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CHINA: STILL MANUFACTURING'S SHINING STAR?

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CHINA:

In less than a generation, China evolved from a scrappy developing nation into the world's factory. Adding manufacturing in China, a strategy once reserved for the largest global players, has become the norm. China has attracted foreign direct manufacturing investment at a rate unprecedented in history, from companies of all sizes and industries, driven by its low production costs, a vast supply of labor, and preferential tax treatment for foreign investors. But China's manufacturing landscape is changing. Production costs have risen steadily, particularly in the highly concentrated manufacturing centers in China's coastal regions. And in an effort to spread the manufacturing wealth to more of the country and broadly extend the economic evolution enjoyed by its highly developed coastal cities, Beijing has eliminated or dramatically reduced preferential treatment for the majority of new manufacturing activities near the coast.

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What does this mean for foreign manufacturers? Will they still flock to China's fertile promise? Will China be replaced as the world's low-cost manufacturing destination of choice? Or will a new class of manufacturers beat a path to China — while the previous class beats a path out?

Most likely, China's future appeal for manufacturers will rely less on its operating cost advantage (that is, labor) and more on its growing domestic market and talent base. China will still compete globally for low-cost manufacturing; but companies seeking the lowest-cost production locations will increasingly be forced to look outside of China, or further into China's interior, to maximize savings.

To understand the future for foreign manufacturers in China, it is important to first grasp the fundamental strategies and drivers behind why companies decide to deploy manufacturing operations offshore. Companies offshoring manufacturing and related operations typically fall into one of the following camps:

- **Cost Cutters** — aim to lower production costs by locating in areas with abundant, low-cost production inputs (typically meaning lower labor costs, but also including lower-cost taxes, utilities, transportation or even enhanced government incentives).
- **Market Builders** — aim to establish in areas where they can effectively penetrate a new or growing base of customers, driven by convenient market access, logistics and customer demographics.
- **Talent Seekers** — aim to attract and retain specific pools of knowledgeable, creative, technologically advanced talent for R&D or advanced manufacturing and are attracted to destinations with renowned educational institutions, incumbent companies with similarly high talent requirements, and living conditions conducive to attracting highly qualified, educated and mobile talent.

The continued evolution of China's economy and its corresponding policy changes are shifting the value proposition for manufacturing deployment in China and influencing the offshore deployment decisions of our Cost Cutters, Market Builders and Talent Seekers.

COST CUTTERS: ON THE MOVE

Low production costs have been the greatest driver in China's emergence as a global manufacturing powerhouse. However, the cost advantage that has lured companies for the past 20 years has gradually eroded, particularly in the coastal regions. Wage escalation is at the root of the problem; average wages in Shanghai rose at an 11.8 percent annual clip during the 10-year stretch from 1998-2007.[1] Foreign manufacturers we have interviewed throughout the Yangtze River Delta confirm similar increases in the range of 10 percent per year or higher. Real estate costs have followed a similar trend, as the demand for fully served industrial land has continued to outpace supply, driving up prices in many of the traditional foreign manufacturing investment hotbeds. China's central government propped up land costs still higher by enacting the PRC Property Law, which took effect in October 2007. Chinese law requires a public auction for all industrial land sales, and groups land into 15 classes (primarily by region of the country), each with a different minimum sales price. The impact is dramatic; land in one Yangtze River Delta investment zone, which sold for $5 per square meter as recently as 2005 (albeit, as a favored price for a sought-after U.S. company), now carries a mandated *minimum* price of $62 per square meter.

