

China Is The World's Largest Manufacturer, And By An Increasing Margin

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China¹ displaced the United States as the world's largest manufacturing nation in 2010 and widened its lead in 2011, according to recently published data from the United Nations. Manufacturing value-added in China totaled \$2.35 trillion in 2011 while U.S. manufacturing value-added was \$1.90 trillion.² China accounted for 20.7 percent of world manufacturing in 2011, up from 18.9 percent in 2010. While China's importance in global manufacturing increased, the U.S. share declined from 18.4 percent in 2010 to 16.8 percent in 2011.

China's ascent in manufacturing importance has been in the making for decades. Table 1 shows the top 15 manufacturing countries based on the dollar value of manufacturing value-added in 1991, 2001, and 2011. China was the 8th largest manufacturing economy in 1991, 3rd in 2001, and 1st in 2011. Several other emerging economies rose in the ranks of global manufacturing. Brazil was 12th in 1991 and 2001, and then jumped to 7th in 2011. From 1991 to 2011, Korea rose from 11th to 6th, and India climbed from 18th to 10th.

Composition of the Growth

China attained this ranking through a combination of price increases, exchange rate appreciation, and an extremely fast growth rate in the physical volume of manufacturing value. Prices have increased at a moderate 3.0 percent annual rate, the yuan appreciated at a 2.5 percent annual rate, and physical volume grew at a very strong 12.5 percent annual rate. Multiplying these changes together produces an 18.8 percent per year change in the dollar value of Chinese manufacturing value-added during the 10 years ending in 2011. At that pace of growth, China's manufacturing value-added doubles every four years, a speed that dwarfs what was achieved in the United States. U.S. manufacturing value-added expanded at only a 2.8 percent annual rate over the same period (0.3 percent annual increase in price and 2.5 percent annual growth in physical volume).

Other emerging countries achieved their gains in the dollar value of manufacturing value-added in differing combinations of price, currency appreciation, and physical growth. Korea reached a 10.1 percent annual rate of growth in manufacturing value-added from 2001 to 2011. As with the case of China, physical growth was the primary reason for the gain. Physical volume increased at a 6.8 percent annual rate, price increases averaged 1.6 percent a year, and the currency appreciated 1.5 percent a year.

India achieved outsized manufacturing value-added growth with strong physical

growth and higher inflation. India's manufacturing value-added increased 13.5 percent a year in the decade ending in 2011. The composition of that dollar-based growth was 5.3 percent annual inflation, virtually no currency adjustment, and stellar 7.7 percent annual growth in physical volume.

Brazil's dollar-denominated manufacturing value-added growth, however, came mostly from inflation. Manufacturing value-added increased 14.2 percent a year in Brazil over this period, via 7.8 percent annual inflation, 3.5 percent annual currency appreciation, and a relatively modest 2.4 percent a year increase in physical volume.

The very strong growth in manufacturing value in Russia and Indonesia was largely because of domestic inflation. Meanwhile, currency appreciation explains much of the growth in the Eurozone and Japan.

In order to normalize the China-U.S. comparison, we must also look at China's position as a large, rapidly emerging, densely populated country. It is inevitable that it would compare more favorably with the United States — a large, advanced, lightly populated country growing at a relatively modest pace. Rather than looking at total manufacturing value-added, a way to make more relevant comparisons between very different economies is to normalize the relationships based on population size.

