

**CHINESE CONSTRUCTION EQUIPMENT MARKETS:**  
**A REVIEW OF 2009 AND A FORECAST TO 2014**

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**Table 1. China: Sales of Construction Equipment, by Type, 2005-2009**

(Units)

	2005	2006	2007	2008	2009	% Change 2008-2009
Articulated Dump Trucks	20	68	91	59	53	-10
Asphalt Finishers	966	1,081	1,027	961	1,520	+58
Backhoe Loaders	352	295	590	630	400	-37
Compaction Equipment	8,083	8,488	7,509	6,740	13,360	+98
Crawler Dozers	4,580	4,968	5,245	5,239	6,900	+32
Crawler Excavators	23,180	33,685	49,167	58,666	80,388	+37
Crawler Loaders	10	10	10	20	20	-
Mini Excavators	7,500	11,939	16,850	19,030	22,250	+17
Mobile Cranes	10,951	14,090	18,254	19,163	26,998	+41
Motor Graders	1,222	1,381	1,398	1,464	1,967	+34
Motor Scrapers	3	2	2	-	-	-
Rigid Dump Trucks	476	505	713	749	811	+8
Skid-Steer Loaders	225	206	230	257	375	+46
Telescopic Handlers	16	20	50	100	250	+150
Wheeled Excavators	600	547	806	798	1,120	+40
Wheeled Loaders	109,100	125,300	149,730	149,100	137,870	-8
<b>Total Construction Equipment</b>	<b>167,284</b>	<b>202,585</b>	<b>251,672</b>	<b>262,976</b>	<b>294,282</b>	<b>+12</b>
<b>% Annual Change</b>	<b>-</b>	<b>+21</b>	<b>+24</b>	<b>+4</b>	<b>+12</b>	

Source: Off-Highway Research

**Table 2. China: Forecast Sales of Construction Equipment, by Type, 2010-2014**

(Units)

	2010	2011	2012	2013	2014	% Change 2010-2014
Articulated Dump Trucks	50	60	60	50	50	-
Asphalt Finishers	1,350	1,350	1,215	1,000	1,000	-26
Backhoe Loaders	500	580	700	830	950	+90
Compaction Equipment	10,700	9,500	8,500	8,000	8,000	-25
Crawler Dozers	7,000	6,000	5,800	5,600	5,300	-24
Crawler Excavators	96,000	90,000	88,000	100,000	110,000	+15
Crawler Loaders	20	25	30	25	20	-
Mini Excavators	26,000	29,000	31,900	35,000	35,000	+35
Mobile Cranes	29,700	28,000	26,000	25,000	25,000	-16
Motor Graders	1,900	1,800	1,600	1,600	1,500	-21
Motor Scrapers	-	-	-	-	-	-
Rigid Dump Trucks	850	900	800	700	700	-18
Skid-Steer Loaders	400	450	500	600	700	+75
Telescopic Handlers	300	350	400	450	500	+67
Wheeled Excavators	1,350	1,250	1,200	1,400	1,500	+11
Wheeled Loaders	145,000	143,000	140,000	142,000	145,000	-
<b>Total Construction Equipment</b>	<b>321,120</b>	<b>312,265</b>	<b>306,705</b>	<b>322,255</b>	<b>335,220</b>	<b>+4</b>
<b>% Annual Change</b>	<b>+9</b>	<b>-3</b>	<b>-2</b>	<b>+5</b>	<b>+4</b>	

Source: Off-Highway Research

## SUMMARY

### The Market in 2009

In a year when the global market was badly hurt by the economic crisis, sales of construction equipment in China sustained an exceptional growth rate of 12 per cent, faster than in 2008 and the size of the market approached 300,000 units. This is now by far the largest market in the world, accounting for nearly half of global sales in volume terms, or one third in value terms.

The market clearly benefited from the government stimulus package that was launched in November 2008, which aimed to support economic growth in view of the gloomy state of export markets for Chinese manufacturers. More than 80 per cent of the stimulus budget of RMB4 trillions is directed to construction: transport and the power transmission network, post-disaster reconstruction, housing provision, and rural infrastructure development. The implementation of on-going infrastructure projects was accelerated, and a great number of new projects launched. That stimulated demand for construction equipment and sales began to show a strong growth trend from the second quarter. Moreover, given the ambitious construction plans supported by the government budget, buying confidence has greatly improved and the prospects are buoyant.

In the meantime, the abundant money supply not only supported the implementation of various projects, but also offered a preferential environment to give finance for buying equipment. The total volume of new loans injected into the economy amounted to RMB9.5 trillion in 2009. With a proactive fiscal policy and a relaxed money supply, the growth rate of GDP was held to 8.7 per cent, with investment again making a major contribution, and consequently the demand for construction equipment was pushed to the highest level in history.

Below the aggregate level, however, the market showed different scenarios in the various product sectors. Those that are indispensable to infrastructure projects like roads and railways saw the best growth, and the application of hydraulic excavators became even more popular in new projects. On the other hand, the market for wheeled loaders was affected by slower demand from coal mines and real estate development.

**The Winners:** **Crawler excavators** continued to rise, and combined with **wheeled excavators**, the share of hydraulic excavators in the total market increased to 28 per cent. **Asphalt finishers**, **compaction equipment** and **motor graders** all showed much higher volumes, motivated by intensive road investment. **Crawler dozers** enjoyed a major increase, to return to the level last seen in 2003, powered by substantially improved demand from the infrastructure sectors. **Mobile cranes** jumped

by 41 per cent, largely from a surge of work arising from high-speed railway projects. In compact equipment, **mini excavators** grew by 17 per cent to over 20,000 units, and **skid-steer loaders** saw useful growth from a very low base, with the improved contribution of the local suppliers. **Rigid dump truck** sales continued to grow moderately, as the mining industry showed more appreciation of larger capacity models.

**The Losers:** **Wheeled loaders** fell for a second year running, bringing their share of the total market down from the 2005 high point of 65 per cent to below 50. **Backhoe loaders** slumped by 37 per cent, replaced by other types of machine and suffering stagnant sales to the road sector. **Articulated dump trucks** ran out of steam some time ago and 2009 was no better, with the rigid type being preferred in most mining sites.

### **Outlook to 2014**

With the number of existing projects in progress or about to be implemented, and the promised continuity of the current fiscal and monetary policy, the total demand for construction equipment is set to continue to grow in 2010. With the contribution of the major types of earthmoving equipment, in particular hydraulic excavators, as well as the expected growth in mobile crane sales, the total market is anticipated to further move up by nine per cent.

There is, however, some concern as to where the market is headed, after the exceptionally strong growth in 2009-2010. Although the industry is confident about long-term growth, there is a fear that the market may dip after the recent high rates of growth, in view of the changeable nature of policy for macroeconomic control.

The control of the money supply, in order to cope with the inflation risk and the deficit of the public budget, is the centre of concern. From December 2009 the CPI has shown a steady increase, a sign of the economic recovery but also the beginning of a round of inflation. To implement the policy for stimulating the economy, the deficit has been increasing fast at various levels of government, which bought substantial volumes of funds to invest in the various projects. Most recently, the central government announced it would control the total volume of new loans to within a limit of RMB7.5 trillion in 2010, which implied a decrease of 20 per cent from the previous year; and it also set the goal of economic growth at eight per cent in the current year.

In fact, GDP growth is currently running at a rate that would imply a result of nine to 10 per cent by the end of the year. Given the expected return of exports and the rise of private consumption, the role of investment should be curbed, in order to avoid an overheated economy. Economists have indicated

that economic policy may turn to emphasising the control of inflation later this year, which may shadow the market trend of the next two years. In three years' time the next term of government takes over the administration and by then economic policy may become more active. Driven by the consistent trend of industrialisation and urbanisation, the market is anticipated to stay at a very high level for the long term.