Shanghai Urban Average wage

Source: Shanghai Statistical Yearbook

In addition, recent fuel price volatility has hampered the Cost Cutters. Shipping costs, which already disadvantage a China solution for manufacturers serving North America or Europe, spiked dramatically in 2008. The cost to ship a standard 40-foot container from Shanghai to the East Coast of the United States peaked at around $8,000 in mid- 2008, up from just $3,000 in 2000 when oil was near $20 per barrel. Some experts predict costs could skyrocket to $15,000 per container if oil approaches $200 per barrel.[2] While shipping costs have come back down in response to oil priced below $50 per barrel, instability and unpredictability are challenges for manufacturers and have caused some companies to reconsider near-shore production alternatives, such as Mexico to serve North America, or Central/ Eastern Europe to serve Western Europe.

While production costs have risen steadily, China's preferential investment attraction policies also have undergone a dramatic shift over the past two years. Until 2008, many incentives were awarded based on *who you are.* The *who* China wanted

CHANGING INCENTIVES FOR MANUFACTURERS

Unified Tax Law

Corporate income taxes are transitioning from 33 percent for domestic enterprises and 15-24 percent for most foreign-owned companies to a single rate of 25 percent. In addition, a tax incentive which formerly provided a two-year 100 percent tax exemption, followed by a three-year 50 percent rate reduction for foreign investors, has been revoked.

High/New Technology Status

A 15 percent corporate income tax rate is still available to companies qualifying for High/New Technology Enterprise ("HNTE") status. However, criteria have tightened to include factors such as industry orientation, intellectual property ownership, number of employees with university degrees, number engaged in R&D, and R&D expenditures (few of which favor Cost Cutters). According to officials in leading investment zones in the popular Yangtze River Delta region, only half of the currently HNTE-designated companies are expected to re-qualify under the new guidelines, and those who do may only see temporary benefits.

Encouraged Industry Status

Companies meeting "Encouraged Industry" requirements as defined by the Foreign Investment Catalogue have long qualified for import duty and VAT exemption on eligible imported capital equipment. However, the Catalogue can change frequently, often with little warning. Recent Catalogue changes have cost companies millions of dollars by removing substantial amounts of equipment formerly eligible for exemption.

