

Global Emerging Markets of Carbon Steel Wire Rod

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In 2010, the world produced a total of 576 million tons of hot rolled long products including seamless steel pipes, (around 43% of the overall production volume of steel products), an increase by 7.5% compared to 2009. By regionally distribution, Asia is the top region producing long products, with an output of around 460 million tons in 2010, an increase by 8.4%, making its global market share increase from 67% to 81% from 2001 to 2010; besides, its Compound Annual Growth Rate (CAGR) in the last decade was up to 11.1% mainly motivated from China.

Asia has been the largest production region over the last decade, while both the EU and North America have appeared to be in recession. South America is the fourth largest one, producing 16.35 million tons of long products in 2010, an increase by 14%. Although its global market share declined from 3.7% to 3.2% from 2001 to 2010, the production in the last decade steadily grew, with CAGR of 4.4% mainly motivated from Brazil (the production volume accounts for 63% of all in South America). This article will take Chinese market as the main base discussing global supply and demand status of carbon steel wire rod (steel bars are not included) in emerging countries.

Global Supply Status

Wire Rod

The global production volume of wire rod in 2010 was approximately 166 million tons, an increase by 5.4%; besides, the production in Asia still remained top, which was 143 million tons, an increase by 9%, allowing Asia an increase in its global market share from 65% to 86.1% from 2001 to 2010, CAGR was up to 11.3% in the last decade. Still mainly motivated from China, the production of wire rod in Asia was not affected by global financial crisis in 2008, while steadily growing in the last decade instead.

The EU (27 countries), the second largest production region of wire rod, being hampered by the EU debt crisis, produced approximately 13.8 million tons in 2010, an decrease by 22.3%,

making its global market share decline from 23% to 8.4% from 2001 to 2010, and CAGR was down to -3.9% in the last decade, with a substantial decrease by 40.5% compared with five years previously. North American, the third largest production region of wire rod, had an output of around 5 million tons in 2010, an increase by 9.5%, which was the first positive growth rate after the financial crash. The global market share of North America was down from 7.6% in 2001 to 3% in 2010, and CAGR was down to -3.1% in the last decade.

China produced 105 million tons of wire rod, the largest volume, in 2010, an increase by 9.2%, and CAGR was up to 11.8% from 2005 to 2010, making its global market share increasing from 51% to 63%. Next to China, India produced approximately 21.9 million

tons, maintaining at the same level of production compared with the previous year, and CAGR was up to 12.3%, with its global market share increasing from 10.3% to 13.2% from 2005 to 2010, which is even higher than China.

According to the statistics by the World Steel Association, the top five producing countries of carbon steel wire rod in the world in 2010, ranking in order were as follows: China (105 million tons, or 63%), India (21.9 million tons, or 13%), Germany (5.2 million tons, or 3.1%), Italy (3.94 million tons, or 2.3%), and Brazil (3.19 million tons, or 1.9%), and CAGR was 2.6% in the last decade. These top five producing countries totally take up 83% amounts of production, while emerging markets like China, India, and Brazil totally taking up 78% of the whole world's production.

Straight Bars

The worldwide production volume of carbon steel straight bars was approximately 120 million tons in 2010, growing by 2%, while Asia remained top producing approximately 100 million tons, growing by 19.5%, making Asia's global market share increasing from 65% to 85% from 2001 to 2010, and CAGR was up to 11.3%. The production of steel rods in Asia seemed not to be affected by global financial crash in 2008, allowing steady growth in the last decade mainly motivated from China.

According to the statistics by the World Steel Association, China ranked the top in 2010 for the production volume of its carbon steel rods at 68.92 million tons, a record high growth rate of 24.4%, and CAGR was up to 18.3% from 2005 to 2010, making an increase in global market share from 31% to 57%. The top five producing countries of carbon steel straight bars in the world in 2010, ranking in order were as follows: China (68.92 million tons, or 57.4%), the US (4.07 million tons, or 3.3%), Italy (3.72 million tons, or 3.1%), Brazil (1.81 million tons, or 1.5%), and CAGR was 4.4% in the last decade), and Spain (1.61 million tons). From 2005 to 2010 the world's top five producing countries increased in global market share from 64% to 78%, the concentration will gradually improve, and the top five producing countries are automotive-producing countries.

