The Next Big Thing

It is difficult to put an exact date on when Chinese magnets started to gain in worldwide popularity; maybe the easy way to say it is that it took place somewhere during the mid 1990's. So now that we are a decade in to this era, it may be a good time to look at where we are and where we might be going.

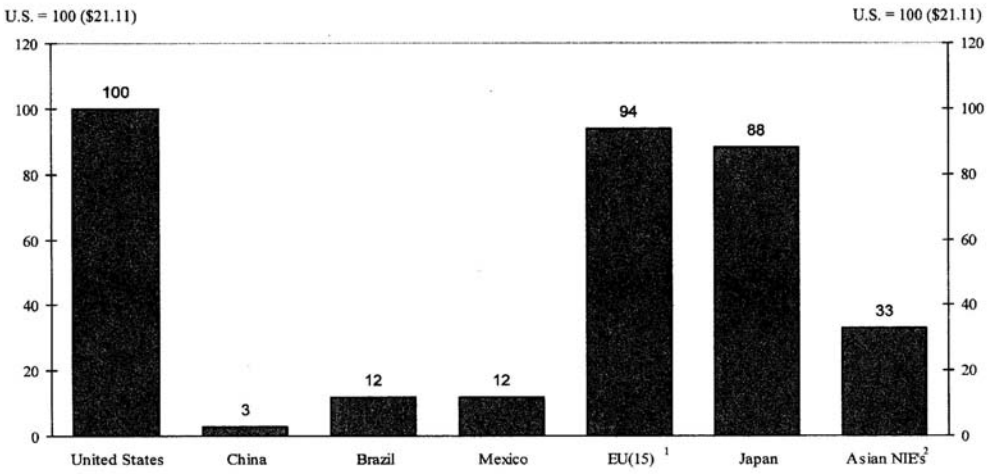
It is clear that two factors drive the interest in China: raw materials and cheap labor.

China sits on the world's largest deposit of bastnasite, a type of rare earth ore, at the Beyunebo deposit near the city of Baotou in Inner Mongolia. In fairness to one of my former employers, I should point out that while this is the world's largest deposit, it is not the best quality ore. The best quality ore is still found in the United States, although you will find differing opinions on this point. But the most pertinent economic fact is that, today, rare earths are extracted from this Chinese deposit at the lowest cost. The situation is potentially fluid and could change at any moment, due to a myriad of possibilities. In all likelihood, something will happen to change the status quo eventually. But for the foreseeable future, China will control the rare earth raw materials scene. If we are looking for a major paradigm shift in the industry, this is not the likely area, unless something extreme takes place such as a trade war or other major disruption.

Understanding some of the details of how the Chinese entered the global rare earth raw materials market will be helpful if we want to understand the situation with magnets. The first imports from China appeared around 1990 and, after some initial quality problems, gradually came to dominate the marketplace. The importance of the rare earths to China is probably best summarized by two famous quotes. One is from former Chairman, Deng Xiaoping in 1986, "There is oil in the Middle East and there are rare earths in China. We must fully exploit this resource." That is the rough translation of the sign in the picture below, prominently displayed at the rare earth separations and metals factory I visited in 2001. The other quote is from Former president, Jiang Zemin, who has said something very similar, "If coal and crude oil are the power resources of the industrial age, semiconductors and rare earths will be the important strategic resources of the coming information and green material age." These ideas have guided Chinese economic development policy for the last two decades. In addition, it has always been clear that the policy is to move toward increasing value-added products, whenever possible. The policy planners did not want foreigners to poorly compensate the country for the removal of their resources, which would be upgraded elsewhere. The idea has always been to make the most valued-added products domestically. This trend continues and shows little sign of letting up. The only concerns at the moment are improving the infrastructure of China, especially utilities and roads, to keep up with the growth, while keeping a lid on pollution.

The other driver for Chinese magnets has been very inexpensive labor. As the chart below from the U.S. Bureau of Labor Statistics shows, the Chinese have a clear advantage if one considers just the typical hourly rate paid to manufacturing workers.[1, 2] This chart may be a little misleading since the data for China report the average compensation for *all workers*, not just manufacturing workers. But the advantage is huge, nonetheless. In general, Chinese manufacturing workers are paid somewhat better than farm workers, a point that motivates the report to claim that the reserve of inexpensive labor is "inexhaustible" for the next several decades. The rationale is that there are roughly four times as many farm workers as manufacturing workers in China.

Chart 4. Average hourly compensation costs of manufacturing workers, selected economies and regions, 2002



[1] EU(15) are the European Union member countries prior to the expansion to 25 countries on May 1, 2004.
[2] Asian NIE's are the newly industrialized economies of Hong Kong, Korea, Singapore, and Taiwan.

SOURCES: Bureau of Labor Statistics, "International comparisons of hourly compensation costs for production workers in manufacturing, 1975-2003," Nov. 18, 2004; on the Internet at **http://www.bls.gov/fls/home.htm**. For China, data are from this article and not from the BLS series. The data for China refer to all employees rather than just production workers.

One counter trend to this point is that the Chinese population is aging. China is in the midst of a huge demographic shift due to the policies designed to promote low fertility that began in the 1970's. This may open the door for other low-wage countries with younger populations: Brazil, Mexico and India.

Could one of these countries displace China as the next source of cheap labor? Each country has something to offer. In this century, India will surpass China as the most populous country. It has a significant English speaking population and British-style legal system, which are helpful in some fields, but not as significant in manufacturing. Mexico has the advantage of being on the border with the U.S., a sizeable benefit. Yet it has not really delivered the goods in terms of low cost manufacturing to the extent that people predicted. And besides low wages, Brazil offers a relatively young and well-trained workforce.

What's next? I think that China will remain the dominant source of inexpensive labor for a long time. The other countries mentioned may take market share away from China, in time, but are too small to completely replace China.

But one of the problems in relying on just one factor for success is what I call the "total solution syndrome". By that I mean being convinced that a single brilliant idea will solve every conceivable problem. It is one step above being a fad. At the moment, many people believe that all problems can be solved by cheap labor. We will discover that this isn't true, just as we did with other "total solutions" in the past, such as SPC, ISO 9000, Management by Objective and even magnets made from MnAlC. Each had something of value to offer, but none could do everything we needed.

Beyond cheap labor, is there anything else that we can add to our business plan? Sure: innovation and coasting. Meaning that one can try to stay ahead by coming up with new ideas, a significant challenge to the permanent magnet industry, or we can see how long we stay afloat doing the same old thing. I vote for innovation for 2006. How about you?

References

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