

# MACHINE TOOLS INDUSTRY IN CHINA

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## Industry Overview

China's total import value of machine tool from Italy in 2010 reached USD 12391.66 million, which increase with a percentage of 64.27% comparing with 2009.

Among the key countries that export machine tools to China – Italy ranks No.5 in 2010 compare to 2009.

In the first three quarter of 2011, Italy ranks 6<sup>th</sup> as the supplier countries in China import of machine tool industry. It achieved 567.53 million with 4.48% market share and an increase of 18.14% compare to the same period of last year.

During the international financial crisis period, the machine tools industry comes out some new features:

- Adjust the product structure

From the industry scale, fewer low-end products, more high-grade, specialized products.

- Innovation

Develop a batch of high-speed, precision, complex, multi-axis NC machine tool, and a group of new products with large size, tonnage CNC machine tools. In particular, develop the heavy metal cutting machine tool rapidly.

- Fixed-asset investment grow up

January to November, 2009 Fixed Assets Investment is up to 35.8%, especially heavy machine production capacity has been greatly improved.

- Enterprise management changed.

Such as increase the productivity and reduce manufacturing costs, optimize the supply chain, improve the technical services for the users.

There are also some contradictions in the development of the machine tools industry. Such as over capacity of the low-end products and a lack of high-performance products, the outcome of many research projects is little effect. Thus, in 2010, the industry must speed up the structural adjustment and change the mode of development.

- Speed up the restructuring of machine tools. Reduce the production of low and common products; elimination of backwardness, contaminative and high energy-consuming products; development the high technical and economic

value-added products; by the provision of single line equipment to provide complete sets.

- Improve the industrial chain. Break out the bottlenecks in the development of CNC machine tools industry, to develop digital control systems and functional components, to improve numerical control systems and proportion of functional components in this industry; encourage the development of numerical tools, complex tools, precision measuring instruments, high-grade abrasive and abrasive super hard materials and products.

- Enterprise restructuring. Encouraging universal console manufacturers focus on producing appropriate; support "special, unique, refined" CNC manufacturing enterprise; expand function parts manufacturers, technology services companies size; encourage the optimal reorganization of enterprise assets and promote corporate structure to a "big and strong," "small but special".

- Improve the level of specialized production in manufacturing process. Integration four basic technological capacity: casting, forging, heat treatment, surface treatment of the. Improve material utilization and production efficiency; reduce energy consumption and pollutant emissions.

- Adjustment of import and export trade structure. Constantly raise the threshold of imported equipment and technology, efforts to improve the grade of export products, reduce the high energy consumption, high pollution and resource exports, increase the proportion of high-end CNC exports, expand exports of technical services.

### **Domestic Die and Mould Production**

According to statistics, China current has more than 30,000 mould manufacturers, employing about 1 million people.

Tooling industry has an annual rate of 20% growth since 2000. During the "Eleventh Five-Year Plan" period, the production and quality are further improved, especially in automobile manufacturing and IT manufacturing industry, driving the mould products improved. China Die & Mould Industry Association executive vice chairman and secretary general Mr. Cao Yanan said, China mould industry is going through "golden development period", this period will continue to maintain sustained and rapid growth.

In recent years, mould industry accelerated the adjustment of product structure, the high-tech products represented by large, sophisticated, complex, long-life

mould developed faster than the overall industry growth rate, which accounting 35% of the total mould productivity.

From the structure of the industry, the rapid development of private enterprises, state-owned enterprise improved stably, the professional mould manufacturers increased rapidly, even less developed central and western regions of the mold industry had a greater progress.

Some mold enterprises multi-position progressive die precision has reached 2 microns, lifespan could up to 300 million pulse. Some individual enterprises' multi-position progressive die could be used in 2500 cycles / minute high-speed punching machine tools. The precision can reach 1 micron which is capable to produce 43-inch big screen TV, 65-inch rear projection television molded case mould, a full set of plastic molds for 10 kilograms high-capacity washing machine and auto bumpers, instrument panels and other large overall plastic mold.

The precision plastic mould has been able to produce the plastic mold for cameras, mobile phones, multi-cavity small module gear molds and 7800 cavity plastic packaging mold with the accuracy of 5 microns. The large-scale precision die-casting mold is able to produce complex escalator overall pedal die casting mold, die casting for automotive rear axle gear boxes and automotive engine shell mold casting molds.

