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**STEEL COMMITTEE**

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# THE FINANCIAL CRISIS AND OUTLOOK FOR STEEL

**Note by the Secretariat**

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## Introduction

1. The background of the steel market upswing of 2002-2007 was one of exceptionally strong world economic growth, itself fuelled by low interest rates and rapid credit expansion. Global growth in the five-year period until 2007 averaged 4.6% per annum, the highest sustained rate observed since the early 1970s. Emerging and developing economies contributed approximately two-thirds of this growth, much of which arose from investment in steel-intensive fixed assets, particularly in developing Asia.

2. In some advanced economies, lending to households rose at unprecedented rates during this period, supporting strong rises in asset prices, particularly real estate and equities. Such lending activity and the wealth effects stemming from higher asset prices triggered significant growth in household consumption and demand for housing, supporting steel demand from the automobile, construction, domestic appliance, and other consumer durable industries.

3. As a result, world steel markets participated in this business cycle upturn. The turnaround in market conditions in the beginning of this decade was driven primarily by China and the other BRIC economies, where steel consumption growth accelerated sharply in response to industrialization and massive infrastructure spending. Steel consumption, production, and prices in global steel markets climbed to historical highs during this period. However, in August 2008, global demand for steel started to slow appreciably, reflecting construction slowdowns in the developed economies and China's moderating economic expansion.

4. The steel market downturn that began already in August was impacted additionally by the extraordinary set of events surrounding the financial sector and the resulting downward revisions to global economic prospects. According to the OECD's latest Economic Outlook, many OECD economies are already in or are on the verge of a protracted recession of a magnitude not seen since the early 1980s. The number of unemployed could rise by eight million over the next two years, sending the OECD-wide unemployment rate to 7.2 percent by 2010 from 5.9 percent currently. The uncertainties surrounding current projections are exceptionally large, particularly those related to the assumed speed at which the financial crisis will be overcome.

5. The financial crisis is currently having a severe impact on steel. The steel market downturn that began in the summer of 2008 has gained considerable momentum over the past few weeks, driven by further deterioration in world economic prospects. Steel demand, production, and prices have plummeted, major layoffs have been announced and demand for key raw materials such as iron ore, ferrous scrap, and coal has weakened. The impacts have been particularly acute for steel-dependent economies such as Ukraine, where the real crisis is in exports rather than domestic demand.

6. In an attempt to safeguard the interest of domestic producers, some countries are implementing trade policy changes which are making export activity more attractive and imports more expensive. This has raised concerns that supply-demand balances will be disturbed given weak demand in domestic markets, raising the risk of trade friction at least in the near term.

7. The current financial shock is serious for steel, since most of the world's steel demand is linked to fixed capital investment, which in turn is highly dependent on capital availability. Additionally, the financial crisis is having a considerable adverse impact on employment prospects and is keeping household confidence extremely low, which will have a disproportionate impact on consumer spending on durables, such as automobiles, white goods, appliances and other steel-intensive goods. However, most of the impact on steel prices may already be over, as steel producers are quickly and sharply reducing production in an unprecedented spirit of unison, possibly a reflection of the industry's consolidation process of recent years.

8. This paper attempts to examine how the market situation has changed in recent months, how the financial crisis might spread to steel demand, and how steel demand and steelmaking capacity could evolve in the short term. In reality, of course, the extent of the market downturn in the coming quarters is completely unknown. However, it does seem plausible that demand will be lower in 2009, and that economic recovery will be necessary for steel demand to begin rebounding.

**How has the market situation changed in recent weeks?**

9. By late June-July 2008, it became apparent that demand for steel was beginning to slow abruptly in all markets, as a consequence of the global economic slowdown. Steel mill inventories began rising, prices of billet started falling in almost all markets, while long and flat steel products began to decline in some markets. Steel producers reacted by cutting output sharply, and by September world production had been reduced by almost 10 percent relative to June, in seasonally adjusted terms.

10. The market downturn intensified in the ensuing months, as economic slowdown gave way to recession in many economies and as the financial crisis climaxed with bank nationalizations in the OECD region. In October alone, global production in seasonally adjusted terms fell by more than 10 million tonnes, *i.e*., almost 10%, from September and by 12% from a year earlier. This was the fourth consecutive month-on-month decline, and brought world output down by almost a fifth compared to the summer peak level. The rate of decline is likely to accelerate in the fourth quarter, given the deep production cuts announced by producers in recent weeks.

11. Steel producers have reacted at a surprisingly fast pace, thus bringing the global capacity utilization rate down to 70% recently. This rate is expected to dip further in the fourth quarter to an average of only 63%, if production declines by 20-25% from the third quarter as currently assumed.

12. The current situation is different than steel crises in the past, when there was a strong tendency to over-produce, on the basis that any sale at more than variable cost made a small profit contribution. Today, raw material prices form a much higher proportion of total costs, making over-production less likely to contribute to higher profits. Production cuts thus make economic sense in the current environment.

***Production cut announcements***

13. Steel mills have introduced massive production cuts in all regions of the world over the past few months. The string of announcements began in mid-September, when Arcelor Mittal, the world's largest producer with annual production of 116 million tonnes, said that it would cut output by 15% to support prices. Other steelmakers quickly reacted, with production cuts in Ukraine and Russia followed by announcements of cuts by major integrated mills in China, Tata Steel of India, and Japan's Nippon Steel.

14. In early November, Arcelor Mittal said it would double the scale of the cuts announced in October, thus reducing output in Europe, North America and emerging markets from between 30 and 35 percent. For the most part, the production cuts so far announced extend to the end of 2008, though in some cases through to the first quarter of 2009. For example, Europe's second largest steel steelmaker, Corus, extended the production cut announced in October to 30% through to the end of the first quarter of 2009.

15. If steel producers follow through with their output cuts, then the scale and geographical extent of the cuts will be unprecedented. Such a co-ordinated and sharp move may have been facilitated by the increase in regional consolidation over the last few years, particularly in Europe, North America and Latin America, greater and faster information flows about the industry, and the still strong financial position of many firms. However, at the time of writing it appears that steelmakers worldwide have become less vocal about production cuts, perhaps in response to indications that price declines have already tapered off in some markets.