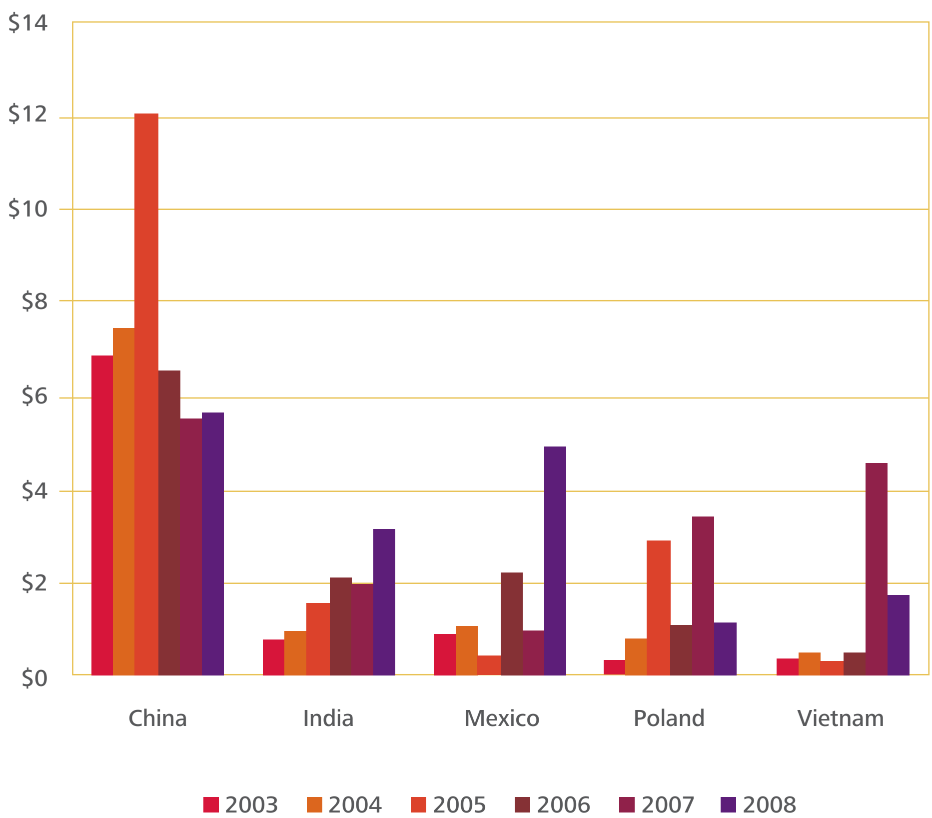
"Go West" Policies

As part of Beijing's quest for more dispersed development, effective January 1, 2009, Encouraged Industry benefits were actually expanded to additional companies locating in the central and western provinces. A separate initiative, "10,000 Businesses Going West", provides tax incentives, training and transportation benefits for companies locating in less developed regions.

was foreign companies that, as discussed, were mainly Cost Cutters viewing China as an export platform. However, more comprehensive and specific criteria have come into play, with China caring less about *who you are* and more about *what you do, how you do it*, and, increasingly, *where you do it*. The changes (*see inset box*) have had a substantial impact on China's case to attract the cost-cutting manufacturer.

There is a third major challenge to China's value proposition for Cost Cutters. In addition to rising costs in preferred areas and shifting government policies, China faces growing competition from other low-cost manufacturing destinations such as Vietnam, India, Mexico, Poland and others. None of these competitors can yet match the depth of China's labor pool and, in most cases, the robustness of its infrastructure to support manufacturing. However, many are developing rapidly in these areas, and some are offering attractive tax holidays. As China's production costs rise, particularly in the coastal regions, these countries are becoming increasingly viable alternatives.

Foreign Direct Investment Trends in Traditional "Cost Cutter" Industries 2003 — 2008 (U.S. Billions)



Data from fDi Intelligence by Financial Times. Includes announcements of planned capital investment in Electronic Components, Consumer Electronics, Consumer Products, and Textiles sectors.

So, has China lost its appeal for Cost Cutters? To some degree, it has. Many of the coastal regions, due to rising costs, evolving Central Government policy, or increased competition, are no longer preferred options for the most cost-sensitive production projects. China's interior, on the other hand, continues to offer lower costs, enhanced government support, and an improving infrastructure, which is easing the logistics challenges that have thus far hampered growth in the interior.

More accurately described, China's Cost Cutters are on the move. Some are moving to the interior. Some are moving to (or bypassing China for) other low-cost countries. But relatively few are moving to the formerly "hot" coastal region — at least not anymore.

COST CUTTER: "HOW FAR IS TOO FAR?"

A leading apparel manufacturer was seeking a location in Asia for a new state-of-the-art textile facility to manufacture product for export to North America and Europe. After also investigating Thailand, the company decided China was a better fit for the new facility but faced a key challenge; most coastal zones were too expensive, while deep interior locations were too remote, creating both supply chain and management staffing concerns. The company found a "sweet spot" in Nanjing, approximately 175 miles northwest of Shanghai, providing significantly lower labor and utility costs than coastal investment zones and an Export Processing Zone offering substantial tax benefits.

