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## Industry Overview

In 2009, although there is a sharp decline of the market scale, the world's leading producers of machine tools have a big decline in the world economic crisis, the output value of China's machine tools ranks from 3<sup>rd</sup> to 1<sup>st</sup> in the world.

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.

## Manufacturers and Geographical Distribution

China's market import by district (top 20 cities)

(Million U.S. dollars)

Rank	District	January-December		% Share		%Change
		2008	2009	2008	2009	09/08
0	-All Districts-	9841.48	7543.46	100	100	-23.35
1	Shanghai	2936.51	2018.26	29.84	26.76	-31.27
2	Nanjing	1113.00	1003.46	11.31	13.3	-9.84
3	Dalian	627.44	727.23	6.38	9.64	15.9
4	Tianjin	919.53	688.01	9.34	9.12	-25.18
5	Qingdao	677.51	555.63	6.88	7.37	-17.99
6	Shenzhen	772.75	377.45	7.85	5	-51.15
7	Huangpu	419.06	233.91	4.26	3.1	-44.18
8	Beijing	224.60	224.16	2.28	2.97	-0.2
9	Guangzhou	317.12	177.46	3.22	2.35	-44.04
10	Nanchang	156.90	155.79	1.59	2.07	-0.71
11	Wuhan	231.95	137.86	2.36	1.83	-40.56
12	Ningbo	256.91	125.48	2.61	1.66	-51.16
13	Chengdu	82.57	124.73	0.84	1.65	51.06
14	Xi'an	43.71	114.29	0.44	1.52	161.49
15	Hangzhou	53.30	109.03	0.54	1.45	104.56
16	Xiamen	135.27	97.24	1.38	1.29	-28.12
17	Hefei	143.11	81.81	1.45	1.09	-42.83
18	Gongbei	146.39	79.37	1.49	1.05	-45.78
19	Chongqing	127.85	72.16	1.3	0.96	-43.56
20	Shijiazhuang	112.97	58.01	1.15	0.77	-48.65
21	Fuzhou	68.44	57.82	0.7	0.77	-15.53

Source: China Customs

The above table indicate that the demand of our die and mould industry has been further enhanced. Therein Shanghai Municipality and Jiangsu Province ranked first and second among all the provinces in China that import dies and moulds.

The ranking shows adequately that the die and mould-manufacturing level in the Yangtze River Delta continues to take the lead in the industry. The north of China, Tianjing Municipality and Liaoning Province begin to have more and more demand of import the die and mould products.

All the above shows China's die and mould- manufacturing level has advanced greatly in the last two years and has approached or reached international levels.

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 sophisticated 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 will 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 hobbing 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, 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 Qiqihaer 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 2009 reached USD 533.86 million, which decrease slightly with a percentage of 0.4% comparing with 2008.

Among the key countries that export machine tools to China – Italy ranks No.8 in 2009 which drop off 3 grades compare to 2007.

The situation is as shown in the below tables.

### China Import of Machine Tool by countries

(Millions of US Dollars)

Rank	Country	January - December			% Share			%Change
		2007	2008	2009	2007	2008	2009	09/08
0	--World--	9446.57	9841.48	7543.46	100	100	100	-23.35
1	Germany	1569.98	1982.43	1984.45	16.62	20.14	26.31	0.1
2	Japan	3148.39	3154.49	1961.38	33.33	32.05	26	-37.82
3	Taiwan	1886.72	1647.03	964.77	19.97	16.74	12.79	-41.42
4	Korea, South	707.74	691.65	610.80	7.49	7.03	8.1	-11.69
<b>5</b>	<b>Italy</b>	<b>470.84</b>	<b>536.02</b>	<b>533.86</b>	<b>4.98</b>	<b>5.45</b>	<b>7.08</b>	<b>-0.4</b>
6	Switzerland	488.69	476.32	416.60	5.17	4.84	5.52	-12.54
7	United States	364.06	478.27	321.70	3.85	4.86	4.27	-32.74
8	Austria	64.82	76.41	138.92	0.69	0.78	1.84	81.82
9	France	64.60	102.68	108.07	0.68	1.04	1.43	5.25
10	Spain	68.41	92.21	91.73	0.72	0.94	1.22	-0.53

Source of data: China Customs

Italy ranks 5<sup>th</sup> as the supplier countries in China import of machine tool industry. It achieved 533.86 million with 7.08% market share.