**Table 1.** Summary of steel production cuts by region for 2008Q4
(thousand tonnes)

| | |
|---|---|
| China | -12 817 |
| Other Asian Regions | -3 574 |
| CIS | -6 609 |
| EU and Africa | -8 470 |
| North America | -5 455 |
| South America | -4 202 |
| Worldwide | -41 127 |

*Source*: SBB, Metal Bulletin, Tex Report, CBI, Bloomberg

**Box 1.** Recent production declines

**Production declines sharply in China, the CIS, and NAFTA**

Production cuts have been especially pronounced in China in recent months, where seasonally adjusted production fell by a cumulative 28% in July-October 2008, with major integrated producers such as Shougang, Hebei, Anyang and Shandong (which together account for 16% of China's production) agreeing in early October to cut output by 20 percent in response to declining prices. Baosteel and Maanshan (which together contribute 9% of China's output) followed suit, announcing similar production cuts during the fourth quarter. In addition, mounting losses have forced numerous small and medium sized steel producers to shut down particularly in Hebei and Henan provinces.

In the CIS region, seasonally adjusted production contracted by 35% in July-October, with most of the decline occurring in October. The financial crisis in Ukraine, one of the world's biggest net exporters of steel, is depressing domestic demand considerably, while export levels declined sharply in September. In September-October, Ukraine's Zaporizhstal, Azovstal, and the country's biggest steel mill owned by Arcelor Mittal all moved to reduce liquid steel output in response to the sharp fall in demand and prices, contributing to a 25% fall in production in the month of October relative to September. Output fell slightly faster in Russia, with Severstal and Magnitogorsk cutting production sharply. Russia's biggest steelmaker, Evraz, announced a 25% cut in output starting in November.

In the NAFTA region, production is currently down 16% from July. In the United States, U.S. steelmakers have idled a significant amount of capacity, which pushed the industry capability rate below 70% in late October and further to 58.7% at the time of writing, according to figures published by the American Iron and Steel Institute. This is the lowest level of utilization observed since December 1986 and is down sharply from the 90.4% level recorded in August.

Such a low rate of capacity utilization has typically only occurred during severe recession in the U.S. and global economies. Levels of utilization below 60% have occurred only two times since the 1930s: during the great depression of the 1930s, when it reached a nadir near 20%, and during the serious global recession of the early 1980s, when it fell briefly below 50%. Factors such as industry consolidation in recent years and greater interest in stabilizing prices rather than pursuing volumes are also having an impact on the utilization rate.

### *Demand and prices*

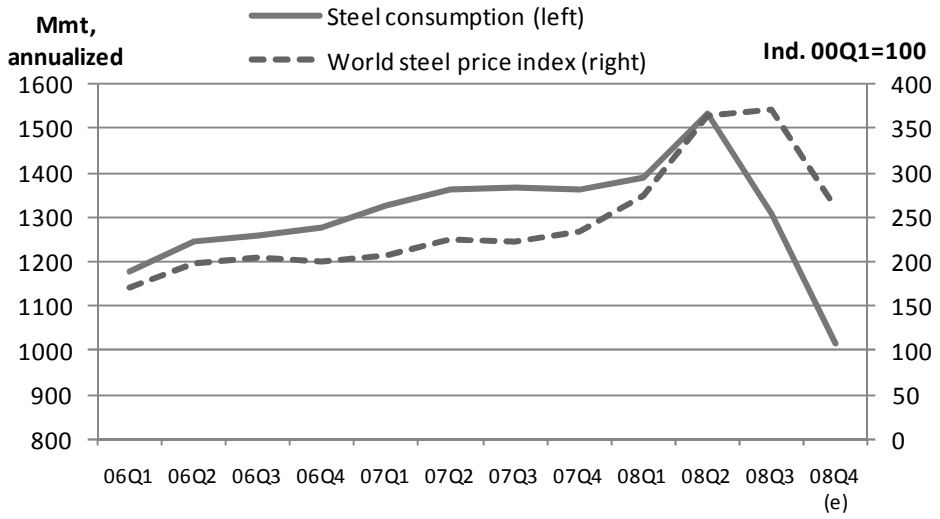
16. Global demand for steel began to wane in August 2008, as China's economic growth began to moderate in response to lower world demand for its goods, construction activity in North America and Europe slowed, and global demand for automobiles faded. Global apparent steel consumption in the third quarter as a whole is expected to have contracted by several percent relative to the second quarter.

17. The decline in global demand gathered considerable momentum in the fourth quarter of 2008, as the heightening global financial crisis weakened prospects for steel-using industries through tighter credit and falling confidence. Demand is particularly weak in North America, Europe, and other regions like the Middle East where stocks have reached extremely high levels. China's apparent steel demand has contracted in year-on-year terms over the past couple of months, and the country's thousands of steel traders, who handle around half of the steel produced in the country, appear to have halted their purchases in order to reduce their massive inventories.

18. The drying up of demand sent prices for most products into free-fall in many regions after the summer months. At USD 683 per tonne in November, the North American price of hot-rolled coil has fallen by 45% from its summer peak, while cold-rolled steel is down 38% to USD 794. Flat steel product prices are being affected in large part by weakening demand from the automotive industry. Plate prices have held up remarkably well, perhaps an indication of continued growth in government expenditure.

19. In Europe, steel prices have plummeted particularly in the south, as a consequence of weak construction markets and sluggish economic activity. In China, the price declines have been most pronounced for flat products, such as hot- and cold-rolled coils, due to their widespread use in the manufacture of industrial products, external demand for which is being hit by the financial crisis. Flat steel prices are down by almost 50% in China from their summer peaks. Chinese long steel prices have fallen less, possibly supported by government infrastructure spending.

**Figure 1.** World steel consumption and prices have declined sharply




*Source*: WSD and SBB.