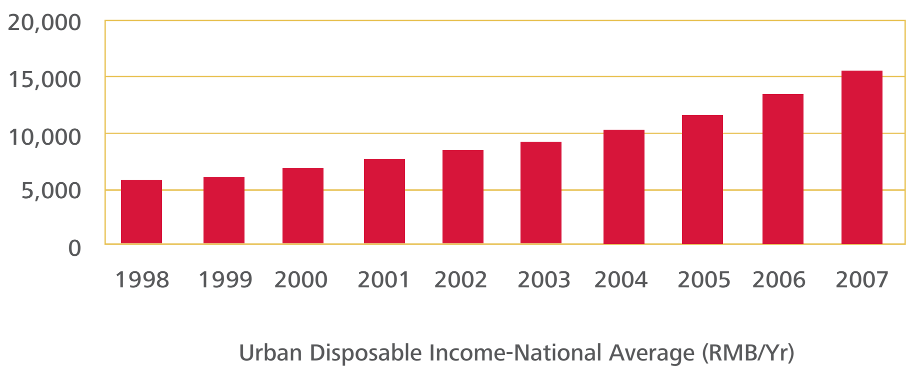
MARKET BUILDERS: A BUILDING WAVE

Market Builders follow the money — and the people who have it. China has both, but while the people have always been there, the money is new. The speed at which China's disposable income has grown may be as remarkable as the country's dramatic emergence as a manufacturing powerhouse. Consider the following:

- Average disposable income in urban households grew by 170 percent from 1998 to 2007 (see chart below).[3]

- Middle class households (defined in this case by household income > RMB 40,000 or approximately $US 5,800) rose from roughly one percent of total households in 1995 to nearly eight percent in 2008.[4]

Disposable Income



Data: China Statistical Yearbook

This newfound spending power translates into increased demand for automobiles, consumer electronics, enhanced medical care, and other conveniences perhaps taken for granted in the West, but which are now being sought at increasing rates by more of China's population each year. And the income growth wave is not expected to crest anytime soon. Middle class households are projected to double again in the period from 2005-2015 to approximately 16 percent of China's total households.[5] So while the average U.S. consumer still outspends their Chinese counterpart by a factor of 8:1,[6] growth rates in the United States and most other developed consumer markets are flat or declining while China's "adjusted" GDP growth goal remains a lofty eight percent for 2009.

Foreign manufacturers are keenly attuned to the power of the Chinese consumer and have been in a sustained sprint to obtain market share. Increasingly, this involves localizing production in China. In some sectors, such as China's rapidly growing medical device market, there are regulatory advantages to localization; companies manufacturing in China can receive preferential treatment in many regions of the country (in practice, if not in policy) by having their products reimbursed through the government sponsored healthcare system.

There are also supply chain reasons for producing in-country, particularly for products such as automobiles, furniture and household appliances, which are heavy, bulky and generally inefficient to ship long distances. This may help explain why General Motors announced the opening of its eighth Chinese auto plant in December 2008 in Shenyang (in northeast China, approximately 400 miles from Beijing), amid the closure of several U.S. plants. The large majority of the approximately one million GM cars per year produced in China are sold there, and GM's China sales are expected to rise by up to 10 percent in 2009 while U.S. sales are declining sharply.[7] And the same fuel price volatility that can unravel a Cost Cutter's business case for serving the United States or Europe from China has an opposite effect on Market Builders, creating increased incentive to shorten the supply chain and manufacture product closer to the end consumer.

Many of Beijing's economic and foreign direct investment policies aid the future growth of Market Builders. A key message from the 2009 annual twin meetings of the National People's Congress (NPC) and Chinese People's Political Consultative Conference (CPPCC) is that China must rely mainly on domestic demand to meet its 8 percent growth target for 2009. To help achieve this goal, the government plans to adjust several financial and currency policy levers, such as reducing taxes in some areas and enhancing access to credit for small to mid-size companies. The massive investments poured into China's infrastructure throughout the past decade have also bolstered the business case for Market Builders, which may be further buoyed by the Chinese government's $US 586 billion stimulus package announced in November 2008, some 45 percent of which is allocated for infrastructure development. Resulting improvements to the transportation network make it easier to distribute product throughout China, enhance access to the vast interior of the country, and ultimately help companies reach more consumers. Despite the upgrades, however, China's transportation network is today still far from ideal. The cost to transport goods by road in China is often inefficient and still roughly double the cost of that in the West. Therefore, continued infrastructure improvement will likely further build the China case for Market Builders.