The auto panel die has been able to produce a full set of mid-range new car outside the cover mold. Radial Tire Mold, aluminum and plastic door and window profile extrusion molding, casting, or resin, such as rapid prototyping drawing die has reached a very high level.

But China is only producing country and not die products developed countries. There are 10 -15 years the gap between the developed countries. The middle and low mold at present is still mainly in the market, and the mid and high technical molds are only 60%in the mold industry. Many high precision, complex molds are still dependent on imports, which imported more than 20 billion dollars in the last 3 years. Mold commercial rate of only 60% of standard parts using only 50% coverage. Serious shortage of investment funds for scientific research, scientific research and weak, does not favor the formation of innovative public technology support system.

At present, China's mold industry is entering an important period of development. Manufacturing industry, especially the development of automobile manufacturing, enlarge the production scales. The international mold manufacturing shift to China, the trend is increasing obviously. China Die & Mould Industry Association forecasts

the market to continue to die at home and abroad this year, well, China's mold industry will keep annual growth rate of about 20%.

China mold industry in recent years will be sustained and rapid growth, with the following characteristics: products continue toward larger, sophisticated, complex, and rapid development, technical will be continually increased, shortening manufacturing cycles, mold industry will keep improving information technology, digital, fine, high-speed and automatic industry.

China's domestic machine tool industry features technologies that are 10-15 years older than developed countries, and is heavily reliant upon imports to meet the domestic need for advanced technologies. Currently, imported machine tools account for well over half of the Chinese market. Although China prioritizes the development of its domestic machine tool industry, in recent years imported machine tools are playing an even more important role in the domestic market.

Chinese machine tool products are generally characterized by quality inconsistency, variety insufficiency and low technology intensiveness. Chinese manufacturers, in comparison with their foreign competitors, are suffering from smaller operations, out-of-mode production facilities, and weak development and research capabilities. CAD and CAT, which are widely used in foreign companies, are still scarcely applied by Chinese manufacturers, making the duration of new product development remarkably longer than foreign competitors.

Although China is making significant progress in developing its NC technology, the locally produced NC machine tools only take up a market share of less than 30%, and even so, most of these NC machine tools are low-end products that offer less precision, lower performance, and shorter durability in comparison with the imported NC machine tools.

Despite the overall technological backwardness of the machine tool industry, China has been making remarkable progress in developing new technologies. In recent years, many high-tech products such as 5-axis linkage blade machining center, heavy-duty NC gantry-type milling center, heavy-duty floor-type milling center, heavy-duty turning center, and FMS processing line, etc., have been put into industrial production and extensively used in various industries. China has successfully developed horizontal and vertical boring and milling heads, as well as turreheads, which have been embargoed by western countries for many years.

In the field of metal forming technology, the Chinese-made compound sheet processing center and hydraulic turrehead NC presser have reached international standards, while its multi-position pressers are used in the automotive industry.

Considerable progress has also been achieved in the research and development of complex cutters for extra-intensity materials.

In recent years, the Chinese machine tool industry supplied high-performance, heavy-duty and supplicated NC machines to many key national projects such as China's first manned space mission, Shanghai Magnetic Train Project, West-east Gas Transmission and South-north Water Transportation, etc. Today, China is already able to produce over 1,500 kinds of machine tools to fit its basic industrial needs.

#### Manufacturers and Geographical Distribution

According to Chinese national statistics, there are currently over 2,000 machine tool manufacturers employing nearly 700,000 workers nationwide.

Manufacturers are scattered throughout the country, but are heavily geographically concentrated in Liaoning province, Zhejiang province and Jiangsu province. The total output of the NC metal-cutting machine tools of these three provinces account for over half of the national total.

In general, the industry is over-crowded with numerous small manufacturers, who compete against one another in a low-end market price war. Most of the companies are burdened with excessive labor, outdated production facilities and technologies. They supply the low to mid-level markets with little or no differentiation.

Large companies are scarce, with merely about 5% of the total reaching sales of over Euro 10 million.

### Investment Dynamics

#### Automotive Industry

The automotive industry is a prime consumer of machine tools. In most western countries, nearly 50% of demand for machine tools comes from the automotive industry. According to a recent survey by CMTBA of 80 machine tool manufacturers, the automotive industry contributed up to 32.6% of machine tool consumption by value and 25.3% by quantity.