While one can be optimistic about the trends for the long term, it is also noticeable that the market structure will show some interesting changes. The various types of excavator will see more popular applications, and may improve their combined role to 50 per cent of the total market. Wheeled loaders, the other large portion of the market, are expected to be quite stable. As the market matures, manufacturers will attach greater importance to manufacturing quality and customer support, and the leading companies are set to further increase their control of the total market.

## ECONOMIC BACKGROUND

**Table 3. China: Key Economic Indicators, 2005-2009**

**(% Annual Change)**

	2005	2006	2007	2008	2009
<b>Real GDP Growth</b>	10.4	11.6	13.0	9.6*	8.7
<b>Industry Value-added</b>	11.6	12.9	13.5	12.9	11.0
<b>Construction Output</b>	19.1	20.3	20.4	19.8	22.3
<b>Gross Fixed Investment</b>	26.0	23.9	24.8	25.5	30.1
<b>Exports</b>	28.4	27.2	25.7	17.2	-16.0
<b>Imports</b>	17.6	20.0	20.8	18.5	-11.2
<b>Consumer Price Index</b>	1.8	1.5	4.8	5.9	-0.7

\* Revised

Source: National Bureau of Statistics (NBS)

Despite the severe impact of the global recession on foreign trade, China maintained strong economic growth in 2009 as a result of the huge investment made by the government's financial stimulus package. With a growth rate of 8.7 per cent, GDP was close to that of Japan; continuing high growth in 2010 means the economy is set to become the second largest in the world after the United States, even though income per capita remains very low.

During the fourth quarter of 2008 the government began to implement a proactive fiscal policy, and began to ease control of the money supply. This resulted in substantial investment growth into a broad range of infrastructure and construction projects, and there was a strong surge in economic growth. Indeed, by the last quarter of 2009, the rate of GDP growth had already recovered to over

10 per cent. As a result of the RMB4 trillion investment plan for 2009-2010, and some RMB10 trillion of additional loans in 2009, investment further increased its contribution to economic growth, although the level of consumer demand remained low, and exports declined. There is, however, the risk that this investment-driven economy might cause a rise in inflation, a feature of the economy just two years ago.

So the key aim of current economic policy is to balance the need for growth against concerns about inflation. It is the commonly held belief that, in order to sustain economic growth, which is a prerequisite for reducing unemployment and improving living standards, the government should maintain its current policy. To realise its RMB4 trillion investment plan, however, the central government may have to increase its financial contribution, in an effort to limit the pressure on local governments to match these funds; for if they did, they would have to apply for bank loans.

On the other hand, excessive money supply needs to be controlled, particularly given the rapid rise in the consumer price index, which rose to 1.5 per cent in January 2010. Economists agree that China is now in an inflationary trend, although it is still too early to implement measures to counter the problem. In the first two months of 2010, the central bank doubled the deposit reserve rate, and it is expected that interest rates may be raised by the middle of the year.

It is hoped that government investment may stimulate an increase in non-government investment, although it is anticipated that the government will continue to represent the main stimulus for 2010-2011. The priority target for investment, apart from infrastructure development, will be the improvement of the rural economy and the living standards of low income people, and give them an incentive to increase their consumption. To cope with the steady move towards urbanisation, construction activity will remain a main priority of the economic plan in the future.

## **CONSTRUCTION AND MINING ACTIVITY**

Construction has traditionally played an important role in the economy, and the sector continued to boom in 2009, driven to a large extent by the stimulus package that was launched in the fourth quarter of 2008 and is set to be continued in the 2009-2010 period of the plan. The surge in investment has resulted in a very strong recovery in demand for most types of construction equipment from the second half of 2009, and as more construction projects are planned in the short term, the market is expected to enjoy further growth well into 2010. Given that the majority of the centrally controlled budget for the next two years will have been used up in fiscal 2009, the central government will probably need to add to its budget allocation for 2010, if it is thought to be necessary. Over the long term, however, investment growth is likely to be curbed for fears over inflation.

**Table 4. China: Investment Plans for Stimulating Domestic Demand, 2009-2010**

(RMB Billion)

Target of Investment	Total Package	%	Input of Central Government, 2009	%
Transport and Power Transmission Networks	1,500	38	213.4	24
Post-Disaster Reconstruction	1,000	25	130.0	14
Housing Provision	400	10	49.3	5
Rural Development and Infrastructure	370	9	252.2	28
Industrial Innovation and Structural Regulation	370	9	63.3	7
Ecological Environment Protection	210	5	69.6	8
Medical, Cultural and Education Programmes	150	4	92.6	10
Other Central Projects	-	-	37.6	4
<b>Total</b>	<b>4,000</b>	<b>100</b>	<b>908.0</b>	<b>100</b>

Source: National Development and Reform Commission

### Roads

**Table 5. China: Investment in Intercity and Rural Road Construction, 2005-2009**

	2005	2006	2007	2008	2009
<b>RMB Bn</b>	548	623	649	688	960
<b>% Growth</b>	+17	+14	+4	+6	+40

Source: Ministry of Transport

Following relatively low growth for the three years prior to 2008, road investment underwent a sharp increase in 2009, with a large number of new projects being implemented as a result of massive government input. Rural roads, and in particular access roads to the earthquake-affected regions, were given tremendous support, while the construction programme of the major road network was accelerated.

**Table 6. China: Road System Development, 2005-2009**

('000 Kilometres)

	2005	2006*	2007	2008	2009
<b>Total Length</b>	1,930	3,457	3,584	3,730	3,828
<b>- Expressways</b>	41	45	54	60	65

\* In 2006 the length of village roads, totalling 1,532,000 kilometres, was included in the statistics.

Source: Ministry of Transport

The total road length reached over 3.8 million kilometres by the end of 2009, of which expressways were more than 65,000 kilometres. While the National Expressway Network Plan, launched in 2005, requires the national expressway system of 85,000 kilometres to be completed by 2020, this is likely to be brought forward, while local governments have launched a number of additional main road projects. In addition, a total of 381,000 kilometres of rural roads were built or improved in the year, and the eight eastern provinces have now completed their plans for rural road improvement. It is estimated that investment in road programmes will remain at this level for the next two years on account of the easy money supply and on-going construction projects; in the meantime, there is growth in maintenance and reconstruction work, which will further stimulate demand for construction equipment.

### **Railways**

**Table 7. China: Capital Investment in Railway Construction, 2005-2009**

	2005	2006	2007	2008	2009
<b>RMB (Bn)</b>	88.9	155.3	172.8	337.6	600.6
<b>Length of Railways in Operation (Km)</b>	75,438	77,000	78,000	80,000	86,000
<b>New Lines and Doubling Tracks Added (Km)</b>	1,633	2,185	1,157	3,390	9,686

Source: Ministry of Railways

Railway construction saw the highest growth of all the different infrastructure sectors, and here investment has increased seven-fold over the last five years. This growth has largely been driven by the urgent need to expand the volume of public transport systems available for such a heavily populated country. The total length of the railway system had been extended to 86,000 kilometres by the end of 2009; while the priority is now being placed on the construction of high-speed passenger lines, a total of nearly 10,000 kilometres of new lines and doubling tracks were added in the year.

For many years the scale of railway development had been restricted by limited funding, but ample funds were made available as a part of the government's recent economic stimulus package, and the railway industry is now looking for diversified channels of financing. It is expected that railway construction will remain very active indeed for the next five years, in line with the national railway development plan, which requires the railway network be extended to 120,000 kilometres by 2020. Of this length, it is expected that 75 per cent will be completed by 2012. This active sector will directly drive demand for concrete machinery, lifting and earthmoving equipment, while increased demand for steel and cement will help stimulate the mining and quarrying industries, and the equipment that is working within them.

## Airports

There were 166 civil airports on the mainland by the end of 2009, but these are still not able to satisfy the growing demand for air travel. The state government has planned to increase the number of airports to 190 by 2010, and 244 by 2020. In 2009 the aviation industry received investment of RMB60 billion, which is expected to increase to RMB90 billion in 2010, when 25 key airport projects will be implemented. The government is set to improve the nationwide infrastructure by 2020, and to develop a world leading aviation system by 2030.