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Money and a vast pool of consumers have lured Market Builders to China in droves, and have also influenced where they set up shop once they arrive. China's population and income distribution remain heavily skewed towards the coastal regions. As of

MARKET BUILDER: "LOCAL PRESENCE REQUIRED"

After evaluating product sales potential globally, a leading producer of medical devices was enticed by China's huge latent market — an aging population, growing wealth, and increasing discretionary spend on health care. A comprehensive analysis of market potential, China's health care reimbursement policies, various market entry strategies, and likely plant operating costs and conditions led the company to build a manufacturing plant to develop and distribute customized products for the China market, versus importing the products from its plants in the United States and Europe. Its chosen location in Suzhou offered central access to many of China's leading hospitals and critical suppliers, along with the technical skills and infrastructure required to produce highly precise devices.

2008, the three main economic hubs (Bohai Rim including Beijing, Yangtze River Delta including Shanghai, and Pearl River Delta including Guangzhou) accounted for 36 percent of China's population and 55 percent of consumer expenditures.[8] Over time, if China is successful in its efforts to redistribute income — and population — more equally throughout the country, Market Builders will increasingly follow consumer spending to the interior. For now, however, most remain focused on China's wealthier, more urban, and primarily coastal consumers.

The wave of manufacturers entering or expanding in China primarily for market building objectives continues to build. Demographics, supply chain considerations, and China's economic policies are aligned to support future expansion of Market Builders. With many of the Cost Cutters moving on to less expensive destinations, Market Builders are poised to take over as the growth engine for China's manufacturing sector.

TALENT SEEKERS: THE POOL DEEPENS

Talent Seekers are enticed less by China's manufacturing cost savings or market potential and more by the desire to tap a large, highly skilled pool of scientists, engineers, technicians and skilled production labor. China's talent pool is already deep and is expanding rapidly each year. In 1996, China had an estimated 5.7 million *total* students enrolled in higher education. By 2007, the country had *graduated* nearly that many — approximately 5.1 million, of which over 40 percent were science or engineering majors — and total enrollments had increased 3.5 times to over 20 million. Technical/vocational school enrollment also doubled over the same period, to roughly 20 million in 2007.[9] The increasing size of this pool has not gone unnoticed by the world's Talent Seekers.

China is working another angle to bolster both the quality and quantity of its talent pool — aggressive campaigns to lure back educated Chinese nationals currently living overseas. In 2008, a record 69,000 Chinese students who studied abroad returned to China, an increase of over 55 percent from 2007, according to Chinese government statistics.

Perhaps of greater importance, China's talent is also getting better. The *World Competitiveness Report* "science in school" indicator, which measures the degree to which science is sufficiently emphasized in the education curriculum, ranked China in the top 15 percent (9th out of 69 countries surveyed) in 2008. Considering this same indicator in 1996 placed China near the bottom 15 percent (38th out of 45 countries surveyed), the improvement in just 12 years is extraordinary.[10] And not only is educational content changing, the education method itself has been revamped. Traditional rote learning, which focuses on repetition and memorization, is giving way to more creative thinking techniques preferred by talent seeking companies from the West. The continued embrace of this fundamental shift in educational philosophy will help foster the large-scale research and development growth and attraction of the highest manufacturing technologies desired by Beijing.