### *Global stock prices*

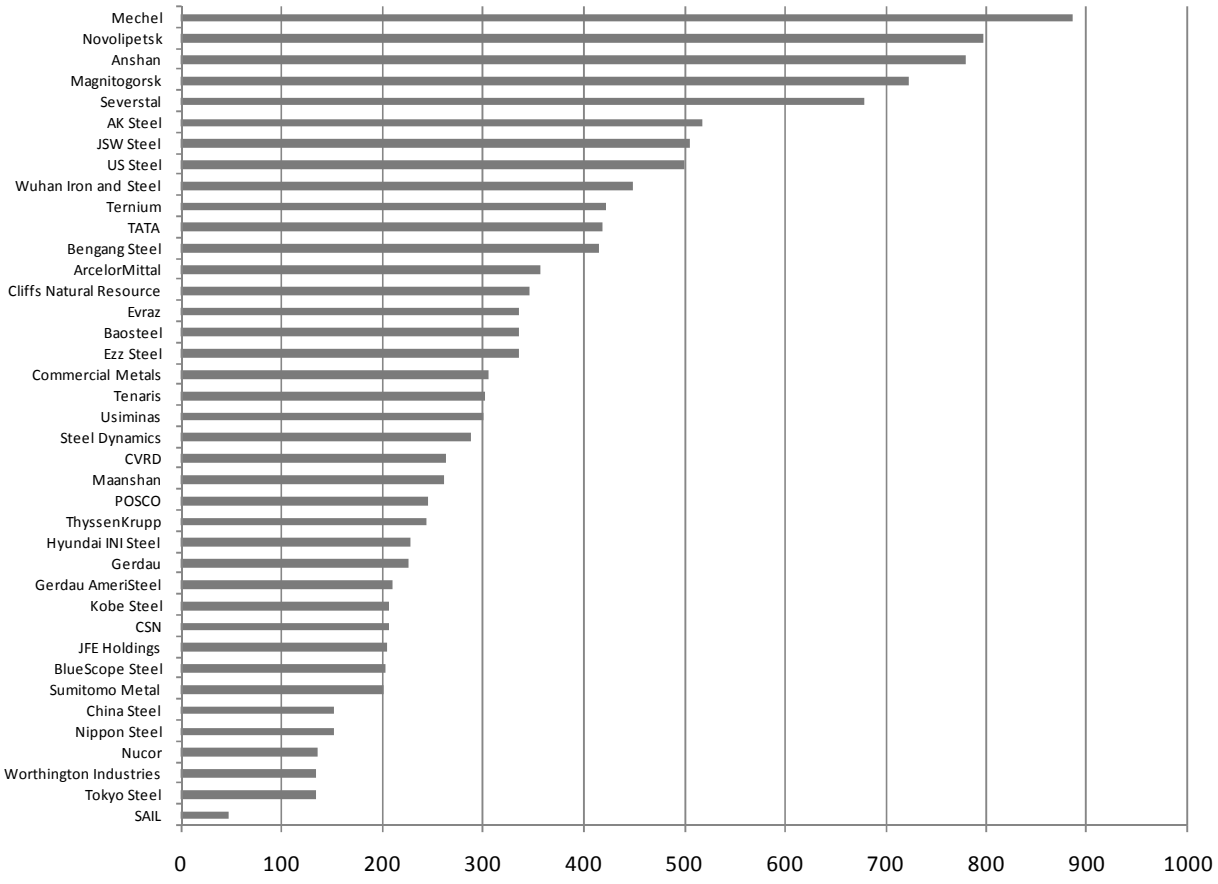
20. Stock prices of steel companies around the world have plummeted since June 2008. According to data provided by World Steel Dynamics, the common stock market value of 44 steel companies in October 2008 had fallen by 70% compared to the USD 950 billion peak observed in June. Some Russian steelmakers have recorded the largest falls in share price, with Mechel, Novolipetsk, Magnitogorsk and Severstal shares down in late October by 600-900% compared to their peaks over the past year. Looking

ahead, plunging raw material prices in response to the collapse in steel demand may determine the profit margins that steel companies can obtain, especially in 2009.

21. This global equity downturn has brought many stock prices to levels that are lower than replacement costs, which, according to some observers, could lead to greater merger and acquisition activity. The credit crunch and impending recession, however, would likely limit the number of potential buyers.

**Figure 2.** Steel company stock prices have plummeted

Percent decline in stock price, end-October 2008 relative to 52-week high




*Source*: Secretariat calculations based on data from World Steel Dynamics.

### *Producers have announced major layoffs*

22. Falling production and weaker market prospects have led to major layoff announcements by steel producers worldwide in October and November, especially in North America. The world's largest steelmaker, Arcelor Mittal, warned that it might indefinitely lay off nearly 16 percent of its entire U.S. hourly workforce, or around 2,400 workers, in response to weaker demand globally for its steel products. AK Steel, U.S. Steel and Severstal Wheeling have also announced significant layoffs in North America. In Europe, Arcelor Mittal has announced the possibility of laying off 6,000 workers, with most of the job cuts occurring through a voluntary exit schemes, while Corus aims to temporarily reduce the working hours of 4,600 workers. In Ukraine, tens of thousands of steel workers fear the loss of jobs as production contracts sharply. In China, there have been reports of large layoffs, particularly in Hebei province where many

independent rollers have suspended production and most integrated mills are running at only a fraction of normal capacity.

23. There are many uncertainties regarding the actual impacts of the layoff announcements on employment, their duration, and how they will be implemented (e.g., through voluntary schemes, early retirement, or unpaid vacation). Moreover, in some cases the number of job cuts decided has been significantly reduced following employer-union negotiations.

***Trade policy developments***

24. The halt in steel demand seen across all geographic markets is expected to alter trade flows, as pressure to export grows in response to weakness in domestic markets. The latest export figures from China show that September shipments were still near the peaks of 7 million tonnes per month, though fell considerably in October. Much of these steel exports are being directed to Europe, and there are concerns elsewhere that imports will disturb supply-demand balances as demand in domestic markets remains weak.

25. Indeed, recently released customs statistics point to renewed import pressures in markets such as the European Union and the United States, following generally declining imports during the first part of the year. Moreover, the Latin American industry recently announced its concern that trade defence measures taken elsewhere could attract surplus steel to its own markets. Adding to the uncertainties are recent reversals in trade policies in some countries to address stagnating sales in domestic markets. Some recent changes include:

- China has decided to remove export taxes on some steel products, effective on 1 December 2008. Duties will be removed from hot-rolled coil, hot-rolled sheet, plate, some types of heavy sections, welded pipe, most wire products and most alloy steel. However, the export duties for semis, rebar, wire rod, bar and light sections will remain unchanged;

- In India, a steel import duty of five percent was implemented as of 18 November 2008. Factors including the need to safeguard the interests of domestic producers were cited as supporting this move. This follows an earlier call by the Ministry of Steel for a 10% duty;

- Chinese Taipei has relaxed export restrictions on steel scrap, billets and rebars, reflecting weakening domestic demand conditions in response to the global slowdown. The measures are applicable for six months effective beginning on 9 October 2008. According to the new rules, suppliers of billet, whose exports were previously restricted, can now export upon obtaining a permit from the Bureau of Foreign Trade. Quotas on rebars have been abolished, though exporters will still need to apply for permission to export;

- In early October 2008, Vietnam's Ministry of Finance halved the export tax on steel billets to 5 percent, following a cut made several weeks earlier which brought the tax down to 10% from 20%. The measures reflect demands from the country's steel association to ease the tax, due to stagnating sales and rising stocks. Further easing has recently been announced, with the tax on billet being completely waived effective on 7 November.