What is worth noting is Vietnam, one of the emerging countries. Due to rapidly increased demands for downstream industries of construction and motorbikes, and the expansion of production capacity, Vietnam's production volume of long products increased from 1.9 million tons in

Table 1. The Production Volume of Carbon Steel Wire Rod in China from 2006 to 2011

Unit: 10 thousand tons

Item / Year	2006	2007	2008	2009	2010	2011
Wire Rod	7,207	7,533	8,024	9,586	10,552	10,249
Rods	3,694	4,341	4,670	5,565	6,893	5,802
Total	10,901	11,874	12,694	15,151	17,445	16,051

Source: World Steel Dynamics, February 2012

2001 (in which steel bars and straight bars together accounted for 1.1 million tons, and 692 thousand tons of wire rod) to 5.66 million tons in 2010 (in which steel bars and straight bars together accounted for 4.67 million tons, and 950 thousand tons of wire rod), and CAGR was up to 13% in the last decade.

Global Demand Status

The global consumption of carbon steel wire rod and steel rod in 2010 were respectively around 150 million tons and 140 million tons; however, World Steel Dynamics forecasts, demands for these two products will respectively reach 218 million tons and 203 million tons by 2020, and both of their CAGRs will be 4.66%, which means the demands for them will increase by 68 million tons and 63 million tons respectively in the later decade, indicating that there is a potential development for the global wire rod markets.



Chinese Market Status

Supply & Demand Analysis

China is the largest producing country of hot rolled long products in the world, producing around 365 million tons in 2011, a decrease by 5.9%, with the production volume of wire rod at 102 million tons accounting for 28%, and rods, at 58 million tons, 16%, making a total of 160 million tons with both categories of wire and rods combined. CAGR of long products from 2006 to 2011 was up to 8.4%, with 9.5% of rods, and 7.3% of wire rod. **Table 1** shows the production volume of carbon steel wire rod over the years from 2006 to 2011 in China. The production capacity of wire rod in China in 2011 was around 124 million tons, while it is expected to reach 126 million tons in 2012, a bit of oversupply as it has been.

The volume of China's overall apparent demands for hot rolled long products were 360 million tons in 2011 (including seamless steel pipe), a decline by 5.8% from 2010, or a CAGR by 9.4% from 2006 to 2011. Its export volume amounted to approximately 5.43 million tons in 2011, remaining about unchanged from the previous year, with a decrease in terms of export ratio, from the peak at 8.2% in 2007 down to 1.5%. In addition, its import volume amounted to 1.2 million tons in 2011, a decrease by 4%; however, the import

Table 2. Supply and Demand Analysis of Carbon Steel Wire Rod in China in 2011

Unit: 10 thousand tons

	Prod. Vol.	Import Vol.	Export Vol.	Apparent Consumption	Growth Rate (%)
Wire Rod	10,249	67	301	10,015	9.9
Straight Bars	5,802	43	345	5,500	-5.9

Source: World Steel Dynamics, February 2012

dependency ratio has still remained at 0.3% in recent years, indicating close to 100% self-sufficiency of China's domestic market. Among the volume of overall apparent demands in 2011, the demands for wire rod accounted for 28% (approx. 100 million tons, growing by 9.9%), and 15.3% of straight bars (55 million tons, declining by 6%). **Table 2** shows supply and demand analysis of carbon steel wire rod in China in 2011.

Importing & Exporting

Import

China imported around 1.11 million tons of long carbon steel products (not including seamless steel pipes) in 2011, a decrease by 4.1%, in which wire rod accounted for the highest ratio of imports, at 45.3%, followed by formed steel, at 24.8%, (5.8% of H-beam and 19% of other beams), and straight bars, as the third ranking, at 11.7%, the top three combined together making a total ratio of 82%, while the fourth ranking steel wire accounted for only 10%. Compared with the peak volume of 1.375 million tons imported in 2006, the overall import volume in 2011 was lower by 19.2%, indicating the amount of self-sufficiency is gradually being improved. Owing to it, steel wire decreased by 55%, steel rails by 40%, and wire rod by 22% (seamless steel pipes also decreased by a wide margin around 80%).