Foreign investment has been increasing dramatically over the past few years. At present, there are more than 1,000 foreign invested enterprises in the automotive industry in China, with a total investment of USD 20 billion. All of the world's leading carmakers, including GM, Ford, Daimler-Chrysler, Toyota, Volkswagen, Nissan, Renault, PSA Peugeot Citroen, BMW, Honda and Hyundai, along with the

world's biggest automobile component manufacturers, all have local production plants in China.

It is estimated that accompanying each percent growth of automobile production there will be an increasing demand of 0.54% for NC machine tools. Therefore, the NC machine tools consumption will rise to over 50%, with a total value of Euro 13.6 billion in 2010.

### Machinery Manufacturing Industry

China has a gigantic machinery manufacturing industry. During the 11th Five-year Program (Y2006-Y2010), China's investment into its equipment manufacturing sector will be focused upon key backbone industries including aeronautics and astronautics, ship-making, automobiles, defense, machinery manufacturing and information technology. This will place higher requirements on machine tools in terms of the variety, quantity, quality, delivery and service, etc.

Aeronautics and astronautics industry: According to the estimation of Boeing Corporation, China's total demand for commercial aircraft shall value at Euro 112 billion between Y2000-Y2010.

China is now the world's second largest market for commercial aircraft. The need to provide repair and maintenance services, and China's emerging role as an outsourcing center for major aircraft manufacturers, will lead to increased demand for high quality machine tools.

China is also Boeing's largest aircraft parts suppliers outside the US, and a main outsourcing partner for Airbus. In recent years, Chinese aircraft manufacturers such as Xi'an Aircraft and Chengdu Aerospace imported several hundred sets of 3-5-axis NC milling machines (spindle speed: over 1,000 r/min).

These precision machine tools (including nanometer-grade) for the aircraft industry are all imported, mainly from Germany, Switzerland and the US. The aircraft manufacturing sector is likely to become a significant market for machine tools in the next five years. Experts estimated that in the coming years there will be clear demand for a large quantity of high-speed machining center, five-axis machining center and high-speed gantry-type milling lathe, etc.

Transportation equipment manufacturing industry: During Y2006-Y2010, China build 90,000km in high-speed railway (including subway and light rail). In this segment, development priority is placed upon the electrical engine, internal-combustion and high-speed train, etc. The machine tools in demand are large general-purpose NC lathes, wheel-type horizontal lathes, etc. In the

shipbuilding segment, the main machine tools in demand are large horizontal NC lathe and turning center with processing diameter of 8-25 meters, floor-type boring and milling lathe with processing diameter of over 180mm, heavy-duty horizontal NC lathe and heavy-duty NC gear hobbling machine, etc.

Power generation equipment manufacturing industry: China is the third largest energy producer and the second largest energy consumer in the world. Energy demand has been greatly increasing, and is expected to grow at about 5.5% annually through Y2020. In order to curb severe electricity shortage, China will increase its electricity supply by 25 million KW per annum this year and next, an increase of 56% more than originally planned, resulting in soaring demand for power generation equipment, including dynamoelectric equipments, boiler, water turbine and steam turbine, as well as power transmission and distribution equipments. Given the importance of the energy sector in China, the local energy equipment manufacturers are usually equipped with most advanced machine tools, which are considered an essential means to secure productivity and product quality. Therefore, demand of machine tools in this industry is expected to increase continuously.

Petroleum and petrochemical equipment manufacturing industry: The central government prioritizes the development of the petroleum sector. The entire industrial chain including drilling and exploration, pipeline transportation and downstream processing has clear demand for machine tools.

Engineering machinery manufacturing industry: With key construction projects like the Beijing Olympics Games and Shanghai World Expo ready to kick off soon, and other projects like West-East Gas Transmission, North-South Water Transportation and Tibet Railroad still under construction, the demand for engineering machinery is rising rapidly.

### **Development Trends**

The Chinese government has given prime priority to the development of its machine tool industry for decades, and worked out a series of policies and measures to bolster the industry development:

Funding is provided for R & D projects in leading state-owned enterprises and joint research programs between research institutes and state-owned enterprises are encouraged. For example, the National High Technology Research and Development Program (863 Program) was launched with the aim of enhancing China's international competitiveness and improving China's overall capability of R&D in high technology. The Program covers 20 subject topics selected from eight

priority areas: Biotechnology, Information, Automation, Energy, Advanced Materials, and Marine, Space and Laser. The 863 Program has so far funded 11 projects on NC technology research and development. One of the projects was development of a new type of gantry-type five-axis mixed linkage of machine tool, jointly developed by Qiqihar No. 2 Machine Tool Co., Ltd. and Tsinghua University.