**How are the effects of the financial crisis transmitted to steel?**

26. The adverse impacts of the financial crisis on global steel demand will be channeled through slowdowns in the activity of steel-using sectors and their suppliers. The source of the global recession – a financial shock which raises risk aversion and restricts lending activity – is particularly serious for steel as

most of the world's demand for the material is linked to investment in capital equipment as well as construction activity, both of which are highly sensitive to capital availability.

27. How will the financial crisis spread to steel demand? Tighter credit conditions will reduce construction activity, as will further corrections in housing prices in many advanced economies. Though emerging markets will be less affected, construction growth could slow appreciably, particularly in light of recent indications that commercial and residential property prices are beginning to decline in some markets. In parts of the Middle East which enjoyed particularly strong real estate upturns, tighter credit conditions are already reducing investor willingness to purchase uncompleted real estate, a sharp turnaround from recent past experience.

28. Another important transmission channel is household consumption. Banking problems, low confidence and weak employment prospects will affect consumer spending, particularly on durable goods, such as automobiles, and to a lesser extent white goods and other appliances. Consumer spending could face additional headwinds if household wealth were to decline sharply, as a result of falling house prices in many advanced economies and possibly further falls in equity prices (if financial uncertainty rises thereby raising risk premia). The United States is highly vulnerable in this regard, due to weak initial conditions. In particular, the household saving rate is already at a historically low level, and consumer debt as a percent of disposable income rose sharply in the previous economic upswing.

29. In this environment, steel demand falls sharply, and the priority amongst steel distributors and steel-consuming industries is to reduce inventories. With demand for steel falling, steel producers are obliged to prioritize cash generation, and thus start paring back inventories, purchases of raw materials, and capital expenditure.

30. In China and other countries, stimulus packages that will raise infrastructure spending have been introduced, though there are doubts regarding how fast such spending will be implemented. Elsewhere, public infrastructure spending could be constrained, if government budgets come under pressure as a result of the recession and low oil and other commodity prices. Economies such as Russia may experience an "oil crisis" from the perspective of government finances.

**Box 2.** China's stimulus package

**China's stimulus package**

In mid November 2008, the Chinese government announced a major stimulus package worth around RMB 4 trillion, *i.e.*, USD 586 billion. According to SBB, slightly less than 80% of this amount will be spent on steel-intensive infrastructure and construction projects, such as expanding railway investment, investments in highways and waterways, public housing construction, post-earthquake construction, and urban subway construction. Other measures include raising export rebates on labour-intensive and high value-added products (including steel) and removing the value-added tax on purchases of machinery and equipment, among others. If implemented, the stimulus package could have an important impact on fixed asset investment, particularly as private activity slows. However, there are uncertainties regarding how long it will take to implement the projects and whether the necessary cooperation from local governments will be obtained.

31. With sentiment overwhelmingly negative, there have been concerns in recent weeks that some steel companies will be driven to bankruptcy and closure by the shortage of finance. However, history suggests that bankruptcies are not simply linked to downturns in steel demand. Failures are often caused by steel companies having taken on excessive borrowings either for over-ambitious investment schemes or for acquisitions. Conservatively financed steel companies should be able to weather this period of market decline.

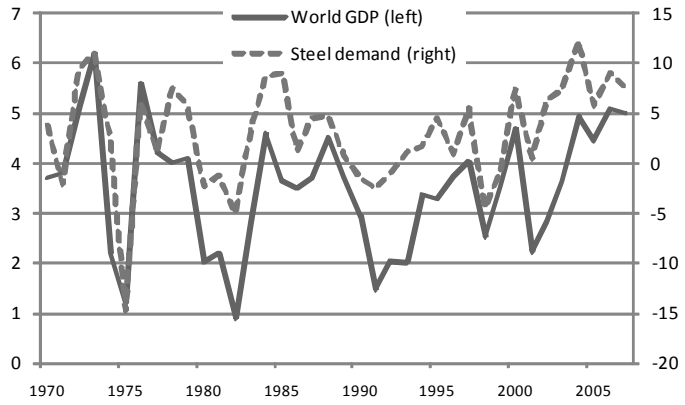
**Box 3.** How did global steel demand react in previous recessions?

**Steel demand in previous recessions**

The sharp slowdown in global economic growth in 2009-10 will translate into lower steel consumption and production. There have been four episodes of declining world steel consumption since the mid-1970s. The first occurred in 1975, in the aftermath of the first oil shock. At this time, global steel consumption fell by almost 15%, as world GDP growth nearly halted at just over one percent. The second episode took place in 1980-1982, when the global recession led to a decline in world steel consumption by a cumulative 9%, or 48 million tonnes. World GDP growth averaged only 1.7% per annum during this three-year period. Steel consumption contracted again in 1990-1992, though this time only by 5.2%, or 37 million tonnes, in cumulative terms, in line with slightly higher average global GDP growth of 2.2 percent per annum. The Asian financial crisis of the late 1990s led to the fourth decline in steel consumption, and in the two-year period of 1998-1999 global consumption fell by a total of 5.3%, *i.e.*, 40 million tonnes.

**Global GDP growth and steel demand**

Annual growth, %




*Source*: Secretariat calculations based on data from the IMF, World Steel Association, and WSD.

### *Capital equipment investment poses risk for steel demand*

32. Indicators of financial stress rose significantly in mid-November, after having eased several weeks earlier in the wake of major policy actions. Heightened financial stress is being driven by a renewed rise in risk spreads, reflecting increased concerns about credit losses that may result from the recession. The rising spread between corporate and government bond yields - a good indicator of the additional return demanded by a lender to cover the risk of default on its loans to firms - suggests that risk aversion has increased and points to restrictive bank lending activity going forward.

33. Corporate bond spreads are highly correlated with business investment. In the United States, for example, a prolonged rise in the corporate bond spread above 2.5 percentage points has been associated with contracting business investment. The spread has reached levels near 7 percentage points in the United States, a level last seen during the depression years of 1931-33. Spreads are also at historical highs in the Euro Area and United Kingdom. Combined with plunging business confidence in advanced economies to historical lows, and in emerging economies to readings not seen since the Asian financial crisis, global business investment in capital equipment could contract during the course of 2009.