## Water Conservancy

**Table 8. China: Capital Investment in Water Conservancy, 2005-2009**

**(RMB Billion)**

	2005	2006	2007	2008	2009
<b>RMB Bn</b>	74.7	79.4	94.5	116.7	142.7
<b>% Change</b>	-5	+6	+19	+23	+22

Source: Ministry of Water Resources

On the back of major investment into the sector, the activity in water conservancy has continued to flourish. The investment is equally shared between central and provincial governments, and in the last five years the investment into construction of water conservancy infrastructure has doubled.

The priorities for the investment include the supply of safe drinking water in rural areas, reinforcing existing water facilities and upgrading irrigation systems. With the additional investment the construction of water control facilities along the main rivers has been accelerated, and a number of major new projects have been implemented. The south-to-north water diversion project has made good progress in its eastern and central lines, while in rural areas the development of irrigation, drainage systems and water erosion control have all received additional financial support. To cope with the uneven distribution of water resources, to sustain agricultural production in dry areas, and to ensure water supply to the major population centres, investment into the construction of additional water facilities will continue.

## Real Estate Development

The real estate development had grown at a massive annual rate of over 20 per cent since 2001, but the growth was lowered to below five per cent in the first quarter of 2009, as a result of the squeeze

on credit in 2008. However, with the change in the policy to encourage domestic consumption, investment accelerated from the second quarter and growth is expected to continue to recover in 2010; although commercial investment may fluctuate due to the current flat level of sales, the government is increasing its investment in housing projects for low income people. Construction work in this sector has a direct bearing on demand for all types of lifting and earthmoving equipment. While there was lower equipment demand from the sector in 2009, it is expected to improve this year

**Table 9. China: Real Estate Development, 2005-2009**

	2005	2006	2007	2008	2009
<b>RMB Bn</b>	1,591	1,938	2,528	3,120	3,623
<b>% Change</b>	+21	+22	+30	+23	+16

Source: National Bureau of Statistics

### Urban Construction

Urban infrastructure has seen substantial development in central cities recently. With the ongoing trend of urbanisation and the pursuit of better living conditions, there will be an increasing emphasis on urban utilities in the future. The increasing population in urban areas has intensified the challenge to the capacity of the public utilities. In central cities, there is a boom in the construction of mass transport projects, especially metro systems and in the future urban development will continue to expand at a great pace, not only in the major urban areas but also secondary cities throughout the country.

**Table 10. China: Key Statistics – Urban Utilities, 2004-2008**

	<b>Developed Area (Km<sup>2</sup>)</b>	<b>Length of Urban Roads ('000 Km)</b>	<b>Area of Urban Roads (Mn m<sup>2</sup>)</b>	<b>Length of Gas Pipelines ('000 Km)</b>	<b>Length of Sewer Pipelines ('000 Km)</b>
<b>2004</b>	30,406	223	3,530	148	219
<b>2005</b>	32,520	247	3,922	162	241
<b>2006</b>	33,660	241*	4,114*	189	261
<b>2007</b>	35,470	246	4,237	221	292
<b>2008</b>	36,295	260	4,520	258	315

\* There was a change in the road statistical accounting in 2006.

Source: National Bureau of Statistics

## Mining and Quarrying

**Table 11. China: Production of Coal, Iron Ore and Cement, 2005-2009**

**(Million Tonnes)**

	2005	2006	2007	2008	2009
<b>Coal</b>	2,205	2,373	2,523	2,716	2,960
<b>Iron Ore</b>	420	580	710	824	880
<b>Cement</b>	1,069	1,237	1,380	1,388	1,630

Source: National Bureau of Statistics

The rapidly growing economy, with massive investments in a wide range of industries being the principal driver, has resulted in huge increases in demand for energy and raw materials. The recent policy of economic stimulus has increased output to historic highs, while the current priority in all sectors of the mining industry is to achieve rationalisation through consolidation.

Coal makes up the bulk of China's energy supplies, and the country is both the largest consumer and largest producer in the world. The increase in total demand from power generation, industry and heating saw production rise to a historical record of nearly 3 billion tonnes. In addition, the country became a net importer of coal in the year. Due to the acquisition of small coalmines, production fell in Shanxi province, but there was continued increase in output in Inner Mongolia where the major state-owned opencast mines are located.

The country also has the largest capacity for iron and steel production in the world. Actual production was 568 million tonnes in 2009, and is expected to pass 600 million tonnes in 2010. Iron ore comes from both imports and domestic mines, with total demand experiencing substantial growth over the last decade that has resulted in domestic production doubling in the last five years. However, due to increased stock levels and a major increase in imports, production rates have flattened. To reduce the reliance on the import of iron ore, the industry expects to increase domestic production, which depends on the finding and exploiting of new mines. The production of non-ferrous metals, after a flat year in 2008, saw a growth of six per cent in 2009.

China has been ranked the world's leading cement producer since 1985, and in 2009 production peaked at 1,630 million tonnes largely as a result of the booming construction market. With a policy to consolidate the cement industry, major plants have been increasing their presence, and have become increasingly important customers for the heavy construction equipment that is used in limestone quarries.

## Power Supply

**Table 12. China: Capital Investment and Installed Capacity of Power Supply, 2005-2009**

	2005	2006	2007	2008	2009
<b>RMB (Bn)</b>	475.4	522.8	549.3	576.3	755.8
<b>% Change</b>	+45	+10	+5	+5	+31
<b>Total Installed Capacity ('000 kW)</b>	517,180	622,200	713,290	792,530	874,070
– Thermal	391,380	484,050	554,420	601,320	652,050
– Hydro	117,390	128,570	145,260	171,520	196,790
– Wind	1,060	1,870	4,030	8,940	16,130
– Nuclear	6,850	6,850	8,850	8,850	9,080

Source: China Electricity Council

The capital investment in the power industry is closely linked to demand created by economic development and industrial production. The growth rate peaked at 45 per cent in 2005, and then slowed to five per cent by 2007, as a result of the better balance between demand and supply. There was, however, a strong recovery in 2009 that was caused by the government's stimulus package. There will be a similar rate of growth in 2010, which will be equally shared between the construction of power plants and the development of transmission networks.

The total installed capacity has grown by 70 per cent since 2005, and peaked at 874 million kW in 2009. Thermal power continues to play a dominant role and accounted for three quarters of output, with the development of major thermal power plants being given priority. At the same time, the development of hydropower and wind power has increased in importance, and the government encourages the development of nuclear power. Therefore the demand for constructing major power facilities, in particular those with renewable energy will remain strong.

## EQUIPMENT ANALYSIS

**Asphalt Finishers:** The market for asphalt finishers grew to all time high of 1,520 units in 2009, a level last seen in 2004. The rise of 58 per cent over 2008 is largely attributed to the two year stimulus plan to counter the financial crisis, and the construction of a large number of new highways and roads ahead of original planning dates.

The number of asphalt finisher suppliers is now 18, but only seven of them can be regarded as major suppliers and they together controlled 65 per cent of total demand in 2009. **XCMG** remains the market leader, with 2009 sales growing 51 per cent to 237 units, a 16 per cent market share. **Sany** became the second largest supplier in 2009, with sales growing 77 per cent to 221 units. Most

significantly, almost all its sales were achieved in the 8-12 metre class of machine. **Zhenjiang Huatong** increased its 2009 sales by 42 per cent to 217 units, holding a 14 per cent market share and in third position. However, more than 60 per cent of its sales were realised in the smaller sizes under 8 metres with mechanical drive.