Restructuring of state-owned companies is encouraged to form a few large regional machine tool companies that have the scale to compete effectively. In recent years, the government has encouraged leading companies to merge with foreign companies.

Tax concessions are provided for companies that have purchased machines from domestic companies (up to 40% of the cost may be deducted from their taxable income).

Preferential treatment is given for domestic machine tool companies in government-sponsored projects. Chinese policy-makers aim to help domestic companies become more competitive.

In order to stimulate domestic demand, support industrial restructuring and drive industrial upgrading, since the later half of Y1999 the Chinese central government has worked out an important policy of supporting the technological renovation of state-owned enterprises by selling state treasury bonds.

Since last year, a subsidy of about Euro 1 billion has been poured into nearly 3,000 technology renovation projects each year. This has greatly improved the overall equipment level of the key enterprises in key industries, and in the mean time greatly accelerates the renewal and upgrading of machine tools. On the other hand, such subsidy policy is also applicable to machine tool companies.

China's accession to the WTO has further opened the market to foreign competition as the restriction on foreign ownership is eliminated, and the machine tool industry has been defined by the Chinese authority as "encouraged" for foreign investment. As a result of the ongoing reform, private players are also allowed to play a more important role in the industry.

After Chinese Premier Mr. Wen Jiabao reiterated in early Y2005 that the Chinese government lays its priority on supporting the development of the machine tool industry, the State Council, China's highest governing body, issued on September 28, Y2005 the so-called "Opinions by the State Council on Accelerating the Development of the Equipment Machinery Industry". The document states that "Developing heavy-duty (large-sized), high-precision and high-speed NC

equipment, NC system and functional accessories is an important invigoration target of the state”, marking an unprecedented development opportunity for the machine tool industry.

Chinese authorities strongly promote the development of NC machine tools of popular types, such as machining center, NC milling machine, NC lathe, as well as NC systems and machine tool accessories. As stated in the 11th Five-year Plan for the development of the machinery industry, Chinese authorities endeavor to increase the market share of NC machine tools to 50% and 65% in terms of the output value and output quantity respectively in Y2010. This means that NC machine tools production is expected to grow at an annual growth rate of 30% to reach a total output value of some Euro 6.4 billion in Y2010.

Industrial experts predict that the machine tool market is expected to see an annual growth of 20% in the coming 3-5 years; even in the longer term (5-8 years to come), the average growth rate will not be below 15%. In particular, NC machine tool will continue to keep a 30-50% increase in the medium term.

### **Investment in Machine Tool Industry**

China has become the world’s largest market for machine tools since Y2002, and the domestic market demand for machine tools is growing 15% annually. Lured by the positive development momentum and sizable profits, leading local machine tool manufactures are expanding, especially towards NC machine tool production.

Foreign capital and local private capital have been quickly packed into the machine tool industry in China. As a result, the non-state-owned stake in the industry rose to over 71.3% in Y2007.

### **Foreign Investment**

In recent years, most global machine tool manufacturers have accelerated the pace of their movement into the Chinese market. Noticeably, half of the Taiwanese machine tool industry has set up JV, WOFE, branch or representative offices, and sales departments in mainland China. These companies are highly concentrated in Xiaoshan City of Zhejiang Province, and other economically developed areas like Kunshan City of Jiangsu Province, Shanghai, as well as Dongguan and Shenzhen of Guangdong Province.

Currently, almost all international leading suppliers of machine tools have established their market presence in China. Among the top 40 international players in the field, 15 companies have established WOFE subsidiary companies in China,

and 15 companies have formed joint ventures with Chinese local partners. Moving production activities to China has become increasingly common among these international leading producers of machine tools. Although most of these foreign-invested companies are engaged in producing machine tools with less advanced technology, the situation will change in the near future as domestic suppliers quickly improve their manufacturing capacity through technology transfers and joint ventures.