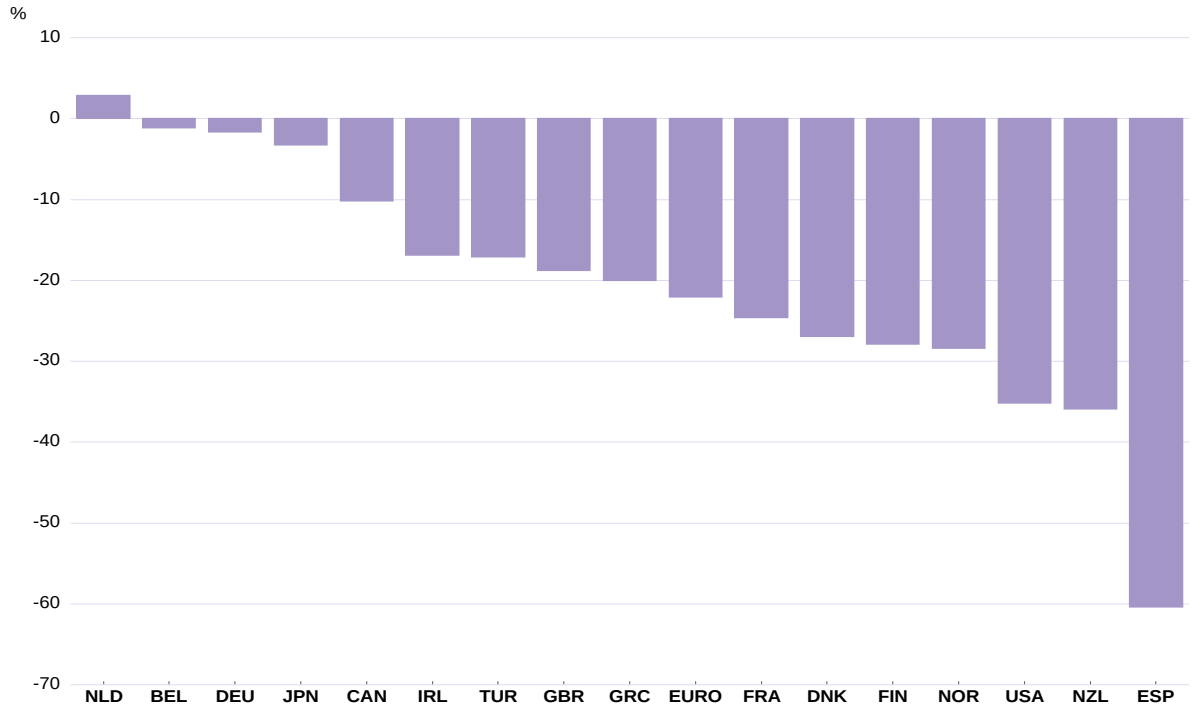
34. This poses a serious risk for global steel demand, as approximately 41% of the world's consumption of finished steel products is tied to capital equipment. The investment downturn will affect producers of flat steel, particularly manufacturers of hot-rolled and cold-rolled sheets, as these are used intensively by the capital goods sector. Within the long products segment, bars, wire rod and wire are also used extensively.

***Construction activity downturn expected in the OECD***

35. In addition to capital equipment, tighter bank lending will affect global construction activity, a sector which accounts for more than 40 percent of world consumption of finished steel products. Residential building permits are declining in almost all OECD countries, particularly in the Euro Area and the United States. The construction slowdown will be amplified by house price corrections that are in progress in many OECD economies. With the construction sector in the OECD area accounting for 17% of total world steel demand, a contraction in construction of ten percent would reduce growth in steel demand by almost two percentage points. Steel demand is particularly vulnerable to construction downturns in the United States, developed Asia, and southern EU countries.

**Figure 3.** Residential permits are falling sharply in the OECD region

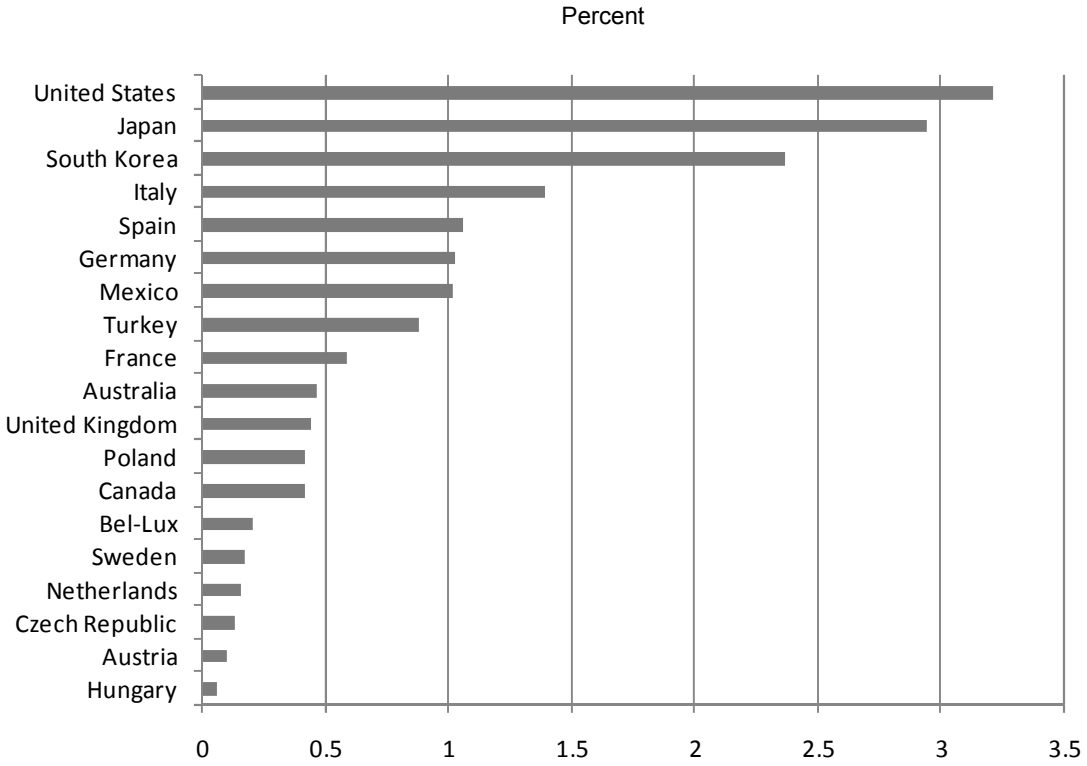
Latest data, year-on-year growth rate[1]




1. Monthly data mostly ending between March 2008 and July 2008; three-month average over the last year three-month average, seasonally adjusted.

*Source*: OECD Economic Outlook based on Eurostat and OECD, Main Economic Indicators database.

**Figure 4.** Construction sector share of global steel demand in selected OECD countries




*Source*: Secretariat calculations based on data from World Steel Association.

