



SKOLKOVO
Moscow School of Management

IS LOW WAGE
MANUFACTURING IN
CHINA DISAPPEARING?
WHO WILL BE THE
WORLD'S NEXT
WORKSHOP?

 **ERNST & YOUNG**
Quality In Everything We Do

**SIEMENS MONTHLY
BRIEFING**

SKOLKOVO Institute for Emerging Market Studies
Moscow School of Management
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EXECUTIVE SUMMARY

Growth in Chinese manufacturing has been the critical element in that nation's ability to achieve average annual real GDP growth rates of approximately 10 percent since the early 1980s. And it has been "cheap labor", more than anything else, which has fueled China's competitiveness and growth in this sector. Higher profile strikes and rapid wage gains in China over the past year have given analysts speculation that the era of cheap labor may finally be coming to an end. In its study we find that China's wages remain very competitive against many other emerging market economies. Moreover, Chinese manufacturers, unlike those in many other developing economies, like Vietnam and India, possess many other advantages (like higher productivity and deep supply chains) that have largely offset the rapid wage gains in recent years. The study also finds that China's working-age population will not peak until around 2020, providing China with sufficient labor input.

The highlights of the report include:

- Taking into account the increasingly large number of workers employed in the "informal" economy, China's average wage levels in manufacturing currently remains competitive against most other Asian developing countries.
- SIEMS' estimate for the average hourly compensation in China's manufacturing sector is RMB 7.1 in 2010 (or \$1.05 at the current exchange rate), with the corresponding monthly compensation running RMB 1,652 (\$244).
- Chinese real wages in manufacturing, after accounting for inflation and labor productivity gains, are actually lower now than they were in 2001.
- While China's supply of 15-24 year-old workers (the ideal age for the lower-end manufacturing that China's has specialized in) has recently peaked at 228 million in 2010, the total labor supply in this age cohort is estimated to be a solid 200 million by 2015, more than they numbered in the year 2000.
- China's working-age population (16-59) will not begin falling until 2020, providing China with sufficient surplus labor and keeping a lid in the growth in labor compensation over the next decade.
- China's "interior" provinces, possessing lower wages than the coastal regions and endowed with a large labor reserve, is likely to become the most immediate recipient of global manufacturers looking for competitive locations.

That said, the report also notes that China's labor share of nation income, now at record lows, is poised to begin rising rapidly over the next decade. These gains will eventually cause some of China's most labor-intensive sectors, such as apparel, to become uncompetitive, forcing relocation to new venues, such as Vietnam and Bangladesh.

INTRODUCTION

China's recent labor strife has garnered a great deal of media attention. Honda was required to almost double wages in several factories to keep production going and labor strikes have plagued the country with increased frequency. Many of

China's larger provinces have significantly raised their minimum wages over the past year. This begs the question whether China's model of cheap labor, which has fueled much of its economic growth during the past three decades, is finally beginning to crack. Some multinational firms, both foreign and Chinese, are reportedly considering relocating their production facilities from China to other emerging economies, particularly China's Asian neighbors, such as Bangladesh, Cambodia, India, Indonesia and Vietnam.

While China is bound to eventually lose its competitive advantage as a low-wage producer as it continues developing and moves toward higher "value-added" manufacturing and the production of services, the fact remains, however, that it is far from reaching that stage. And this is fortunate because China currently lacks real advantages in higher education, efficient markets and enterprise and a capacity for innovation and still requires low wages to drive economic growth.

Fortunately, the recent wage increases have not changed the basic cost structure of the Chinese labor market. In fact, real wages, after accounting for inflation and labor productivity gains, are lower now than they were in 2001. Moreover, near-to-medium term trends in the Chinese economy favor the retention of this low-wage model.

This paper tries to shed some light on whether the recent wages hikes mark the beginning of the end for the low wage economic model in China and whether other developing countries throughout Asia are likely to become China's heir.

Near-to-medium term trends in the Chinese economy favor the retention of this low-wage model.

I. CHINA: THE WORLD'S WORKSHOP

During past two decades, China's manufacturing sector averaged annual growth of approximately 12%, even faster than the 10% clip its overall economy averaged over the same period. Not surprisingly, its share of GDP, hovering around one-third, is quite high by global standards. Its share of GDP rose last decade from 32% to 34%. Manufacturing's share of GDP in many of the other emerging market economies is much smaller, averaging in the range of the high-teens. Indonesia's share at 28%, is the one notable exception. India's service sector dominates its economy and manufacturing only accounts for approximately 16% of GDP.