(1) Wire Rod

China imported around 0.52 million tons of carbon steel wire rod in 2011, an increase by 3.5%, with import value approximately at USD560 million, an increase by 35%, a significant growth rate for two consecutive years. The import unit price was USD1,111/ton, an increase by 30%. The top three countries exporting carbon steel wire rod to China in 2011 included Japan (with an import ratio of 60%), Taiwan (15.3%), and Korea (13.2%), all three China's neighboring countries, together making a total ratio of 89% of all wire rod import volume.

(2) Straight Bars

China imported around 0.211 million tons of straight bars in 2011, a decrease by 6.6%, with import value approximately at USD280 million, an increase by 4.7%. The import unit price was USD1,355/ton, an increase by 12.2%. The top three countries exporting straight bars to China in 2011 included Japan (with an import ratio of 28%), the EU (9%), and Korea (6%), together making a total ratio of 43% of all straight bars import volume.

Export

In 2011, China exported about 3.05 million tons of long carbon steel products (not including seamless steel pipes), a decrease by 11.3%, in which steel wire accounted for the highest ratio of exports, at 41%, followed by

H-beam, at 20%, and steel rails, as the third ranking, at 15.6%, making a total ratio of 77%. Compared with the peak volume of 19.58 million tons exported in 2007, the overall export volume in 2011 was lower by 84.4% with wire rod decreased by around 99%, straight bars by around 95.5%, and other beams by around 90%.

Since the Chinese government did not encourage exports of low value added products, imposing 15% tariffs on exports of steel bar and wire rod; besides, both the EU and the US levy anti-dumping tax on China exporting steel bar at a rate between 8.6% and 24.6%, and between 42.97% and 193.55% respectively, resulting in drastic declining of long products exports from China in recent years.

(1) Steel Wire

China exported around 1.25 million tons of steel wire in 2011, an increase by 15.7%, with export value approximately at USD1.39 billion, an increase by 37.6%, a substantial growth rate for two consecutive years. The export unit price was USD1,114/ton, an increase by 18.6%. The top three exporting countries for China's steel wire included 10 ASEAN countries (with an export ratio of 24.6%), Korea (7.3%), and the EU (7.2%), making a total ratio of 39% of all steel wire export volume. The export of steel wire over the past six years has been increasing drastically, by a rate of 36%, like the export of steel rails, the upward development against the trend.

(2) Straight Bars

China exported around 0.316 million tons of straight bars in 2011, an increase by 3.6%, with export value approximately at USD290 million, a substantial increase by 25.4%. The export unit price was USD921/

ton, an increase by 21%, a growth for two consecutive years. The top three exporting countries for China's straight bars in 2011 included Mongolia (12.3%), Korea (7.2%), and Equatorial Guinea (7.5%), making a total ratio of 27% of all straight bars export volume, showing diversity of exporting countries.

(3) Wire Rod

China exported around 61 thousand tons of carbon steel wire rod in 2011, a decrease by 7.5%, a recession for 2 consecutive years, with export value approximately at USD54.7, an increase by 8.7%. The export unit price was USD898/ton, an increase by 18%, a growth for two consecutive years, showing trends towards exporting

high-valued products. The top three exporting countries for China's wire rod in 2011 included Japan (with an export ratio of 18%), Mongolia (14%), and Angola (9.5%), making a total ratio of 41.5% ratio of all wire rod export volume, showing diversity of exporting countries.

Conclusion

The production of carbon steel wire rod in developed countries including Europe, America, and Japan has been going down in the last decade, with market shares incessantly declining, while the production in emerging countries led by China including India, Brazil, Vietnam and so forth, grows steadily, indicating a gradual shift of fastener production bases, as the main downstream industry for wire rod, to locations in these emerging countries. By the current situation, given the impacts of the debt crisis in the EU and the US, the possible occurrence of another round of recession still stays in everyone's mind. Industrial production in developed countries still needs one to two years to recover to the highest standard before debt crisis. Although the stage of rapid economic expansion has ended and higher demand for steel is unlikely to occur in China, they won't influence the economic structural adjustment due to the inclination of domestic demand tends to be stable.



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