### *How do falling house prices play into the picture?*

36. House prices in many developed economies rose rapidly in recent years. Although some of the appreciation was supported by fundamentals, such as trends in income and interest rates, some studies suggest that house prices were as much as 30 percent overvalued in some countries[1]. Though a housing market correction has been taking place in the United States since 2006 in response to the collapse of the subprime market, in many other economies house prices have just recently started to decline. According to the IMF, the price corrections in these economies could average 25% and be spread out over a period of several years, with the impact likely to be more adverse when the economy is already weakening and credit conditions are tight, as is the case currently.

37. The macroeconomic effects of house price declines have been well documented[2]. As regards steel demand, the most adverse effects will be felt through falling construction activity. Ahearne et al. (2005)[3] show that, in a sample of 18 industrial countries, total investment typically plunges in the quarters

1 National Institute of Economic and Social Research (2008) "The Evolution of the Financial Crisis 2007-2008,"*National Institute Economic Review*, Volume 206, No. 1, October.

2 See, *e.g.*, Martin, Robert (2008) "Housing Market Risks and the United Kingdom," Board of Governers of the Federal Reserve System International Finance Discussion Paper, No. 954, November.

3 Ahearne, Alan, John Ammer, Brian M. Doyle, Linda S. Kole, Robert F. Martin. (2005) "House Prices and Monetary Policy: A Cross-Country Study," International Finance Discussion Papers, 841.

immediately following the peak in housing prices, and continues to decline for a period of up to three years. The largest swing occurs in residential investment.

38. More importantly for steel demand is what happens to non-residential construction, as this is more steel-intensive than residential construction. In the United States, forward-looking indicators of non-residential construction activity are now pointing to considerable weakness 9-12 months ahead, with many architects reporting that clients are cancelling or delaying projects as a consequence of problems with project financing. Demand for projects such as shopping centres, schools, hospitals, and other buildings could remain exceptionally weak in the coming months. The European steel industry also believes that the business sector will put many construction projects at least temporarily on hold, and that government construction spending will not fill the gap.

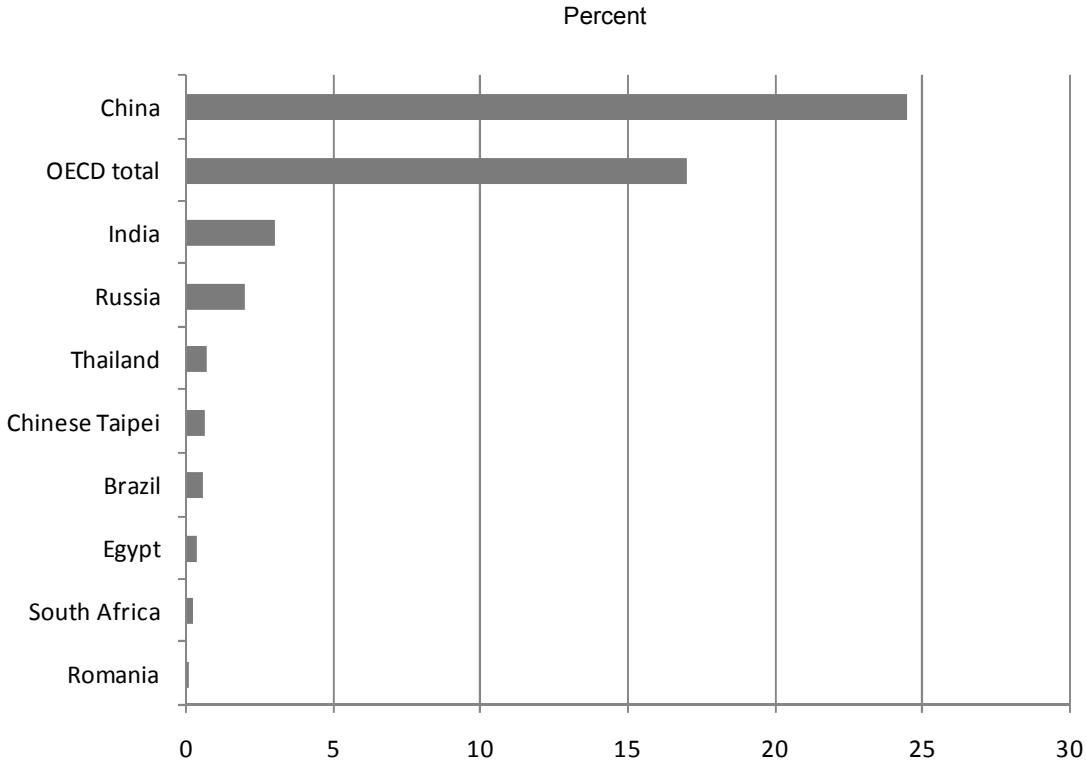
***Construction activity also at risk in some emerging markets***

39. Of much greater importance from the perspective of steel demand is how the financial crisis will affect construction activity in emerging economies. Construction activity in China alone is estimated to contribute slightly less than a fourth of global steel demand, thus larger than the OECD total and making it the single largest risk factor for steel going forward. Chinese real estate investment is showing signs of slowing; housing prices are declining in many major cities and sales of land for development were down in the first nine months of the year.

40. Property-market risks have heightened considerably in India and Russia. Though together they are much less important in their impact on world steel demand than China, construction in these two economies accounts for just under the combined total of the United States and Japan. The Russian construction market is particularly vulnerable, with tightening credit having caused a sharp slowdown in real estate investment to 8 percent recently, down from 24 percent a year earlier. The risks appear to be growing, with the central bank indicating that 50-70 banks could go under. Construction firms have seen their stock prices fall precipitously, and many appear to be on the verge of bankruptcy.

41. Moreover, recent global commercial property surveys suggest that investment demand has deteriorated during the course of 2008, especially in emerging Europe and Asia. Africa, the Middle East and Latin America appear to be the most resilient, though investment demand in these regions appears to have softened considerably in the third quarter of 2008.