Sales of **Zoomlion** in 2009 reached 189 units, fewer than the above three suppliers, but one third of its sales were in the larger size range of 9.5-12 metres, the leading supplier in this size class. Sales of the three leading international suppliers **Volvo**, **Dynapac** and **Wirtgen** were at the same level of 106 units in 2009; each of them increased their sales and held a seven per cent market share. Volvo has improved its distribution network and come back to the position the product enjoyed in the days of Ingersoll-Rand. **Shaanxi Construction Machinery**, a traditional market leader, resumed production and sales of asphalt finishers in 2009 without its association with Volvo, but its fate in the asphalt finisher sector is uncertain since its parent company will increasingly focus its business on manufacturing of coal mining related machinery.

The **8-9.5 metre** class of asphalt finishers has been increasing in popularity, and demand for this category in 2009 accounted for 52 per cent as they are most suitable for both intercity and urban road construction with outstanding paving quality and efficiency. The **12-13 metre** class units are mostly used for expressway construction and have been always regarded as the machines with the most sophisticated technology. This sector has been dominated by international suppliers, but domestic manufacturers Zoomlion and Sany began to gain ground in the last two years. Sales of this class in 2009 increased substantially by 91 per cent to 290 units, with domestic suppliers accounting for 48 per cent. Sales of **4.5-7.5 metre** machines increased modestly in 2009 compared with larger machines, but they are thought to be the most cost effective for repair work and country road construction.

Asphalt finishers are primarily applied in traffic infrastructure construction, in particular highways and urban roads, and the last decade has witnessed the rapid development of the road system. By looking back at the sales history of asphalt finishers, it can be seen that a reasonable demand for asphalt finishers is 950-1,100 units each year, as China will build highways at a relatively stable level each year until 2020.

**Backhoe Loaders:** Just when many suppliers started to believe that backhoe loaders were finally starting to take off after two years of improved sales during 2007 and 2008, they now have to once again contemplate the future of this product and re-evaluate their strategies in this market. With only 400 units sold in 2009, this market experienced a dramatic fall of 37 per cent from 2008.

Demand is still characterised by a mixture of rigid and articulated machines, although the former expanded its role 61 per cent. The demand for rigid backhoe loaders has for the first time exceeded that for articulated products. Although most of the recent Chinese entrants offer rigid models, they have made little penetration in the domestic market compared to their modest success in overseas markets. Among the 243 rigid units sold last year, 77 per cent were supplied by international suppliers. The market continues to show a substantial preference towards more powerful machines, and in 2009 85 per cent had engines of 80 horsepower or more.

**Case** significantly expanded its presence and became the largest supplier by increasing its market share from 19 per cent in 2008 to 26 per cent. **JCB**, after stopping assembly in its Shanghai factory at the end of 2008, witnessed a drop of 30 per cent in sales but secured third position in 2009. Other importers, like **Volvo** and **Caterpillar**, remain thwarted by the low prices prevailing in this market.

**XCMG** remained the largest Chinese supplier, but its market share fell to 20 per cent and it lost its leading position to Case. Of its sales of 80 units, the older articulated products still dominated. Other manufacturers of articulated products were **Lingong**, **Chaogong**, **Yangong** and **Weimeng**. While they all realised there was dwindling demand for their less sophisticated products, they were not able to upgrade to new rigid-frame models, in view of budget constraints and a lack of confidence in the future of the backhoe loader market. **Changlin** is the first Chinese manufacturer offering a 'western' design, but is now challenged by **Liugong** and **Xiagong** with similar products.

The outlook for backhoe loaders is to see doubled growth in five years, given the small volume basis at present and the increasing interest from parts of the public works industry. There is little expectation that they will exceed 1,000 units within the period. The main buying force still lies in the public sector with niche applications, while most private buyers still regard the mini excavator as being a much more profitable tool than the backhoe loader. The substitution by the mini excavators is so pronounced that backhoe loaders might have lost forever the opportunity to achieve a significant volume of sales.

**Compaction Equipment:** The market for compaction equipment nearly doubled to 13,360 units in 2009, a level last seen in 2003. This sharp growth is doubtlessly attributed to the massive investment in new roads within the stimulus plan in 2009. Like asphalt finishers, compaction equipment relies heavily on the construction of roads even if it has functions in other construction sectors.

In view of the stimulus plan, road investment will remain at a high level in 2010, but it is reported that the government will strictly control the commencement of new roads and priority will be given to roads under construction. Therefore, demand for compaction equipment may slow down and settle at

a level above 8,000 units in the next five years. 2010 may witness a considerable fall, probably to 10,700 units, after which a continued modest decline may take place.

Sales of self-propelled rollers grew by 132 per cent in 2009 to 9,800 units, holding a 73 per cent market share. This dramatic growth is attributed to the massive investment in road construction projects and many roads were at the stage to construct base layers that largely need soil compaction, the function of self-propelled rollers. This explains why the growth rates of demand for tandem rollers and PTRs were smaller than that for self-propelled rollers in 2009. Although total demand for compaction equipment may decline in 2010, it is forecast that sales of tandem rollers and PTRs may increase.

**XCMG**, as the traditional market leader, consolidated its position in 2009, with sales growing by 133 per cent to 3,630 units, holding a 27 per cent market share. However, the other two traditional leading suppliers, **Yituo** and **Sanming**, lost their positions to **Lonking** and **Liugong**. **Shantui** has advanced to a similar level as Yituo and Sanming in terms of sales volumes.

The international suppliers **Dynapac**, **Bomag**, **Wirtgen** and **Sakai** have been dominating the so-called high-end tandem roller sector, but their position has recently been challenged by **Sany**, **Zoomlion** and **XCMG** who are keen to develop more sophisticated products.

**Crawler Dozers**: After stagnation in 2008, domestic sales saw strong growth of 32 per cent, to 6,900 units in 2009, approaching the peak level of 2003. Motivated by the stimulus package, the infrastructure projects, in particular road construction, substantially improved demand for dozers, and the large number of new jobs greatly enhanced buyers' confidence. On the other hand, large models over 300 horsepower saw a decline, due to reduced sales to the mining and stock yards.

The role of smaller machines up to 120 horsepower reduced to seven per cent, and the 140 horsepower class recorded some growth but its share in the total market continued to decline. The greatest volume of sales took place in 150-170 horsepower machines, which were preferred by most of the infrastructure projects. Their sales of 3,800 units accounted for 55 per cent of the total market. The 220-230 horsepower machines saw stagnation in the range of 1,100-1,200 units, while the largest over 300 horsepower products fell to four per cent of the total.

**Shantui** took an overwhelming market share of 55 per cent, with strong domination in almost all size classes except the small machines under 100 horsepower. **Xuanhua** remained in second place, but its sales were limited by its manufacturing capacity and its market share reduced to 16 per cent. **Tianjin Yishan** ranked in third place with 11 per cent. Both **Pengpu** and **Yituo** were stagnant, each

taking five per cent of market share. The two manufacturers in the west, **Inner Mongolia** and **Zoomlion Shaanxi**, saw healthy growth with their 220-230 horsepower products. Of the two international suppliers, **Komatsu** sold 43 units, while Caterpillar recorded buoyant growth to 120 units that included imports and localised production in Xuzhou.

It is anticipated that in the short term the market will remain buoyant with on-going projects that receive support from the state budget for stimulating the economy. However, it may peak at around 7,000 units, unless there is continued input of new projects to add to demand. Given the pressure to limit investment spending, and the replacement of dozers by hydraulic excavators, the market may return to below 6,000 units, albeit with greater importance afforded to the more powerful machines.

**Crawler Excavators:** Demand for crawler excavators surged by 37 per cent to pass 80,000 units for the first time in 2009. The fact that this growth occurred at a time when the rest of the world was struggling against the global financial crisis is a clear incentive to all suppliers to focus more ambitiously on the Chinese market. Many suppliers even talk of another five years of growth during 2010-2014.

The growth trend will continue but fluctuations and new peaks may be seen during the next five years. 2010 will see 20 per cent growth without doubt, assuming that current economic policy does not change, then the next two years may show a slight decline in demand. 2013 might see a strong rebound as the Chinese economy has demonstrated a 10 year cyclical feature when the past 50 years is reviewed. Sales might therefore reach 110,000 units in 2014.

