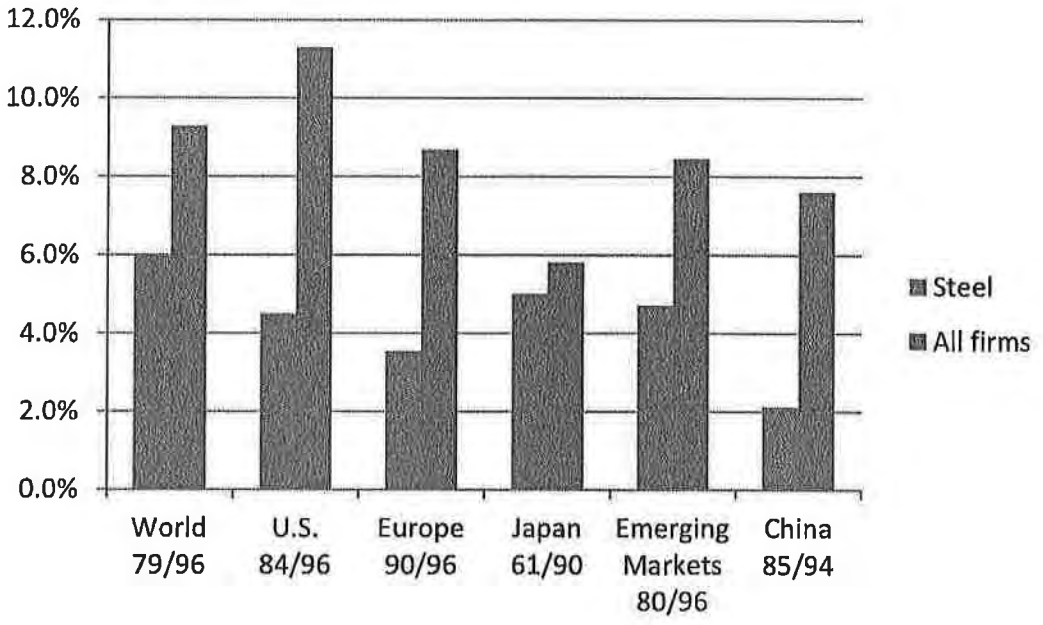


Source: World Steel Dynamics.

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.

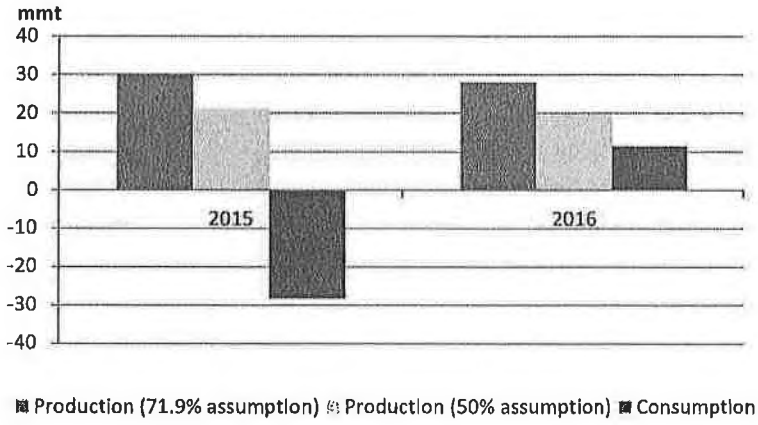
As described in the document on world steelmaking capacity developments [DSTI/SU/SC(2015)8], given the large number of investment projects that are underway, global capacity is expected to increase from 2 321 mmt in 2014 to 2 418 mmt in 2017. The corresponding annual capacity additions amount to 42 mmt 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.

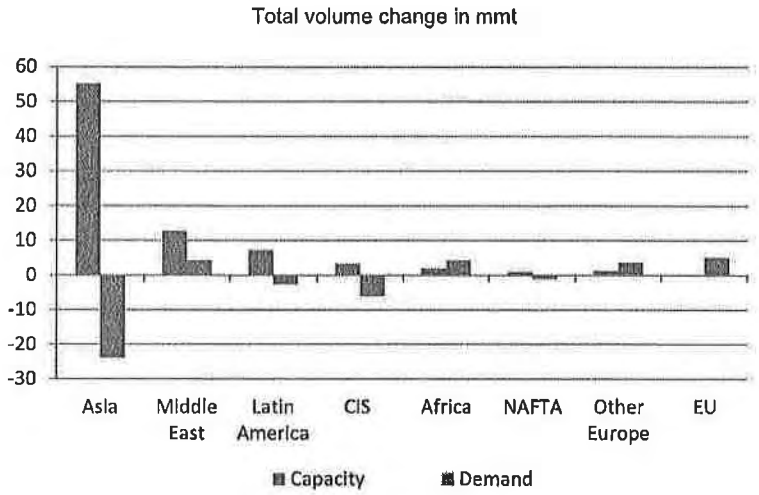
Source: OECD calculations.

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.

EXHIBIT 6

MELTSHOP PRODUCTION STATISTICS 2014

STAINLESS AND HEAT RESISTING STEEL

MELT SHOP PRODUCTION (INGOT/SLAB EQUIVALENT)

Year 2014 in '000 metric tons

Region	Qrt 1 r	Qrt 2 r	Qrt 3 r	Qrt 4 p	Year p
Western Europe/Africa	2,164	2,116r	1,682	1,608	7,570
Central + Eastern Europe,	71	72	70	64	277
The Americas	670	717	711	716	2,813
Asia w/o China	2,371r	2,387r	2,374r	2,202	9,333
China	5,084	5,603	5,336	5,670	21,692
World	**10,359r**	**10,894r**	**10,173r**	**10,259**	**41,686**

Provided by: ISSF, Brussels

r= revised figures; p= preliminary figures

Deviations in sums due to rounding and year-end corrections

Related Links:

- STAINLESS STEEL PRODUCTION REACHES 30.9 MILLION METRIC TONS IN THE FIRST NINE MONTHS OF 2014
- STAINLESS STEEL PRODUCTION REACHES 41.7 MILLION METRIC TONS IN 2014

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EXHIBIT 7

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EXHIBIT 9

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EXHIBIT 10

UNITED STATES
INTERNATIONAL TRADE COMMISSION

In the Matter of:	)	**Investigation Nos:**
STAINLESS STEEL SHEET AND STRIP	)	**701-TA-557 AND 731-TA-1312**
FROM CHINA	)	**(PRELIMINARY)**

Pages: 1 - 143
Place: Washington, D.C.
Date: Friday, March 4, 2016

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frequently used offers for lower-priced Chinese steel to ratchet down our prices. During the Periods of Investigation, imports of sheet and strip from China consistently undercut the prices of our products, and we lost sales to China as a result.

Even where Outokumpu sells pursuant to contracts, they do not insulate us from the pricing pressures created by low-priced Chinese imports. If our customers receive a better offer for Chinese imports, they can and have purchased the Chinese products. They use the very low Chinese prices to force us to reduce our prices to unsustainable levels.

The rapid deterioration in pricing in the U.S. market as a result of significant volume of unfairly-traded Chinese imports has contributed greatly to the poor financial condition of my company and our industry. While Outokumpu is incurring start-up costs associated with our new plant, our financial performance is far worse than we ever expected, because of the aggressively priced imports from China.

At a time when demand was increasing in the U.S. market, we should have seen much better results in our financial performance. Instead, Outokumpu has struggled, suffering declines in our market share, production, sales