**Figure 5.** Construction sector share of global steel demand in selected non-OECD economies



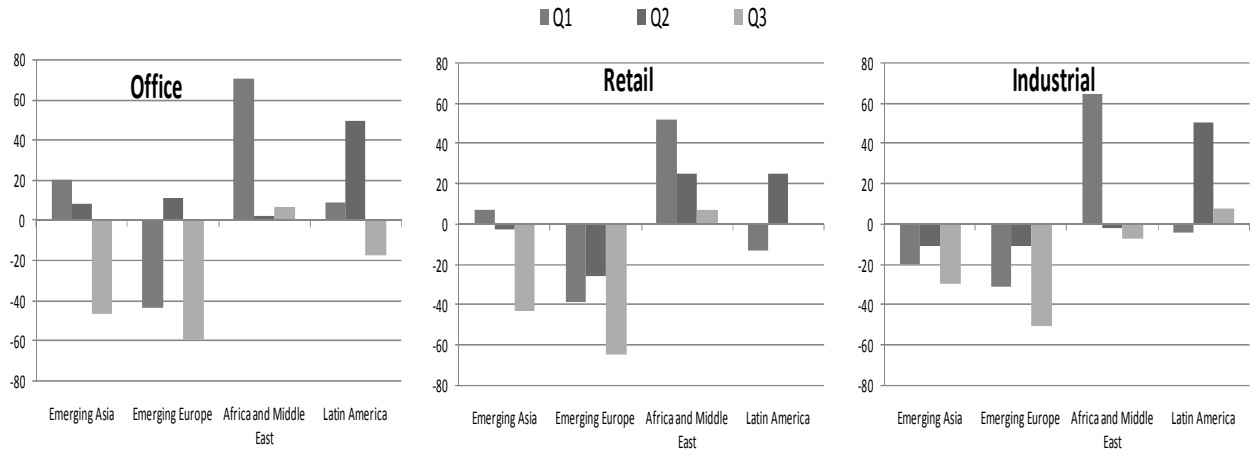

*Source*: Secretariat calculations based on data from World Steel Association.

42. Property market booms in the Middle East, which have been supported in recent years by strong growth in steel imports from Turkey and China, are also coming under stress. In Dubai, interest in incomplete property has dried up, and banks such as Morgan Stanley, Standard Chartered Bank and EFG-Hermes predict a slowdown, with property prices possibly starting to decline in 2009 after years of unprecedented rates of increase. Middle East and North African economies may also experience slowing income growth as a result of low energy prices, which in turn could dampen growth in infrastructure and construction.

43. All in all, a decline in total investment in the OECD region and slowdown in China through to the end of 2009 could reduce steel consumption by several percent that year, depending on the duration and breadth of the downturn. Fiscal stimulus geared to infrastructure developments, such as China's, will buffer some of the slowdown, but given the long time necessary to implement such measures, most of their impacts are likely to be felt only later in the year and into 2010.

**Figure 6.** Commercial property demand is weakening in emerging markets

Balance of respondents, %[1]




2. Balance is equal to the proportion of respondents reporting a rise minus those reporting a fall.

*Source*: RICS.

### *The downturn in car demand*

44. The recession currently underway in the global motor vehicle sector adds additional headwinds for steel demand. Globally, an average of approximately two tons of steel are used per motor vehicle produced, though regional differences are wide due to vehicle sizes and types of steel used in their manufacture (cold-rolled/galvanized versus hot-rolled coil).

45. The downturn in the sector, which consumes approximately 12-13% of the world's finished steel output, is expected to intensify in 2009 in response to the credit squeeze, despite possible government support measures to aid the industry in the United States and Europe. Automobile sales continue to plummet in North America, Europe, and Japan to their lowest levels in decades, profits are declining, and manufacturers are cutting production.

46. The situation in emerging markets is less dire, though recent indicators suggest that these markets, too, are being hit by the financial crisis. In Brazil, the world's sixth largest car producer, new car sales fell in October 2008 for the first time in nine years, with the national car-makers association citing a tightening of credit behind the decline. South Korea's Kia Motors has postponed plans to build its first factory in Brazil, while many existing manufacturers are putting workers on leave to slow production. Producers are expecting a difficult situation in the near term, with the upturn postponed until the second half of 2009.

47. In China and India, the slowdown has been abrupt in recent months, with sales registering declines and inventories rising considerably. China's sales are likely to increase by only 5-6 percent in 2008 as a whole, down noticeably from 24 percent in 2007. Industry analysts expect growth in production to slow to 8 percent this year, following expansion of 22 percent in 2007, and to moderate further in 2009. Massive consolidation could occur in China's automobile industry.

48. Motor vehicle manufacturing in the EU, NAFTA and developed Asia, which together make up approximately 70 percent of world production, could reduce global steel demand by one percent in 2009, assuming that production growth in emerging markets slows to half the rate of expansion seen this year.

According to some vehicle manufacturers, recovery in the global motor vehicle sector should take hold in 2010.

## Projections for steel consumption and steelmaking capacity

### *Consumption*

49. To produce a short-term projection of steel consumption in the global economy, we use a scenario of economic growth roughly in line with the OECD's and IMF's latest forecasts. To that end, a model has been built which disaggregates world steel production and consumption into ten trading regions, which together account almost all of the world market.

**Box 4.** A model of world steel demand

**A model of world steel demand**

An econometric model of world steel demand, supply, and price has been constructed, based on a modelling framework used by the Australian Bureau of Agricultural and Resource Economics in projecting world trade of iron ore and steel. The model disaggregates world steel supply and demand into ten trading regions: ASEAN, the EU, China, the CIS, India, Japan, Korea, NAFTA, the Middle East, and South America.

Annual domestic production and consumption for steel are estimated econometrically, assuming that the supply of steel in a given region is a function of the real price of steel, steelmaking capacity and the real price of raw material inputs. Demand is a function of the real steel price, economic activity and time (as a proxy for materials substitution). The price of steel and raw material inputs are adjusted for exchange rate differentials when possible.

Supply and demand relationships across regions are linked through a market clearing price for steel, which is determined by equating global consumption with production. Net exports of steel for a given region are calculated as the residual between supply and demand. Thus, although trade flows between countries are not estimated, net trade can vary considerably across regions depending on how supply and demand react to the economic environment, raw material prices, and steelmaking capacity. The real price of steel therefore adjusts to ensure zero net trade on a global level.

50. The model described above was used to quantify the impact on world steel consumption of the global recession now being forecast. In the baseline forecast, the world economy is assumed to grow at rates projected by the OECD and IMF in early November, with the exception that Chinese GDP is assumed to expand at a slower 6 percent in 2009, reflecting some negative economic data released in recent weeks. Contract prices of raw material inputs are assumed to decline by up to 20% in 2009, in light of the downward corrections observed in spot prices in recent months. Projections for steelmaking capacity used in the baseline forecast are those of the OECD Secretariat.

51. Driven by the recession in advanced economies, global steel demand could contract by three to seven percent in 2009. With economies beginning to recover late in 2009, the downturn in steel consumption tapers off and paves the way for a six to seven percent recovery in steel demand growth in 2010 as world economic activity strengthens to a trend rate. According to these estimations, the level of demand in 2010, on average, however, is still slightly below that prevailing in 2008, but clearly surpasses this level by 2011.