### Domestic Investment

Chinese policy-makers aim to help domestic machine tool manufacturers become more competitive by continuing to provide funding for research and development projects in state-owned enterprises through the State Machine Industry Federation, formerly known as the State Machinery Bureau. Although not clearly written on paper, domestic machine tool companies are usually given preferential treatment in government-sponsored projects. The government has driven the merging of state-owned companies to form a few large regional machine tool companies that have the scale to compete effectively.

### Import-Export Analysis

China's total import value of machine tool from Italy in 2010 reached USD 12391.66 million, which increase with a percentage of 64.27% comparing with 2009.

Among the key countries that export machine tools to China – Italy ranks No.5 in 2010 compare to 2009.

The situation is as shown in the below tables.

**Table: China Import of Machine Tool by countries 2008-2010**

(Millions of US Dollars)

Rank	Country	January - December			% Share			%Change
		2008	2009	2010	2008	2009	2010	- 10/09 -
0	-- World --	9841.48	7543.46	12391.66	100	100	100	64.27
1	Japan	3154.49	1961.38	4336.50	32.05	26	35	121.09
2	Germany	1982.43	1984.45	2611.62	20.14	26.31	21.08	31.6
3	Taiwan	1647.03	964.77	2042.01	16.74	12.79	16.48	111.66
4	Korea, South	691.65	610.80	910.79	7.03	8.1	7.35	49.11
<b>5</b>	<b>Italy</b>	<b>536.02</b>	<b>533.86</b>	<b>613.14</b>	<b>5.45</b>	<b>7.08</b>	<b>4.95</b>	<b>14.85</b>
6	United States	478.27	321.70	480.35	4.86	4.27	3.88	49.32
7	Switzerland	476.32	416.60	455.12	4.84	5.52	3.67	9.25

8	Austria	76.41	138.92	113.01	0.78	1.84	0.91	-18.65
9	Singapore	98.03	34.49	107.20	1	0.46	0.87	210.79
10	France	102.68	108.07	102.94	1.04	1.43	0.83	-4.75

Source of data: China Customs

Italy ranks 5<sup>th</sup> as the supplier countries in China import of machine tool industry. It achieved 613.14 million with 14.85% market share.

**Table: China Import of Machine Tool by countries 2009-2011**

(Million U.S. dollars)

Rank	Country	January - September			% Share			%Change
		2009	2010	2011	2009	2010	2011	- 11/10 -
0	-- World --	5699.57	8683.02	12665.86	100	100	100	45.87
1	Japan	1452.09	2913.23	4703.36	25.48	33.55	37.13	61.45
2	Germany	1517.76	1765.14	2582.65	26.63	20.33	20.39	46.31
3	Taiwan	687.21	1510.92	1900.96	12.06	17.4	15.01	25.81
4	Korea, South	460.57	676.38	743.07	8.08	7.79	5.87	9.86
5	Switzerland	313.42	305.91	668.32	5.5	3.52	5.28	118.47
<b>6</b>	<b>Italy</b>	<b>415.76</b>	<b>480.39</b>	<b>567.53</b>	<b>7.3</b>	<b>5.53</b>	<b>4.48</b>	<b>18.14</b>
7	United States	245.31	359.42	470.52	4.3	4.14	3.72	30.91
8	Austria	100.43	85.17	230.60	1.76	0.98	1.82	170.76
9	Singapore	22.53	67.46	143.26	0.4	0.78	1.13	112.38
10	Spain	80.16	66.20	88.44	1.41	0.76	0.7	33.59

Source of data: China Customs

In the first three quarter of 2011, Italy ranks 6<sup>th</sup> as the supplier countries in China import of machine tool industry. It achieved 567.53 million with 4.48% market share and an increase of 18.14% compare to the same period of last year.

**Table: Total Import Value of China by product from Italy – Machine Tool sector 2008 - 2010**

(Million U.S. dollars)

HS	Description	January - December			% Share			% Change
		2008	2009	2010	2008	2009	2010	- 10/09 -
	Italy	536.02	533.86	613.14	5.45	7.08	4.95	14.85
<b>8457</b>	<b>Machining Centres, Unit Const Mach And</b>	<b>75.26</b>	<b>110.70</b>	<b>116.85</b>	<b>14.04</b>	<b>20.74</b>	<b>19.06</b>	<b>5.56</b>