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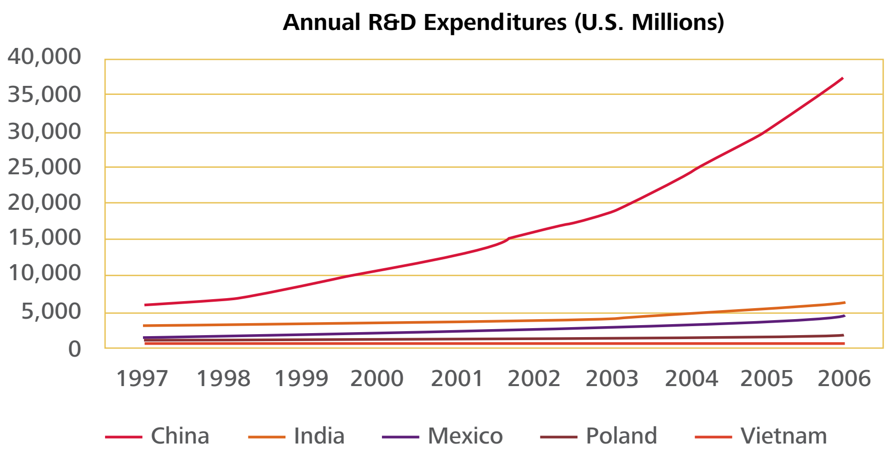
China's foreign investment policies also reveal the extent to which it covets Talent Seekers. The revised requirements for foreign companies to qualify for the tax advantages that come with High and New Technology Enterprise status designation (*see inset box for a description of benefits*) emphasize a well-educated and R&D oriented workforce, significant spend on R&D, and intellectual property ownership within China. Similarly, each change in China's Foreign Investment Catalogue omits more lower-skilled manufacturers from Encouraged Industry benefits but retains talent-seeking industries such as advanced electronics, alternative energy, life sciences and nanotechnology.



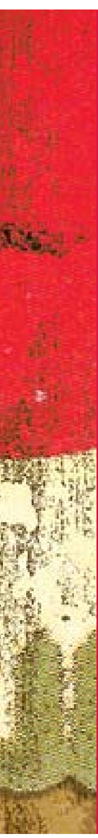
IMD World Competitiveness Report. Data for India (2005-2006) and Mexico (2006) have been extrapolated based on the growth rate for the latest available year. Data for Vietnam are poorly publicized but are believed to be under U$1billion.

Despite China's ambition to attract talent-dependent manufacturing and its related R&D functions, and increasing success in doing so (*see graph above showing growth in R&D expenditures*), significant obstacles remain. Intellectual property rights have been a steep barrier. China has taken several steps to address its rather dubious reputation in this area, and according to most measures, the IP climate has improved. However, threats to IP protection still substantially restrict the nature of R&D many companies are willing to conduct in China. And based on several of our own recent experiences, we can report that IP-related anxiety still causes many manufacturers in advanced technology or nascent industries, such as alternative energy, to steer clear of China when considering new global facility deployments that will employ new and proprietary technology.

China's talent pool continues to deepen and improve, but throughout the country, demand for top quality engineering and managerial talent continues to outpace supply. A well-educated, English speaking engineer or scientist from a top Chinese university, especially one with Western company experience, has virtually limitless opportunity to choose among competing foreign and domestic companies. This makes it difficult for a Talent Seeker not only to attract, but more importantly, to retain top talent. The global downturn has relieved some pressure in China's talent war by causing companies to scale back hiring and employees to place a premium on job stability. An economic recovery, however, will likely restore employee leverage. While a highly skilled employee in today's China has many choices, their suitors have few. They must choose locations where the talent wants to be, which today means China's most cosmopolitan coastal cities. A handful of established places — cities such as Shanghai, Beijing, Suzhou and Guangzhou, combined with a few up and comers such as Chengdu and Dalian — will likely continue to win China's war for Talent Seekers for the foreseeable future.

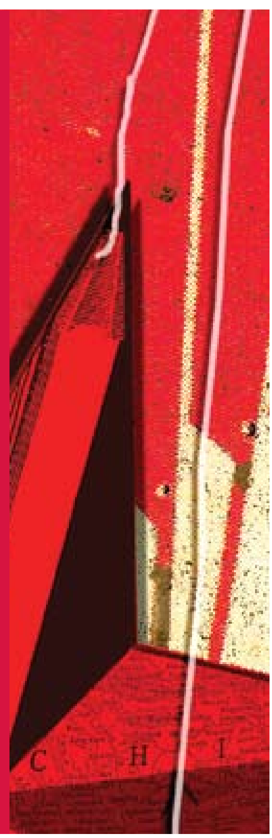
A CHANGING LANDSCAPE

The combination of China's success in attracting foreign manufacturers for the past 20 years with its ongoing FDI policy changes has transformed the coun-