52. Needless to say, huge uncertainties surround the outlook. First, there may be waves of economic weakness and business contagion that are not predictable *a priori*. In other words, countries that are less affected now may begin to suffer more during 2009 because their financial sectors weaken, impacting negatively on steel demand. Second, it remains unclear just how the world's financial system will be put

back together. The optimistic scenario is that banks are now rescued and that normal business will soon resume. The pessimistic scenario is that the convalescence of the banking system is tougher and longer, which would reduce lending to many parts of the economy, with continuing negative effects on steel demand. Third, the extent of the Chinese economic slowdown will determine to a large degree the future course of global steel demand.

53. When assessing demand prospects over the longer term, however, one should consider the factors that drove the upturn of recent years and whether they will change. The leap in Chinese demand for steel in recent years has raised its level of per capita consumption to 307 kg per person annually. China's expanding industrial production and urbanization trend will ensure that steel consumption per capita continues to rise. There is enormous potential for growth in Indian steel consumption, given the economy's extremely low level of per capita consumption of steel. At around 43 kilograms in 2007, per capita consumption is only one-seventh of China's level. Heavy investment in developing the country's infrastructure, such as railways, ports, and roads, should continue to support growth in the steel-intensive construction sector. Strong population growth, the need for housing, and rising incomes will add further stimulus to construction activity. Assuming that the process of globalization of manufacturing activity continues, growth in steel demand in other developing economies over the longer term would be underpinned by growing industrial sectors, rising capital stocks, infrastructure spending, and nascent demand for consumer durables.

***How has the outlook for steelmaking capacity changed?***

54. Capital investment in the global steel industry grew rapidly over the past few years, supported by high steel prices and strong producer profitability. The internationalisation of the industry has promoted this development, as steel companies expanded their operations particularly to emerging economies.

55. The current global financial crisis hitting various industrial sectors, and many steel companies have begun to scale down production following a sharp decline in demand and a big jump in inventories. Furthermore, the tightening of credit lines and a complete breakdown of confidence has stalled a number of steelmakers especially in the developing countries.

56. As a result, although world steelmaking capacity is likely to continue rising steadily from 1 563 million tonnes in 2007 to 1 779 million tonnes in 2010 (because a large number of projects are under way and global steel demand is expected to increase in the long term), we have lowered our global capacity forecast by 74 million tonnes. In other words, world steelmaking capacity is expected to stand at 1 779 million tonnes in 2010 instead of the 1 852.6 million tonnes that was projected in May 2008.

57. In China, the central government is aiming to raise international competitiveness, reduce pollution and foster consolidation in the steel industry. Therefore, large Chinese steelmakers are planning to construct highly advanced integrated steel mills in the coastal areas, close outdated steelmaking facilities, and increase merger and acquisition activity. Chinese steelmaking capacity is still projected to increase considerably, *i.e.*, by 120 million tonnes until 2010, because many big projects have already been approved by the government. However, as some investment projects are expected to be postponed due to the slumping steel market, we have reduced our forecast for Chinese capacity to 680 million tonnes from 710 million tonnes projected earlier.

58. In India, enormous expansion was planned in order to keep pace with forecast demand. The Ministry of Steel has announced that India's iron-ore and coal-bearing states have signed 194 memoranda of understanding (MoUs) with local and foreign companies for a total greenfield capacity of 243 million tpy. This will involve an investment of INR 51 500 billion (USD 1 288 billion), according to Metal Bulletin. However, as many of the greenfield steel mill projects have encountered strong popular

resistance, and given the weaker market conditions, some steelmakers have been forced to shelve their projects. Steelmaking capacity in India is expected to increase from 56.1 million tonnes in 2007 to 78.5 million tonnes in 2010, a downward revision from our May 2008 forecast of 85.4 million tonnes.

59. In Russia, steel demand especially from the construction and energy industries increased rapidly in the past few years, thanks to soaring oil prices and the country's rapid economic growth. Steelmakers planned capacity expansions including several mini-mill projects as well as closure of outdated open hearth furnaces. However, since steel companies are facing difficulties in raising funds due to global credit squeeze, some of them have slashed their investment plans. Russian steelmaking capacity is projected to increase modestly from 78.0 million tonnes to 89.1 million tonnes in 2010, which is much lower than previous forecast of 103.5 million tonnes.

60. In Brazil, several foreign companies as well as local mills are planning to construct new steelmaking facilities, benefiting from access to the region's iron ore resources and comparatively good market prospects. Since many of the investment projects appear to have already secured most of the land requirements and capital funds, we have not changed our forecast for capacity. Therefore, steelmaking capacity in Brazil is expected to rise from 41.5 million tonnes to 50.7 million tonnes in 2010.

61. Despite somewhat negative short-term market prospects, many steel industry participants expect global steel consumption to resume its brisk expansion over the longer term, driven by growing infrastructure needs and budding industrial sectors in many emerging economies. Hence, a number of steelmakers are expected to resume and accelerate their investment plans when the world economy begins to recover. As such, it is important to note that world steelmaking capacity may expand briskly again after 2010, in spite of our short-term downward revisions.

**Table 2:** Summary of changes in the OECD Secretariat's capacity forecasts

Unit: Million tonnes

| | Actual 2007 | Forecast 2010 in Dec. 2008 (a) | Forecast 2010 in May 2008 (b) | Change (a)-(b) |
|---|---|---|---|---|
| **ASIA** | 864.4 | 1,014.6 | 1,057.4 | -42.8 |
| **of which China** | 560.0 | 680.0 | 710.0 | -30.0 |
| **India** | 56.1 | 78.5 | 85.4 | -6.9 |
| **CIS** | 138.2 | 152.0 | 171.9 | -19.9 |
| **of which Russia** | 78.0 | 89.1 | 103.5 | -14.4 |
| **Latin America** | 60.2 | 72.1 | 72.5 | -0.4 |
| **of which Brazil** | 41.5 | 50.7 | 50.7 | 0.0 |
| **Middle East** | 32.8 | 47.1 | 62.6 | -15.5 |
| **Africa** | 20.8 | 21.5 | 26.2 | -4.7 |
| **Europe** | 283.7 | 302.7 | 297.2 | +5.5 |
| **NAFTA** | 154.1 | 159.8 | 155.9 | -0.1 |
| **Oceania** | 8.9 | 8.9 | 8.9 | 0.0 |
| **WORLD TOTAL** | 1,563.1 | 1,778.8 | 1,852.6 | -73.8 |