	<i>Multistatio</i>							
8462	Machine-Tools For Wrkg Met By Forging/ Hammering;	82.75	73.88	96.61	15.44	13.84	15.76	30.78
8459	Machine-Tools For Drill/Boring/Milling, Threading	41.10	82.12	88.08	7.67	15.38	14.37	7.25
8460	Machine-Tools For Deburring/Grindg, Etc For Fin Me	119.49	106.75	64.12	22.29	20	10.46	-39.94
8458	Lathes (Including Turning Centres) For Removing Me	25.02	15.56	48.34	4.67	2.92	7.88	210.67
8463	Machine-Tools For Wrkg Metal, Nes W/O Removing Mat	42.10	29.31	47.70	7.86	5.49	7.78	62.77
8466	Parts & Access Suitable For Use Solely/ Princ With	53.79	48.59	46.43	10.04	9.1	7.57	-4.45
8464	Machine-Tools For Wrkg Stone/Ceramics Or Like Min	31.76	19.42	35.98	5.93	3.64	5.87	85.27
8465	Machine-Tools For Wrkg Wood/Cork/Bone/ Hard Rbr &	25.82	23.98	35.84	4.82	4.49	5.85	49.48
8461	Machine-Tools For Planing/Shaping, Etc Sawing & Ot	24.78	9.66	17.35	4.62	1.81	2.83	79.51
8456	Mach-Tools For Removal Of Material By Laser, Photo	14.15	13.90	15.84	2.64	2.6	2.58	13.98

Source of data: China Customs

In China import of machine tool industry from Italy, HS code "8457 - Machining Centres, Unit Const Mach and Multistatio" has achieved 116.85 million of USD with the biggest market share 19.06% and an increase of 5.56% compare to 2009.

**Table: Total Import Value of China by product from Italy – Machine Tool sector  
2009 - 2011**

(Million U.S. dollars)

HS	Description	January - September			% Share			% Change
		2009	2010	2011	2009	2010	2011	- 11/10 -
	Italy	415.76	480.39	567.53	7.3	5.53	4.48	18.14
<b>8462</b>	<b><i>Machine-Tools For Wrkg Met By Forging/ Hammering;</i></b>	<b><i>64.59</i></b>	<b><i>75.90</i></b>	<b><i>86.86</i></b>	<b><i>15.53</i></b>	<b><i>15.8</i></b>	<b><i>15.31</i></b>	14.45
8457	Machining Centres, Unit Const Mach And Multistatio	98.30	92.84	83.34	23.64	19.33	14.69	-10.23
8459	Machine-Tools For Drill/Boring/Milling, Threading	46.85	77.16	80.74	11.27	16.06	14.23	4.64
8460	Machine-Tools For Deburring/Grindg, Etc For Fin Me	85.41	47.79	76.14	20.54	9.95	13.42	59.33
8466	Parts & Access Suitable For Use Solely/ Princ With	34.31	31.00	49.94	8.25	6.45	8.8	61.07
8464	Machine-Tools For Wrkg Stone/Ceramics Or Like Min	14.66	21.45	46.52	3.53	4.47	8.2	116.92
8458	Lathes (Including Turning Centres) For Removing Me	13.31	38.76	37.76	3.2	8.07	6.65	-2.57
8465	Machine-Tools For Wrkg Wood/Cork/Bone/ Hard Rbr &	17.22	24.45	36.69	4.14	5.09	6.46	50.05
8461	Machine-Tools For Planing/Shaping, Etc Sawing & Ot	9.25	16.69	32.77	2.23	3.47	5.77	96.33
8463	Machine-Tools For Wrkg Metal, Nes W/O Removing Mat	20.20	41.71	19.95	4.86	8.68	3.52	-52.17

8456	Mach-Tools For Removal Of Material By Laser, Photo	11.66	12.65	16.82	2.81	2.63	2.96	33
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Source of data: China Customs

In China import of machine tool industry from Italy, the first 3 quarters, HS code "8462 - Machine-Tools For Wrkg Met By Forging/ Hammering;" has achieved 86.86 million of USD with the biggest market share 15.31% and an increase of 14.45% compare to the same period of 2010.