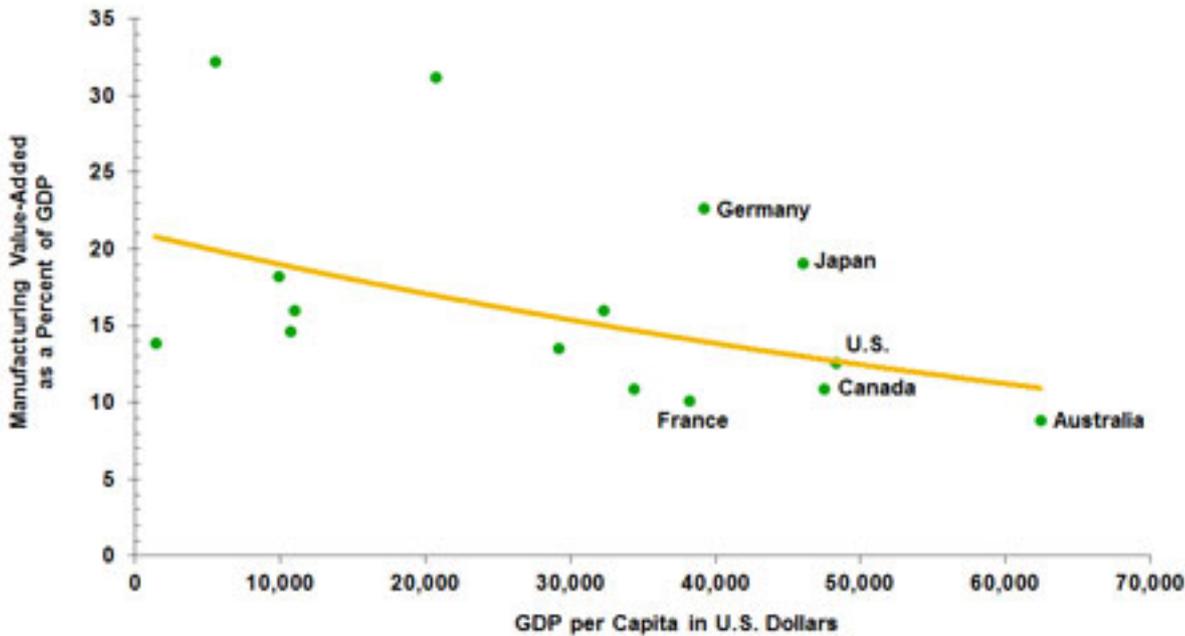
With its 1.324 billion people, China had more than four times the population of the United States (313 million) in 2011 but its manufacturing value-added was only 23 percent larger.

China's Past Performance Is No Guarantee of Future Success

China's manufacturing performance is the envy of the developing world. They have demonstrated an incredible record of very rapid growth in the physical volume of manufacturing that has contributed to lifting 600 million people³ out of poverty in the last three decades. The pace of growth has been so rapid for such a long time that the World Bank says the country's designation has moved from "low income," through "lower middle income," to "upper middle income."⁴

China's growth model relies on shifting workers from very low-productivity activity in agriculture to an export-focused manufacturing sector. Officials use their authority to limit market entry into the country as a way of both extracting technology transfer from multinational corporations and skipping generations of technology development by importing the latest advancements from high-income economies. Through the administration of controls that regulate financial flows in and out of the country and funnel consumer savings into low interest rate accounts at state-owned banks, Chinese authorities are able to trap domestic savings inside the country and maintain an undervalued currency to support the export-oriented manufacturing sector.

Figure 2 – Manufacturing's Share of the Economy Declines as Incomes Rise (2011)



Source(s): United Nations and MAPI

Among the top 15 manufacturing economies, China has the highest share of its economy in the manufacturing sector. Figure 2 shows manufacturing as a share of GDP in the top 15 economies plotted against per capita income for the year 2011. The exponential trend line displays the inverse relationship between manufacturing's share of the economy and the income level. In general, the higher the income level, the lower the sector's share of the economy. The outliers in the low- and middle-income range are China (32.2 percent) and Korea (31.2 percent) and among high-income countries, Germany (22.6 percent) and Japan (19.1 percent), which stand out with relatively high manufacturing shares. For the United States, the manufacturing share of GDP (12.6 percent)⁵ is on the trend line.

Researchers have found that there are many countries that slow down when they reach high middle-income status.⁶ The academics point out that China has many characteristics that make a growth slowdown even more likely, including a rapidly aging population, volatile inflation rates, an undervalued exchange rate, and low consumption shares of GDP. They say that undervaluation of the RMB, among other distortions, allows trade imbalances to foster excessive investment in export-oriented manufacturing capacity. The problems of corrupt public officials and overbuilding of public infrastructure at the local government level only exacerbate the difficulty of perpetuating rapid growth.

Observers believe it is only a question of time before China's growth rate slows. The one-child policy created demographic forces that will see the population of young workers declining in a few years, shrinking the pool of transient rural labor that urban factories rely on. Based on the forecast from the United Nations, China's working age population of 15- to 59-year-olds peaked last year and the population aged 15-65 will peak in 2015. Labor shortages in urban areas should continue to drive rapid increases in wages, eroding some of the cost advantage of Chinese manufacturing. Eventually, growth will depend more heavily on an expanding service sector, where difficult structural changes are necessary to promote

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productivity growth. The Chinese will eventually exhaust the easy productivity gains from imported technology and technology transfer, and they will have to rely more on their own R&D.

China faces a difficult transition that requires major structural economic and political reforms, and there is no guarantee that it can successfully do so. The growth rate in China is bound to slow—what remains to be seen are the magnitude of change and the timing.

See the full article, and sources, at www.mapi.net [2].

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