Growth rates differed considerably by size category in 2009, with the most popular range of 19.0-21.9 tonnes keeping a stable share of 36 per cent. Sales of the 6.1 to 7.9 tonne range increased by 49 per cent to 11,900 units, becoming the second largest category with a 15 per cent market share, up one percentage point from 2008. The 8.0-18.9 tonne category saw a substantial growth of 52 per cent to 9,000 units, accounting for 11 per cent, also up by one percentage point from 2008. The sharp growth of both midi categories indicates that more individual buyers with less capital have become equipment owners, most probably stimulated by easy financing or preferential payment terms.

Sales of 30.0 to 39.9 tonne excavators surged by 72 per cent to nearly 8,000 units in 2008, representing 13 per cent of the total market. 2009 saw the sales of this category increase to 9,160 units, but its share fell to 11 per cent, which indicates that the buyers of larger machines are those with permanent work on key projects and mines. The same applies to the over 40 tonne crawler excavator sector, with demand driven by the development of energy and mining applications.

The six major traditional suppliers continued to dominate the sector in 2009, but they were strongly challenged by the Chinese manufacturers and their combined market share fell sharply to 66 per cent, although all of them increased sales. With more local manufacturers entering the sector and expanding their sales, domestic suppliers have increased their presence on the crawler excavator market from a low of 11 per cent in 2004 to 25 per cent in 2009. In addition to **Sany**, **Liugong**, **Yuchai**, **Foton Lovol** and **Sunward**, the other contributors being **Lonking**, **Xiagong** and **XCMG**.

**Komatsu** has been the market leader for four consecutive years. Its 2009 sales of 13,280 units were its best ever, growing by 25 per cent and winning a 17 per cent share, down by one percentage point from 2008. **Doosan** increased sales to 10,400 units, accounting for 13 per cent of the total market, also down by one percentage point from 2008, but it surpassed **Hitachi** to claim second position. The latter saw only modest growth of 10 per cent, with sales being 9,250 units in 2009, reducing its market share from 15 per cent in 2008 to 12 per cent in 2009.

**Kobelco** was a winner in 2009, mostly benefiting from the massive reconstruction programme in Sichuan, the home province of Chengdu Kobelco. Sales reached 7,170 units, growing by 45 per cent, holding a nine per cent market share, and achieving fourth position. **Hyundai** (Jiangsu and Beijing) sold 6,980 units in 2009, growing 42 per cent from 2008, accounting for more than eight per cent of the total demand and ranking in fifth place. **Caterpillar** increased its 2009 sales by 15 per cent to 5,820 units, but it was pushed into seventh place because **Sany** more than doubled its 2009 sales to 6,155 units, up by 128 per cent and nearly obtaining an eight per cent market share.

**Crawler Loaders:** This is a niche market in which only two crawler dozer manufacturers, **Xuanhua** and **Zoomlion Shaanxi** (ex-Xin Huanggong), offer products. They have occasional sales to the civil market but orders from the army are the main support to their production.

**Dump Trucks:** Sales of rigid dump trucks continue to grow, largely driven by the mining industry which is increasing its production capacity while consolidating. Electric drive trucks over 100 tonnes returned in force, with 192 deliveries implying a growth of 70 per cent over the previous year. They went to large opencast coalmines, mostly in Inner Mongolia, but also to iron ore mines. Trucks in the 32-91 tonne classes, however, showed a flat trend with sales of 426 units, destined for various mines and quarries, including coal, iron ore and limestone. Although NHL continued buoyant sales of its TR100 model and Beijing Shougang did well with its 42 tonne truck, there was a partial move to heavier machines. In the smallest size range of 20-28 tonne payload, which serves small mines or functions as an auxiliary in large mining sites, sales remained healthy but most suppliers seemed to have lost interest in it, except **Beijing Zhonghuan Kinetics**.

**NHL**, a joint venture with Terex, continued to lead the domestic market with a share of nearly 40 per cent but it has postponed the development of a planned new facility, because of reduced export sales. Beijing Zhonghuan Kinetics (**BZK**) achieved a market share of 20 per cent, relying on small models in the 20 tonne class. Sales of 42 tonne units from **Beijing Shougang** continued to grow and it delivered a few electric trucks to the iron ore mine of its parent company.

The importers saw increased sales of over 100 tonne electric trucks. **Belaz** was the largest importer thanks to active promotion by its master dealer CATIC and lower prices. Both **Unit Rig** (handled by NHL) and **Komatsu** saw buoyant sales and have order backlogs for delivery in 2010. **Caterpillar**, after several years of inactivity, delivered seven trucks to an iron ore mine in Liaoning. On the other hand, **Xiangtan**, the only Chinese specialist in electric trucks, increased sales to 58 units, 48 of its established 108 tonne trucks and ten 220 tonne machines.

The outlook for rigid dump truck sales remains buoyant for the next two years, as the major mining companies are continuing to increase production capacity for which they will need trucks. The domestic market is expected to move up to 900-1,000 units, but any further growth will depend on the development of new mines and the replacement of existing fleets.

**Articulated Dump Trucks**, however, have still failed to find favour in the market. 53 unit sales came exclusively from a small group of mining customers who required articulated machines instead of the rigid type in equivalent size, and the majority of the orders were in the 30-40 tonne range. **Volvo** has been the only important supplier, but Caterpillar is active now and expects to see sales in the current year. **NHL** had a plan to promote Terex machines but stopped after low sales in 2008. The local suppliers were still not successful, but **BZK** has begun to export its 28 tonne machine.

**Mini Excavators:** Demand for mini excavators has grown without interruption for more than a decade since 1998, with sales surging from 120 units in 1998 to 22,250 units in 2009. Sales in 2009 rose by 17 per cent, with buyers confident about the overall economy, finding easy financing and many attractive offers from suppliers. There are more local manufacturers than before and domestic suppliers have increased their presence on the market from 25 per cent in 2004 to 37 per cent in 2009.

In spite of its high growth rate, demand is still unbalanced. The 5-6 tonne range takes 88 per cent of sales, up by six percentage points from 2008. This may seriously influence the healthy development of the mini excavator, as a number of suppliers tend to shift their focus to the midi sector, while the smaller sizes under 5 tonnes, popular in other major markets, will be further ignored. The 4-5 tonne range, for instance, dropped to a seven per cent market share in 2009, while the 3-4 tonne class accounted for three per cent and the 1-2 tonne sector, less than two per cent. This to some extent was

due to the three leading domestic suppliers **Sunward**, **Foton Lovol** and **Yuchai** increasing focus on larger machines that are bigger in both volume and value.

The three leading suppliers **Doosan**, **Hyundai** and Yuchai still dominate the market, but their importance is now being challenged by **Hitachi**, **Komatsu** and **Kubota** and three major local manufacturers **Sunward**, **Foton Lovol** and **Lonking**. Doosan remains the market leader with a 17 per cent share, Yuchai replaced Hyundai in second position, accounting for 13 per cent; but **Hyundai** saw a substantial decrease in sales in 2009, down by 15 per cent to 2,800 units, and its market share fell from 17 per cent in 2008 to less than 13 per cent in 2009.

Sunward and Foton Lovol are both seeking to increase their presence in standard crawler excavators, in particular the larger range of over 20 tonnes, but they are losing ground in mini excavators to international suppliers, in particular Hitachi, Komatsu, Kubota, Volvo and IHI, and they are no longer among the six market leaders.

By launching a standard mini excavator specifically designed for the Chinese market, Hitachi and Komatsu have both achieved remarkable success over the last two years. Hitachi increased its sales to 1,864 units in 2009, winning fourth position with an eight per cent market share; Komatsu more than doubled its sales to 1,480 units in 2009 with a seven per cent share, jumping to fifth place. Kubota is dedicated to promoting its zero tail swing mini excavators on the Chinese market and has achieved steady growth over the last five years. It realised a five per cent market share in 2009 by importing 1,100 units, becoming the sixth largest supplier of mini excavators.