**Table: China Export of Machine Tool by countries 2008 - 2010**

(Millions of US Dollars)

Rank	Country	January - December			% Share			%Change
		2008	2009	2010	2008	2009	2010	- 10/09 -
0	-- World --	4212.26	2708.91	3597.79	100	100	100	32.81
1	United States	537.21	406.90	445.92	12.75	15.02	12.39	9.59
2	Japan	383.81	157.98	284.36	9.11	5.83	7.9	80
3	Germany	294.08	208.66	249.50	6.98	7.7	6.94	19.57
4	India	197.44	136.56	212.54	4.69	5.04	5.91	55.64
5	Brazil	140.71	71.17	135.39	3.34	2.63	3.76	90.23
6	Russia	164.41	78.44	116.03	3.9	2.9	3.23	47.92
7	Vietnam	92.85	92.17	111.98	2.2	3.4	3.11	21.49
8	Korea, South	161.68	116.82	106.47	3.84	4.31	2.96	-8.86
9	Taiwan	111.33	47.10	94.46	2.64	1.74	2.63	100.55
<b>11</b>	<b>Italy</b>	<b>147.44</b>	<b>74.01</b>	<b>87.88</b>	<b>3.5</b>	<b>2.73</b>	<b>2.44</b>	<b>18.73</b>

Source of data: China Customs

Italy ranks 16<sup>h</sup> as the demand countries in China export of machine tool industry. It achieved 87.88 million with 2.44% market share and a 18.73% increase compare to 2009. The United States is still the biggest demand country in machine tool industry.

China export of machine tool industry from the world has a 32.81% increase compare to 2009.

**Table: Total Export Value of China by product from Italy – Machine Tool sector  
2008 - 2010**

(Million U.S. dollars)

HS	Description	January - December			% Share			%Change
		2008	2009	2010	2008	2009	2010	- 10/09 -
	Italy	147.44	74.01	87.88	3.5	2.73	2.44	18.73
Group	Die and Mould Industry	147.44	74.01	87.88	100	100	100	18.73
8466	Parts & Access Suitable For Use Solely/ Princ With	70.76	30.11	28.41	47.99	40.68	32.33	-5.63
8465	Machine-Tools For Wrkg Wood/Cork/Bone/ Hard Rbr &	21.82	12.99	17.62	14.8	17.55	20.05	35.64
8458	Lathes (Including Turning Centres) For Removing Me	10.25	5.55	11.98	6.95	7.5	13.63	115.71
8462	Machine-Tools For Wrkg Met By Forging/ Hammering;	9.65	5.64	8.35	6.54	7.62	9.5	48.1
8464	Machine-Tools For Wrkg Stone/Ceramics Or Like Min	6.96	3.21	4.66	4.72	4.34	5.3	44.94
8461	Machine-Tools For Planing/Shaping, Etc Sawing & Ot	4.05	3.77	3.93	2.75	5.1	4.48	4.18
8459	Machine-Tools For Drill/Boring/Milling, Threading	8.31	3.54	3.90	5.64	4.78	4.44	10.23
8463	Machine-Tools For Wrkg Metal, Nes W/O Removing Mat	4.19	2.98	3.41	2.84	4.03	3.88	14.19
8456	Mach-Tools For Removal Of Material By Laser, Photo	3.01	1.74	2.64	2.04	2.35	3.01	52.26

8460	Machine-Tools For Deburring / Grind, Etc For Fin Me	3.29	2.69	2.61	2.23	3.63	2.97	-2.89
8457	Machining Centres, Unit Const Mach And Multistate	5.17	1.79	0.37	3.51	2.42	0.42	-79.4

Source of data: China Customs

In China export of machine tool industry from Italy, HS code "8466 - Parts & Access Suitable for Use" has the market share 32.33% and a -5.63% decrease compare to 2009

## Appendix

### 1. List of Key Chinese Trade Associations

Shanghai Non-Ferrous Metals Industry Association

Mr. Le Shen Tong

Tel: 86-21-6205-6287

Fax: 86-21-6205-6287

Email: tong@smm.com.cn

Shanghai Automotive Trade Association

Mr. Hu Ling Zhang

Tel: 86-21-2201-1507

Fax: 86-21-2201-1777

Email: hulinz@saic.com.cn

China Association of Automobile Manufacturers

Mr. Yan Chen

Tel: 86-21-5426-2002

Fax: 86-21-6485-2542

Email: globalex@online.sh.cn

Automotive Parts Circulating Trade Association

Ms. Mei Xia Zhang

Tel: 86-21-5919-3807

Fax: 86-21-6919-1685

Email: qpltxh@163.com

Shanghai Foreign Investment Enterprise Association

Mr. Zhao You Zhan  
Tel: 86-21-6275-1309  
Fax: 86-21-6275-1423  
Add: Suite 615, No.55 Lushanguan Road, Shanghai 200336