MANUFACTURING'S VALUE ADDED AS A SHARE OF GDP

Country	2000	2008
Bangladesh	15.23	17.83
Cambodia	16.87	16.40
China	32.12	34.38
India	15.60	15.82
Indonesia	27.75	27.87
Sri Lanka	16.83	17.95
Vietnam	18.56	21.10

Source: WDI

World manufacturing centers throughout history were typically determined based on technological advancements. For example, the United Kingdom became the world's first workshop as a result of the industrial revolution that started there. In turn, the US and Germany hegemony in high-end manufacturing was directly related to their technological superiority in many areas of manufacturing. But China's rise was not the result of innovations but directly a consequence of its massive supply of cheap labor. China's thirty year "demographic dividend" from 1980 through 2010 provided the Middle Kingdom with a continuous workforce cohort of between 200-250 million 15-24 year-olds (the ideal age range for the low-tech manufacturing China specialized in) every year.

The high profile strikes and significant wage increases witnessed throughout many sectors of the Chinese economy, however, is increasingly leading to the belief that many elements of China's manufacturing is

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destined to move offshore toward other emerging market economies, particular in east and south Asia. We assess this likelihood by first comparing China's wage levels with that of other Asian emerging market economies.

1. AN ESTIMATION OF CHINA'S HOURLY WAGE RATE

There are not, unfortunately, any comprehensive and internationally comparable data on China's wage levels. However, any attempt to evaluate labor competitiveness without estimating China's wage rate would not be meaningful.

In order to estimate China's wage rate accurately, one must differentiate between China's "formal" and "informal" workforce sectors. Labor costs differ significantly between these two sectors. According to the International Labor Organization, informal employment is characterized by a lack of stability or security. Such employment is often temporary, lacks a formal contract, and doesn't provide social insurance benefits or other worker protections. The informal sector is mainly comprised of those economic activities that are neither taxed nor monitored by the government and largely missing from GDP accounting. The formal sector of the economy, conversely, typically has formal contracts and provides benefits to many of its workers. Nevertheless, in China there are still a large number of informal workers employed throughout the formal sector.

The existence of China's large informal employment workforce can make it difficult when comparing international labor costs. Employees in the informal sector have much less protection than their counterparts in the formal sector. For example, according to a mini-census in 2005, 73.8% of employees in the formal sector had pensions while only 19.5% of informal employees did. Approximately 78% of formal employees had health insurance compared to 26.6% in the informal sector. More than 54% of formal sector employees have unemployment insurance, whereas this ratio was only 7.9% in the informal sector. Because labor compensation between the formal and informal sectors and migrant and local workers are so large, using only publically available formal sector manufacturing wage levels to proxy national wage levels would significantly overestimate China's true hourly wage levels.

Thus, in order to estimate labor costs more accurately, a distinction must be made between the formal and informal sectors, and local workers and migrant workers. The following table gives some clues in gauging the size of China's informal employment. According to China's statistical classification system, formal employment does not include those employed in private enterprises, township and village enterprises (TVE), and sole proprietorship firms. In comparison to total employment in manufacturing sectors, formal employment is relatively straightforward

to calculate. The China Statistical Yearbook provides relevant data till 2008. However, the most recent data for total employment in manufacturing is from 2002. Employment in the formal sector has been declining as a result of the large layoffs by many of the state-owned enterprises (SOE) that started in the mid-1990s. In the first wave of SOE layoffs over 30 million jobs were eliminated. Many of these workers reentered the labor market as informal employees. According to official sources, formal employment is roughly equal to one-third of total employment.

MANUFACTURING EMPLOYMENT IN CHINA (IN MILLIONS)

	Formal	All
1998	37.7	83.2
1999	35.0	81.1
2000	32.4	80.4
2001	30.1	80.8
2002	29.1	83.1

Source: China Statistical Yearbook 2009

As noted earlier, it is difficult to estimate an accurate picture of hourly labor costs without a representative nationwide survey. Fortunately, there was a comprehensive survey of China's urban labor market taken in 2005.