The mini excavator outlook remains optimistic, with five more years of growth ahead, bringing sales to a peak of 35,000 units in 2013. If the demand structure can improve with more spread towards the smaller sizes, the market would be much expanded.

**Mobile Cranes:** The market surprisingly surged 41 per cent, which was the highest growth for the last five years, with sales reaching 27,000 units. While demand from various construction and transport activities remained at a high level, it was railways that made an important contribution to growth, needing 16-25 tonne truck-mounted cranes for constructing bridge piers.

Truck-mounted cranes dominate sales with a market share of 95 per cent. Of the total sales of 25,735 units, the under 30 tonne machines saw greater growth. In particular, 12-25 tonne cranes registered a surge of over 50 per cent. 50-55 tonne machines lost volume to the next class up and hence saw a decline; while sales of 100-150 tonne machines increased 33 per cent to the region of 270 units.

Among the other types of wheeled crane, all terrain cranes doubled to over 220 units in the year, 86 per cent coming from **XCMG** and **Zoomlion**. Industrial cranes saw a drop of 50 per cent, as a result of weak demand from ports.

Crawler crane sales grew by six per cent to 930 units, two thirds in the 35-100 tonne range and one third larger. Chinese products now have improved manufacturing technology and this type of lifting tool is now gaining popularity in various construction sectors at the expense of wheeled cranes. They are also found in major industrial construction projects that require heavy lifting machines.

Thanks to buoyant growth in truck-mounted cranes, **XCMG** further enhanced its market share to 55 per cent; in the all terrain sector it took a dominant role of around 60 per cent. **Zoomlion**, with a focus on heavier models, improved its market share to 23 per cent. **Sany**, with new investment in its wheeled crane factory in Changsha and crawler crane facility in Shanghai/Kunshan, improved its ranking to third place with a five per cent market share. **Anhui Liugong** was resettled to its new manufacturing facility, and also improved its market share to five per cent. **Terex Changjiang** and **Manitowoc Dongyue**, however, fell below five per cent. **Fuwa Heavy Industry**, or Fushun Excavator as it was named in the past, took the largest share of the crawler crane market, and by merging with Jinzhou, a truck-mounted crane manufacturer based in the same province, improved its presence in the total market. **BQ-Tadano** did not make much progress but **Jingcheng Heavy Industry**, the joint venture partner of Tadano, restored its production and distribution.

Importers continued to feature in the market for large cranes, but increasingly their roles were replaced by their Chinese rivals. **Manitowoc**, **Liebherr** and **Terex** remained active in the all terrain and crawler crane sectors, and in the large lift capacity of over 300 tonnes were still preferred by customers. On the other hand, **Kobelco Crane** and **Hitachi-Sumitomo** did less well.

The industry predicts growth of another ten per cent in 2010. Existing and new infrastructure projects will drive demand, and sales to housing and industrial construction should improve. This indicates a market approaching the level of 30,000 units but after that growth may not be able to continue, as the population of new machines has grown and the expected control on the investment would limit demand, but it will stay at a high level, probably not fewer than 25,000 units.

**Motor Graders:** As a result of substantially increased road spending and the great number of new projects launched, sales of motor graders hit a historic high of some 2,000 units. They depend on the flow of road construction, so the acceleration of road investment has a direct bearing on the growth of sales, although in some provinces they are being replaced by other types of equipment.

All sizes saw growth in 2009 but the most popular size range remained 180-195 horsepower, which accounted for over 50 per cent of total sales. The sales of 165-170 horsepower machines returned to growth, after stagnation in the previous two years, which reflected the improved demands for lighter applications but also a preference for cheaper machines. As a result, the role of the 200-220 horsepower range is down to 20 per cent of the total market. The sales of over 250 horsepower graders remained modest and were mainly sold for mining applications; importers like Volvo and Caterpillar played important roles in this niche sector, but the Chinese manufacturers also improved their offer in this range.

**XCMG** still dominates this product, with a market share over 30 per cent. **DTCM** sold more units than in 2008 but its market share deteriorated to 17 per cent. **Changlin**, **Liugong**, **Dahua** and **Zoomlion** saw healthy growth, while **Sany** did not and **Caterpillar** sold 40 per cent fewer.

The market is expected to stay buoyant in 2010, with more road projects coming on stream. However, one should bear in mind that graders are really limited to applications in road construction, so the growth of demand could not be sustained without the surge in road investment. On the assumption that the number of new road projects will not be as great as in 2009-2010, the market may soon be saturated by the increased new fleet, and so sales may see a fall in five years.

**Skid-Steer Loaders:** Still a very small market but with the improved performance of the importers but also the contribution of local manufacturers, sales grew by 50 per cent to 375 units. A great percentage of sales went to the public road and utility sectors, and hence machines over 700 kilograms dominated the market. This is still a niche product but obviously promotion by various suppliers has improved customers' appreciation of its value.

700-1,200 kilogram machines accounted for 97 per cent of total sales, judged best by users for operating different types of attachments. To be more specific, importers dominated the sector of 900-1,200 kilograms, while Chinese suppliers increased their presence in 700-900 kilogram sector to over 50 per cent.

**Bobcat**, since the merger with Doosan, has greatly intensified its distribution efforts, but its market share reduced to 32 per cent. **Case**, on the other hand, achieved successful growth and improved its market share to 31 per cent.

While the international suppliers still controlled two-thirds of the market, Chinese manufacturers improved their distribution in the domestic market, as a result of the slump in overseas demand. **Liugong** achieved nearly 20 per cent market share, and **Hero Time** followed with 11 per cent. Local

machines were introduced in some important projects, and Chinese manufacturers penetrated into a market that was supposed to be for the preserve of the importers.

The penetration of the Chinese manufacturers helped improve the pricing structure in a way that may attract an increasing number of buyers. Perhaps the public sector will buy more and encourage customers in other industrial sectors. With further improvements in distribution and the upgrading of the specifications of the local products, the domestic market is anticipated to double to the region of 700-800 units in five years.

**Telescopic Handlers:** This is still a rather new concept in this country, and potential users generally prefer other types of equipment. However, the market has seen continuous growth in the last three years, with demand coming from foreign companies operating in China and some appreciative local customers. The total sales amount to around 250 units, split between western designs and local products based on a wheeled loader chassis. Foreign suppliers like **Manitou** and **JCB** are active, serving both civil and military customers. Chinese companies like **XCMG** and **Sunward** have begun to manufacture their own machine designs. In Fujian there are local manufacturers producing a local version based on wheeled loaders, and selling to the suppliers of flagstones. The domestic market is expected to double in the next five years.

**Wheeled Excavators:** Demand for wheeled excavators reached all time high of 1,120 units, exceeding 1,000 units for the first time and growing by 40 per cent from 2008. Although the number of suppliers has reached 10, the sharp growth in 2009 was powered by the three established suppliers **Doosan**, **Hyundai** and **Jonyang**, while the other suppliers present have not made any major effort with wheeled excavators; except for **Chongqing Qinniu**, a small manufacturer that decided finally to focus on wheeled excavators after years of promising to enter the excavator industry.

Doosan continued its leading position in 2009 with sales being 465 units, accounting for 42 per cent of the total, Beijing Hyundai maintained second position with 325 units, holding a 29 per cent market share, and Jonyang ranked third with 227 units and a 20 per cent market share. Jonyang is the largest manufacturer, if its deliveries for military use are taken into account.

Demand for wheeled excavators will further grow in the long term and settle in the range of 1,200-1,500 units in the next five years, with sales peaking to 1,500 units in 2014. In volume terms, the wheeled excavator remains a niche market given its limitation in applications and machine sizes. If other products were strictly excluded from the roads, demand for wheeled excavators would see substantial growth.