China import of machine tool industry from the world has a 23.35% decrease compare to 2008. But Germany still have a slightly increase 0.1% compare to 2008.

Total Import Value of China by product from the world – Machine Tool sector  
(Million U.S. dollars)

HS	Description	January - December			% Share			%Change
		2007	2008	2009	2007	2008	2009	09/08
	--World--	9446.57	9841.48	7543.46	100	100	100	-23.35
8457	Machining Centers, Unit Const Mach Etc Work Metal	1823.70	2207.18	1775.69	19.31	22.43	23.54	-19.55
8462	Machine Tools For Forging, Bending, Stamping Etc	1645.30	1696.39	1177.93	17.42	17.24	15.62	-30.56
8466	Parts Etc For Machine Tools Of Head 8456 To 8465	1079.15	1157.76	985.96	11.42	11.76	13.07	-14.84
8460	Machine Tools For Honing Or Finishing Metal Etc	919.63	985.74	765.76	9.74	10.02	10.15	-22.32
<b>8461</b>	<b>Machine Tools For Shaping, Slotting, Gear Cut Etc</b>	<b>309.32</b>	<b>457.08</b>	<b>571.46</b>	<b>3.27</b>	<b>4.64</b>	<b>7.58</b>	<b>25.02</b>
8458	Lathes For Removing Metal, Incl Turning Centers	718.24	687.61	514.29	7.6	6.99	6.82	-25.21
8459	Machine Tools For Drilling, Boring, Milling Etc	732.92	602.84	485.53	7.76	6.13	6.44	-19.46
8456	Machine Tools For Material Removal By Laser Etc	743.09	736.62	454.28	7.87	7.49	6.02	-38.33
<b>8465</b>	<b>Machine Tools For Working Wood, Cork, Bone Etc</b>	<b>800.69</b>	<b>613.80</b>	<b>333.51</b>	<b>8.48</b>	<b>6.24</b>	<b>4.42</b>	<b>-45.66</b>
8464	Machine Tools For Working Stone, Etc & Glass	483.63	471.86	316.97	5.12	4.8	4.2	-32.83
8463	Machine Tools For Working Metal, Nesoi	190.90	224.61	162.07	2.02	2.28	2.15	-27.84

Source of data: China Customs

In China import of machine tool industry, HS code “8461 - Machine Tools For Shaping, Slotting, Gear Cut Etc” is the only one product has the increase in 2009, with 7.58% market share and a 25.02% increase compare to 2008.

HS code “8465 - Machine Tools For Working Wood, Cork, Bone Etc” have the biggest decrease among all the products in 2009, with 4.42% market share and a 45.66% decrease compare to 2008.

Total Import Value of China by product from Italy – Machine Tool sector  
(Million U.S. dollars)

HS	Description	January - December			% Share			%Change
		2007	2008	2009	2007	2008	2009	09/08
	Italy	470.84	536.02	533.86	4.98	5.45	7.08	-0.4
8457	Machining Centers, Unit Const Mach Etc Work Metal	49.38	75.26	110.70	10.49	14.04	20.74	47.08
8460	Machine Tools For Honing Or Finishing Metal Etc	100.09	119.49	106.75	21.26	22.29	20	-10.67
<b>8459</b>	<b>Machine Tools For Drilling, Boring, Milling Etc</b>	<b>47.79</b>	<b>41.10</b>	<b>82.12</b>	<b>10.15</b>	<b>7.67</b>	<b>15.38</b>	<b>99.83</b>
8462	Machine Tools For Forging, Bending, Stamping Etc	70.75	82.75	73.88	15.03	15.44	13.84	-10.73
8466	Parts Etc For Machine Tools Of Head 8456 To 8465	37.95	53.79	48.59	8.06	10.04	9.1	-9.68
8463	Machine Tools For Working Metal, Nesoi	28.35	42.10	29.31	6.02	7.86	5.49	-30.39
8465	Machine Tools For Working Wood, Cork, Bone Etc	44.02	25.82	23.98	9.35	4.82	4.49	-7.14
8464	Machine Tools For Working Stone, Etc & Glass	29.96	31.76	19.42	6.36	5.93	3.64	-38.85
8458	Lathes For Removing Metal, Incl Turning Centers	33.72	25.02	15.56	7.16	4.67	2.92	-37.8
8456	Machine Tools For	17.80	14.15	13.90	3.78	2.64	2.6	-1.74