Shanghai SME International Cooperation Association  
Mr. Xu Wei - Secretary of General  
Tel: 86-21-6336-6547  
Fax: 86-21-6320-3807  
Add: Suite 324, No.22 Zhong Shan Road (E.2), Shanghai 200002

Shanghai Die and Molds Industry Association  
Mr. Gao Hou Shen  
Tel: 86-21-3301-1579  
Fax: 86-21-6325-7006  
Email: sdmia@eastday.com  
Add: 3/F, No. 35 Tianmu road east, Shanghai 200071

The Plastic Trade Association of Shanghai  
Mr. Yang Han Jun  
Tel: 86-21-6298-5029  
Fax: 86-21-6298-5029  
Add: Suite 409, No. 84 An Yuan Road, Shanghai 200060

Shanghai Electronic Components Trade Association  
Mr. Li Xue Zhao  
Tel: 86-21-6252-3309 ext. 245  
Fax: 86-216251-7323  
Add: No. 68 Zhao Hua Road, Shanghai 200050

China Foundry Association  
Mr. Zheng Ling - Foundry 2004 show Manager  
Tel: 86-10-8851-1712, 8851-4539  
Fax: 86-10-8851-4540  
Email: cfa@foundry.com.com  
Add: No.5 Xi-san-huan Bei Lu, Beijing 100089, P.R.China.

Casting Association of Shanghai  
Mr. Zhang Fang Tao - Secretary of General  
Tel: 86-21-5662-3698

Fax: 86-21-5698-8408

Add: 960 Zhong Xin Road, Shanghai

Shanghai Steel Tube Trade Association

Mr. Jian Chu Shen

Tel: 86-21-6467-0065

Add: Rm. 3046 No. 679 Xujiahui Road Shanghai 200023

Shanghai Electronic Machinery Industry Association

Mr. Xu Chen Sheng

Tel: 86-21-6546-2374

Fax: 86-21-6545-8339

Add: No.178 Wu Huang Road, Shanghai 200086

China National Hardware Association

Mr. Zhang Dongli

Tel: 86-10-6426-9040

Fax: 86-10-6426-0466, 6426-0160

Email: zdl@chinahardware.org

Add: No.6 Dixing Ju An Wai, Dong Cheng District, Beijing 100011

China General Machine Components Industry Association

Mr. Du Guosen

Tel: 86-10-6859-4863

Fax: 86-10-6857-2092

Email: dgs@chinamachineparts.com

Add: Rm 1011, No.46 San Li He Road Xicheng District Beijing 100823

## 2. Import tariffs for machine tool by HS code

HS Code	Tariff (%)	VAT Rate (%)	Export Rebate Rate (%)
8456	0	17	17
8456.2000	10	17	17
8456.3010	9.7	17	17
8456.3090	10	17	17
8457	9.7	17	17
8457.2000	8	17	17
8457.3000	5	17	17
8458	12	17	17
8458.1100	9.7	17	17
8458.9100	5	17	17
8459	9.7	17	17

8459.1000	15	17	17
8459.2900	15	17	17
8459.3900	10	17	17
8459.4090	15	17	17
8459.5900	15	17	17
8459.61	5	17	17
8459.69	12	17	17
8459.70	12	17	17
8460	9.7	17	17
8460.1900	15	17	17
8460.2910	15	17	17
8460.2920	15	17	17
8460.2930	13	17	17
8460.2990	13	17	17
8460.3900	15	17	17
8460.40	13	17	17
8460.90	15	17	17
8461	15	17	17
8461.3000	12	17	17
8461.4010	9.7	17	17
8461.5000	12	17	17
8461.9090	12	17	17
8462	10	17	17
8462.1010	9.7	17	17
8462.1090	12	17	17
8462.21	9.7	17	17
8462.31	7	17	17
8462.41	9.7	17	17
8463	10	17	17
8463.2000	15	17	17
8464	0	17	17
8465	10	17	17
8466	7	17	17
8466.9100	0	17	17
8466.9200	6	17	17
8466.9300	0	17	17
8466.94	6	17	17

Source of data: China Customs