**Wheeled Loaders:** The major volume product of the industry, wheeled loaders enjoyed an amazing decade of continuous sales growth from 1998 to 2007, from 17,058 units to 149,730 units. The market flattened in 2008 and registered a fall of eight per cent in 2009, when the rest of the market was growing substantially. In total, 137,870 units of wheeled loaders were sold in 2009. The slide was caused by sharply falling demand from coal mines, stagnant house construction, product replacement by excavators, and the fact that the stimulus package helped very little.

Of the two most popular categories, the 120-130 horsepower products (ZL30) witnessed a fall in sales of 18 per cent and fell to 24 per cent of the total market as a result, while 210-220 horsepower machines (ZL50) saw a slight decline of two per cent but improved to 70 per cent of total domestic sales. While 94 per cent of total demand for wheeled loaders has been falling into these two categories over the last five years, the increasing significance of the latter reflects the appeal of a five-tonne machine with its value for money.

The under 100 horsepower compact loader market saw a major drop of 27 per cent, which was attributed to the closing down of many small mines and declining demand in towns and cities. At the larger end, the over 220 horsepower sector has registered a year-on-year growth of five per cent over the previous year, which was the lowest rate since 2004. The main drive in this segment is the increasing demand from big mines, quarries, and ports. The higher gross margin has also made bigger machines of six tonnes much more attractive to domestic suppliers in the face of overall declining sales volumes.

This is a market where the larger suppliers gain an increasing share of the market, while the smaller ones become weaker. The three leading companies, **Liugong**, **Lonking** and **Xiagong**, have built up their dominance and have increased their combined share from 42 per cent to 53 per cent over the last five years. In particular Liugong, as the only manufacturer with increased sales in 2009, became the market leader after selling 27,070 units and consequently expanded its market share from 18 per cent in the previous year to 20 per cent. Lonking saw its sales fall by seven per cent but secured the same share of 18 per cent. Xiagong's sales fell by 10 per cent, which brought down its market share by one per cent to 15 per cent in 2009.

The middle tier of suppliers, consisting of the number four to number 10 players, secured their positions by jointly controlling 29 per cent of the market, but the segment saw most changes in 2009. **SDLG** sold over 16,000 units and closed the gap between itself and Xiagong to three per cent. **SEM**, wholly owned by **Caterpillar**, suffered the most dramatic drop of 36 per cent in sales, and so was overtaken by both **Chenggong** and **XCMG**. **Foton Lovol**, the newest supplier in the top 10, replaced **Changlin** to become the eighth largest supplier.

The mid tier is also the segment which the newly established factories of the international manufacturers, represented by **Doosan** and **Hyundai**, want to invade as soon as possible. Meanwhile, **Komatsu**, **Volvo** and **Caterpillar** continued to dominate the niche sector of over 250 horsepower. All the others still have a minor presence and saw their combined share drop from 29 per cent to 18 per cent between 2005 and 2009.

The future of the market will continue to see more consolidations and be subject to growing disparity between the big players and the smaller ones. Suppliers are under increasing pressure from their competitors and customers to offer better service and support, wider product ranges with improved customisation, and flexible commercial terms. Small to medium size manufacturers just do not have the resources, capital and capability to meet these increasing demands and as a result, their market positions will be further squeezed. Nevertheless, there are signs that this market will see a surge in 2010, particularly when the coal industry has already completed its structural change. In the medium term, it is less likely that wheeled loader demand will exceed the peak reached in 2007 but instead fluctuate between 140,000 units to 145,000 units, thanks to demand from all infrastructure sectors.

## **EXPORTS**

**Table 13. China: Exports of Construction Equipment by Type, 2007-2009**

**(Units)**

	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>% Change 2008-2009</b>
<b>Asphalt Finishers</b>	73	232	113	-51
<b>Backhoe Loaders</b>	510	520	510	-2
<b>Compaction Equipment</b>	3,490	5,190	3,510	-32
<b>Crawler Dozers</b>	1,218	3,357	1,776	-47
<b>Dump Trucks</b>	160	258	103	-60
<b>Hydraulic Excavators</b>	3,810	3,836	1,115	-71
<b>Mini Excavators</b>	3,100	2,874	796	-72
<b>Mobile Cranes</b>	2,758	4,350	1,491	-66
<b>Motor Graders</b>	2,719	3,545	1,419	-60
<b>Skid Steer Loaders</b>	1,457	1,667	469	-72
<b>Wheeled Loaders</b>	10,817	17,750	9,980	-44
<b>Total</b>	<b>30,112</b>	<b>43,579</b>	<b>21,282</b>	<b>-51</b>
<b>% of Domestic Production</b>	<b>11</b>	<b>14</b>	<b>7</b>	

Source: Off-Highway Research

In the fourth quarter of 2008 a chill wind through Chinese companies as they began to see falls in export volumes, and in 2009 they witnessed a drop of 51 per cent in total export volumes. From 2004 to 2008 the contribution of exports to total domestic production had continued to increase, but

suddenly fell to seven per cent in 2009. Not only did Chinese companies suffer, but the foreign manufacturers' local factories in China also substantially reduced their shipments to the overseas market, in view of the stocks in their sister factories abroad.

All types of equipment were affected. The sectors of **skid-steer loaders**, **mini excavators** and **hydraulic excavators** were impacted the worst, as overseas sales of these products greatly depended on demand in western markets, and these experienced the greatest downturn. In addition, **mobile cranes**, **road machinery** and **rigid dump trucks** witnessed a substantial drop in deliveries to overseas markets. Export volumes of **wheeled loaders** slid 44 per cent but increased the contribution to the total exports.

While the major Chinese manufacturers are continuing to explore export opportunities, their international rivals, who are eager to improve sales, are intensifying the competition. The key destinations of Chinese exports are the Middle East, Africa, Latin America and Southeast Asia. In the near future Chinese contractors operating on overseas projects will give important support to the export of Chinese products.

## INTERNATIONAL PERSPECTIVES

### Sales

**Table 14. Regional Sales of Construction Equipment, 2009-2010\***

(Units)

	China		Western Europe		North America		Japan		India	
	2009	2010*	2009	2010*	2009	2010*	2009	2010*	2009	2010*
Articulated Dump Trucks	53	50	700	960	1,140	1,150	35	20	11	20
Asphalt Finishers	1,520	1,350	883	903	725	700	125	100	920	1,150
Backhoe Loaders	400	500	4,508	4,825	8,700	9,000	2	-	16,001	23,000
Crawler Dozers	6,900	7,000	623	685	5,200	5,200	790	700	562	700
Crawler Excavators	80,388	96,000	13,685	14,120	9,600	9,600	10,100	8,000	7,944	10,500
Crawler Loaders	20	20	157	160	200	200	20	20	4	5
Mini Excavators	22,250	26,000	29,882	32,110	9,700	10,000	11,200	8,000	71	100
Motor Graders	1,967	1,900	213	242	2,600	2,700	120	100	342	600
Motor Scrapers	-	-	-	-	175	175	20	-	-	-
Rigid Dump Trucks	811	850	276	328	850	650	100	100	808	900
RTLs – Masted	-	-	705	766	950	950	-	-	-	-
RTLs – Telescopic	250	300	12,829	14,215	3,500	3,500	8	-	15	35
Skid Steer Loaders	375	400	4,383	4,715	22,300	23,500	680	600	290	350
Wheeled Excavators	1,120	1,350	4,995	5,410	450	450	50	50	-	5
Wheeled Loaders	137,870	145,000	12,208	13,085	10,450	10,700	6,060	6,000	1,902	2,500
<b>Total</b>	<b>253,924</b>	<b>280,720</b>	<b>86,047</b>	<b>92,524</b>	<b>76,540</b>	<b>78,475</b>	<b>29,310</b>	<b>23,690</b>	<b>28,870</b>	<b>39,865</b>
	<b>+7</b>	<b>+13</b>	<b>-47</b>	<b>+7</b>	<b>-48</b>	<b>+3</b>	<b>-49</b>	<b>-19</b>	<b>-11</b>	<b>+34</b>

\* Forecast

Source: Off-Highway Research

**China:** While the global market was badly hurt by the economic crisis, sales in China sustained solid growth of seven per cent, so that the size of the market exceeded 250,000 units for the first time. This is now by far the largest market area in the world, accounting for nearly half of the global sales in volume terms, or one third in value terms.