TALENT SEEKER: "WILL PAY FOR QUALITY"

A pharmaceutical company was seeking to bolster product research and development of pharmaceutical products. After exploring both its own current global base of labs and other likely global talent pools, the company determined that China would provide not only a deep pool of qualified scientific and technical talent, but also a good location for product testing and pilot manufacturing. Additionally, the new China R&D base could work in tandem with its other global R&D centers, while also developing products specific to the burgeoning China market. The company selected Shanghai — despite its high cost structure — because it was the best location to source top R&D talent locally, from throughout China, and abroad.



try's manufacturing environment. A rapid ascent up the economic ladder along the coastal region has created a focus on higher technologies, new industries, and other corporate functions. Consequently, foreign manufacturers are now less likely to think of China solely as a low-cost export platform and more as a fertile new market for both customers and talent.

Rising costs for labor and land, less preferential tax and incentives policies, combined with China's focus on higher and more strategic technologies are forcing the initial waves of lower-technology manufacturers to adapt, move inward and, in some cases, move out. Cost Cutters seeking a very low-cost manufacturing platform are looking towards China's developing interior or to China's ever-growing competition for low-cost manufacturing in Southeast Asia, India, Latin America and, perhaps someday soon, Africa.

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This assumes, of course, that current China policy and cost pressures remain. If however, China begins to miss growth targets and unemployment rises substantially, it will be no surprise to see its policies adapted to refill the pipeline of Cost Cutters expanding or deploying new operations in China — even in the currently oversubscribed coastal region.

It is a different story for Market Builders as they continue to be spurred on by China's rising income, growing middle class with discretionary wealth, and the continued migration from rural areas to the cities. China is quickly evolving from an economy driven almost solely by exports to one increasingly driven by domestic consumer spending. Although this transition is still in its early phases, and an extended global recession will no doubt have an impact, an increasing number of Market Builders will likely be persuaded by China's potential and implement their "follow the money" strategy, developing more production and distribution operations in China to serve a rapidly growing customer base.

Similarly, Talent Seekers will continue to be captivated by China's abundant and improving pool of technical talent; an educational system that continues to advance with curricula more closely matching manufacturer's needs; more managers, scientists and engineers gaining valuable experience working for foreign companies; steadily improving English language skills; and a steady flow of Chinese professionals and students returning to China from overseas. But in the near term, given the higher technology requirements of most Talent Seekers, they may also continue to struggle with concerns over China's intellectual property protection and with fierce competition for top talent (and the rising salaries that ensue) in the ever-growing cosmopolitan centers where much-sought talent congregates.

Finally, it is important to realize that the objectives of Cost Cutters, Market Builders and Talent Seekers are not always independent, but are increasingly intertwined. More companies are viewing China as a vehicle to lower production costs and access new markets, or to source new talent pools while *also* reducing R&D expenditures. The extent to which companies are driven by cost cutting, market building, or talent seeking objectives will not only impact how China fits into a global manufacturing strategy, but also where within China manufacturing and R&D deployment will be optimized.

Is China still the shining star for global manufacturing? Yes, but for different reasons than 10 or even five years ago. It may no longer be quite the happy hunting ground for pure Cost Cutters that it was then, but it is even more attractive to Market Builders and Talent Seekers. China has evolved and matured. Foreign manufacturers expanding or deploying there will need to do the same. The next generation of foreign manufacturers in China are more likely to employ a more holistic business model — one that embraces the principles of Cost Cutter, Market Builder and Talent Seeker, striking a balance between low operating costs, serving new customers, and gaining a competitive human resources edge — potentially all within a single geographic location in China. Their global competitiveness may depend on it.

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