	Material Removal By Laser Etc							
<b>8461</b>	<b>Machine Tools For Shaping, Slotting, Gear Cut Etc</b>	<b>11.04</b>	<b>24.78</b>	<b>9.66</b>	<b>2.34</b>	<b>4.62</b>	<b>1.81</b>	<b>-60.99</b>

Source of data: China Customs

In China import of machine tool industry from Italy, HS code "8459 - Machine Tools For Drilling, Boring, Milling Etc" has the biggest increase among all the products in 2009, with 15.38% market share and a 99.83% increase compare to 2008.

HS code "8461 - Machine Tools For Shaping, Slotting, Gear Cut Etc" has the biggest decrease among all the products in 2009, with 1.81% market share and a 60.99% decrease compare to 2008.

### China Export of Machine Tool by countries

(Millions of US Dollars)

Rank	Country	January - December			% Share			%Change
		2007	2008	2009	2007	2008	2009	09/08
0	--World--	3220.13	4212.26	2708.91	100	100	100	-35.69
1	United States	531.46	537.21	406.90	16.5	12.75	15.02	-24.26
2	Germany	231.95	294.08	208.66	7.2	6.98	7.7	-29.05
3	Japan	325.07	383.81	157.98	10.1	9.11	5.83	-58.84
4	India	105.70	197.44	136.56	3.28	4.69	5.04	-30.84
5	Korea, South	104.38	161.68	116.82	3.24	3.84	4.31	-27.74
6	Vietnam	63.96	92.85	92.17	1.99	2.2	3.4	-0.74
7	Russia	100.93	164.41	78.44	3.13	3.9	2.9	-52.29
<b>8</b>	<b>Italy</b>	<b>104.92</b>	<b>147.44</b>	<b>74.01</b>	<b>3.26</b>	<b>3.5</b>	<b>2.73</b>	<b>-49.8</b>
9	Brazil	73.04	140.71	71.17	2.27	3.34	2.63	-49.42
10	Australia	72.06	86.14	68.40	2.24	2.05	2.53	-20.59

Source of data: China Customs

Italy ranks 8<sup>th</sup> as the demand countries in China export of machine tool industry. It achieved 74.01 million with 2.73% market share and a 49.8% decrease compare to 2008. The United States is the biggest demand country in machine tool industry.

China export of machine tool industry from the world has a 35.69% decrease compare to 2008.

Total Export Value of China by product from the world – Machine Tool sector  
(Million U.S. dollars)