The market obviously benefited from the government's stimulus package, directing almost RMB3.5 trillion (\$512 billion) to construction. Sales began growing strongly from the second quarter and buying confidence (so lacking in other parts of the world) improved. Prospects for the future market continue to be buoyant.

Machines that are indispensable to infrastructure projects like roads and railways saw the best growth. Examples are crawler dozers, motor graders and asphalt finishers. The application of hydraulic excavators became even more popular in new projects, and are now replacing wheeled loaders in some of their traditional roles. On the other hand, the market for wheeled loaders was impacted by the slower demands from the coal mines and real estate development. In compact construction equipment mini excavators did very well, while backhoe loaders slumped as buyers opted for other products.

With the number of existing projects in progress or about to be implemented, and the promised continuity of the current fiscal and monetary policy, the total demand for construction equipment is set to continue to grow in 2010.

**Western Europe:** From the autumn of 2008 the demand for construction equipment was in steep decline everywhere with slight differences by country. Apart from the general tightness in the supply of credit that affected all machines, there was an especial weakness in compact construction equipment. Contractors, especially small ones, lost the confidence to buy backhoe loaders, skid-steer loaders and small articulated loaders. Rental dropped out of buying mini excavators and crawler excavators slumped. Large machines suffered as company financial controllers forbade new purchases of all types of machinery.

In 2010 there may be some cyclical return to buying by the rental companies, which by mid-year will have bought little for 24 months. Agriculture may also offer support to the telescopic handler sector.

*Further detailed analysis can be found in the European Annual Review that is now available.*

**North America:** The market has been in trouble for longer than other regions and is still in great difficulty. It lost a third of the peak size seen in 2005 during the slide of 2006-2007 but astonishingly

it shrank by another third in 2009. Everything is in trouble; mining, public works and especially private construction, the most potent source of distress. The contagion has spread to the rental industry. The market has therefore witnessed major declines in sales of all products, with only large wheeled loaders and motor graders being blessed with below average decreases since 2005.

Sales should stagnate at 2009 levels until late 2010 and no recovery will really be visible before 2011.

**Japan:** After a five year period of slow, steady climbing out of the trough that had its lowest point in 2003, the market turned abruptly down in 2008 and went into a nosedive in 2009. Sixteen years ago after the bursting of the 'bubble economy' sales fell to a level just below 100,000 units and it was labelled as a crisis. In 2009 sales were only one-third of the size of that crisis year. The motors were stagnation in public works volume, a massive deterioration in the private investment climate and difficulty for rental companies to get rid of their old machines via exports to Asia. The outlook for 2010 is better for the exporting part of the economy as restocking kicks in, but for construction equipment there is no good news at all. Public works are falling out of favour as a way to stimulate recovery, and should decline in volume by eight per cent, and a further five per cent in 2011. Private residential investment will still be sagging, so on balance the market could fall by 20 per cent, although the optimistic line of the trade association in Tokyo points to zero growth.

**India:** From 2003 to 2007 India enjoyed high growth rates in construction equipment sales, and growth was expected to continue unabated at around 25 per cent per annum. After the middle of 2008 the market took a sharp downturn. Finance was the big problem but also mining was affected to an extent, and real estate (especially), general construction and road building all declined.

2009 has turned much better than feared, thanks to economic recovery and easier finance. The year began with predictions of a 25 per cent decline, and in the first half the election process held up progress on public works. Then expectations moderated to a 17 per cent decline as industrial production rose well. Finally the year finished with a decline of only 11 per cent, largely due to firmness in backhoe loaders. This large volume market showed a mild decrease of four per cent, while excavators declined by 20 per cent. Wheeled loaders were significantly down, as the recovery came too late in the year for buyers to react. Whilst the full year result was disappointing, it could have been much worse.

2010 is already demonstrating that the recovery can come quite quickly, for there is a huge pent up demand to complete the volume of future work. Backhoe loaders and excavators are set to break records and the whole market should be moving ahead briskly.

*Further detailed analysis can be found in the Indian Annual Review that is now available.*

## **Production**

China is once again the world's largest producer of construction equipment, both in volume and value terms. In the other three major regions, North America has done the least badly in the recession of 2007 to 2009, in the sense that its production has slumped by only 71 per cent, as against 73 per cent in the other two. China, in contrast expanded its production by two per cent in that period.

**Table 15. Production, by Type and Region, of Construction Equipment, 2009**  
**(Units)**

	<b>China</b>	<b>Western Europe</b>	<b>Japan</b>	<b>North America</b>	<b>India</b>
<b>Articulated Dump Trucks</b>	2	700	500	200	-
<b>Asphalt Finishers</b>	1,545	883	140	740	850
<b>Backhoe Loaders</b>	810	4,508	-	8,000	16,100
<b>Crawler Dozers</b>	8,787	623	2,135	4,020	280
<b>Crawler Excavators</b>	71,554	13,685	20,930	6,340	6,350
<b>Crawler Loaders</b>	50	157	50	-	-
<b>Mini Excavators</b>	21,872	29,882	22,630	2,000	40
<b>Motor Graders</b>	3,759	213	800	2,550	65
<b>Motor Scrapers</b>	-	-	-	175	-
<b>Rigid Dump Trucks</b>	765	276	650	2,330	1,045
<b>RTLs – Masted</b>	-	705	-	900	-
<b>RTLs – Telescopic</b>	300	12,829	-	2,800	-
<b>Skid-Steer Loaders</b>	618	4,383	1,650	17,700	90
<b>Wheeled Excavators</b>	1,406	4,995	220	215	-
<b>Wheeled Loaders</b>	146,920	12,208	6,880	8,035	1,475
<b>Total</b>	<b>258,388</b>	<b>86,047</b>	<b>56,585</b>	<b>56,005</b>	<b>26,295</b>

Source: Off-Highway Research

**China:** Supported more in 2009 by its particularly strong domestic market, with export sales sagging because of the recession, production declined by only five per cent. Growth of 15 per cent was visible in crawler excavators as local manufacturers ramped up their output, while domestic sales growth balanced export sales declines in mini excavators. Others, such as wheeled loaders (147,000 units) declined, as did backhoe loaders, now down to 810 units. Export problems affected the output of motor graders, skid-steer loaders and some better known wheeled loader producers.

**Europe:** In 2009 production volumes turned down, as a result of sharply decelerating demand seen since the latter part of 2008. The substantial decline in regional demand affected all sectors but so far no major facilities have closed permanently.

**Japan:** Production decreased dramatically because of collapsed export demand, so the products worst affected were those where the country has excelled in the past, specifically mini excavators and standard crawler excavators. No product, however, was untouched, as pipeline stocks were slowly sold out by worried dealers all over world.

**North America:** Manufacturers cut the volumes shipped all round. Compact construction equipment was most under the spotlight, as it was vulnerable to trends in housing construction and rental. North American production was lower than domestic demand for many manufacturers.

**India:** Whilst the country cannot yet be regarded as a major source of construction equipment compared with the others included in this review, it is nevertheless becoming an increasingly important manufacturing base. Output grew from 15,800 units in 2005 to over 34,000 units in 2007, and while production declined in both 2008 and 2009 there is every likelihood that production will at least treble by 2014.

Already the world's largest producer of backhoe loaders by a considerable margin, major increases in output of crawler excavators, wheeled loaders and graders may be expected in the medium term. Production growth will be driven by rapidly growing domestic demand, as well as a very probable strong growth in export activity.