HS	Description	January - December			% Share			%Change
		2007	2008	2009	2007	2008	2009	09/08
	--World--	3220.13	4212.26	2708.91	100	100	100	-35.69
8466	Parts Etc For Machine Tools Of Head 8456 To 8465	739.52	1120.12	606.17	22.97	26.59	22.38	-45.88
8465	Machine Tools For Working Wood, Cork, Bone Etc	585.97	681.42	494.76	18.2	16.18	18.26	-27.39
8462	Machine Tools For Forging, Bending, Stamping Etc	368.37	555.48	364.69	11.44	13.19	13.46	-34.35
8458	Lathes For Removing Metal, Incl Turning Centers	345.58	454.09	261.92	10.73	10.78	9.67	-42.32
8464	Machine Tools For Working Stone, Etc & Glass	243.12	303.05	196.90	7.55	7.2	7.27	-35.03
8459	Machine Tools For Drilling, Boring, Milling Etc	241.21	285.34	175.47	7.49	6.77	6.48	-38.51
<b>8461</b>	<b>Machine Tools For Shaping, Slotting, Gear Cut Etc</b>	<b>190.35</b>	<b>123.48</b>	<b>164.53</b>	<b>5.91</b>	<b>2.93</b>	<b>6.07</b>	<b>33.24</b>
<b>8456</b>	<b>Machine Tools For Material Removal By Laser Etc</b>	<b>242.36</b>	<b>305.29</b>	<b>150.52</b>	<b>7.53</b>	<b>7.25</b>	<b>5.56</b>	<b>-50.7</b>
8460	Machine Tools For Honing Or Finishing Metal Etc	141.03	179.65	137.83	4.38	4.27	5.09	-23.28
8463	Machine Tools For Working Metal, Nesoi	63.06	95.03	91.69	1.96	2.26	3.39	-3.51
8457	Machining Centers, Unit Const Mach Etc Work Metal	59.57	109.29	64.43	1.85	2.6	2.38	-41.05

Source of data: China Customs

In China export of machine tool industry, HS code "8461 - Machine Tools For

Shaping, Slotting, Gear Cut Etc” is the only one product has the increase in 2009, with 6.07% market share and a 33.24% increase compare to 2008.

HS code “8465 - Machine Tools For Working Wood, Cork, Bone Etc” have the biggest decrease among all the products in 2009, with 5.56% market share and a 50.7% decrease compare to 2008.

Total Export Value of China by product from Italy – Machine Tool sector  
(Million U.S. dollars)

HS	Description	January - December			% Share			%Change
		2007	2008	2009	2007	2008	2009	09/08
	Italy	104.916	147.442	74.010	3.26	3.5	2.73	-49.8
8466	Parts Etc For Machine Tools Of Head 8456 To 8465	42.419	70.757	30.106	40.43	47.99	40.68	-57.45
8465	Machine Tools For Working Wood, Cork, Bone Etc	18.251	21.820	12.987	17.4	14.8	17.55	-40.48
8462	Machine Tools For Forging, Bending, Stamping Etc	7.093	9.649	5.639	6.76	6.54	7.62	-41.56
8458	Lathes For Removing Metal, Incl Turning Centers	7.390	10.246	5.554	7.04	6.95	7.5	-45.79
<b>8461</b>	<b>Machine Tools For Shaping, Slotting, Gear Cut Etc</b>	<b>5.365</b>	<b>4.052</b>	<b>3.774</b>	<b>5.11</b>	<b>2.75</b>	<b>5.1</b>	<b>-6.84</b>
8459	Machine Tools For Drilling, Boring, Milling Etc	7.028	8.311	3.538	6.7	5.64	4.78	-57.43
8464	Machine Tools For Working Stone, Etc & Glass	8.016	6.956	3.214	7.64	4.72	4.34	-53.8
8463	Machine Tools For Working Metal, Nesoi	0.712	4.192	2.982	0.68	2.84	4.03	-28.85
8460	Machine Tools For Honing Or Finishing Metal Etc	2.975	3.287	2.686	2.84	2.23	3.63	-18.27
<b>8457</b>	<b>Machining Centers, Unit Const Mach Etc Work Metal</b>	<b>3.053</b>	<b>5.168</b>	<b>1.794</b>	<b>2.91</b>	<b>3.51</b>	<b>2.42</b>	<b>-65.28</b>

8456	Machine Tools For Material Removal By Laser Etc	2.614	3.005	1.736	2.49	2.04	2.35	-42.23
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Source of data: China Customs

In China export of machine tool industry from Italy, HS code "8461 - Machine Tools For Shaping, Slotting, Gear Cut Etc" has the most slightly decrease among all the products in 2009, with 5.1% market share and a 6.84% decrease compare to 2008.

HS code "8457 - Machining Centers, Unit Const Mach Etc Work Metal" has the biggest decrease among all the products in 2009, with 2.42% market share and a 65.28% decrease compare to 2008.

## 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