CHINA'S LABOR COSTS IN 2005

Informal	Local Workers	Migrant Workers
Working Days per Week	6.0	6.8
working Hours per Day	8.9	10.6
Monthly Earnings(RMB)	1094.0	976.0
Pension	54.8	2.1
Unemployment Insurance	12.6	0.4
Working Injury Insurance	6.0	1.2
Health Insurance	32.6	1.3
Formal		
Working Days per Week	5.3	6.0
working Hours per Day	8.2	8.7
Monthly Earnings(RMB)	1387.0	1247.0
Pension	82.1	29.0
Unemployment Insurance	39.7	17.8
Working Injury Insurance	29.1	31.7
Health Insurance	71.4	29.7

Source: China Urban Labor Survey 2005 and SIEMS Calculations

Not surprisingly, the survey found that workers in the informal sector were in relatively poor working conditions. For example, local workers in the informal sector typically worked ten hours per week longer than their counterparts in the formal sectors, while the migrant workers in the informal sector were working almost twenty more hours per week more than migrant workers in the formal sectors.

The gap in the levels of social benefits was also very significant. Employers spent about RMB106 per month on social benefits for local workers in the informal sector, which was roughly half the benefit spent on local workers in the formal sectors. Migrant workers were even less protected. The social benefit expenditure on migrant workers in the informal sectors was a negligible RMB 5 per month, amounting to 5 percent of what local workers in the informal sector received and 2% of what local workers in the formal sector received. Approximately two-thirds of workers in the manufacturing sector were informally employed and the majority of these informal workers were migrant workers.

In 2005, China's hourly labor cost for local workers in the informal sector was RMB 5.19 per hour and RMB 8.55 for local workers in the formal sector. Migrant workers earned about RMB 3.14 in the informal sector and RMB 5.99 in the formal sector. To derive current estimates for China's hourly labor costs in manufacturing, we start with several assumptions.

First, manufacturing wages grew 13% per year in the formal sectors (which is what they averaged between 1998 and 2008). It should be noted that workers in the formal sector typically have a tenured contract with their employer. For example, data from China Household Income Project (CHIP) show that over 75% of local residents have long-term tenure, compared to only 5% of migrant workers. Excluding local residents who work in the informal sector, at least 90% of local residents in the formal sector have long-term tenure contracts.

The existence of long-term tenure contracts gives workers bargaining power and there should be a relatively clear mechanism to increase wages annually. However, informal sector workers face a different situation because by and large their employment is random and short-term in nature. Migrant workers typically don't have any type of tenure and have high job turnover.

Approximately two-thirds of workers in the manufacturing sector were informally employed and the majority of these informal workers were migrant workers

Migrant workers typically don't have any type of tenure and have high job turnover

This high turnover in the informal sector also place workers in a disadvantaged position since no employers are willing to increase wages for an individual worker. If employers increase wages for new workers, then, they have to enhance wages for most or all incumbent workers. If facing manpower shortages and needing to fill positions quickly, employers may use a slightly higher wage to attract workers. Once the backlog of orders has been filled, however, firms often just fire workers without granting any significant severance. For instance, there were over 25 million migrant workers fired in 2009 due to the impact of the global financial crisis. Thus, steady wage growth in the informal sector has not been a regular phenomenon. For example, a recent survey by the All-China Federation of Trade Unions shows one-quarter of Chinese workers have not had a pay raise in the past five years—during a period of exceptional economic growth in China. Therefore, our second assumption is that the wage rate in the informal sectors grew 10% annually. Our third assumption is that the average wage level in the manufacturing sector is 85% of the national average, which is what it has averaged in recent years.

Based on these assumptions, we estimate the 2010 hourly compensation (including social benefit costs) for local workers in the informal sectors is RMB 6.48 (or \$0.96), and RMB 4.27 for migrant workers in the informal sector. Local workers in the formal sector have the highest compensation at RMB 12 per hour (or \$1.75 at the currently exchange rate).

Employment in the formal manufacturing sectors is currently about one-third of total employment. The share of migrant workers to total urban employment has been relatively stable in recent years at a little under one-half (46.5%). Thus, our estimate for the weighted hourly compensation in China's manufacturing sector is RMB 7.1 in 2010 (or \$1.05 at the current exchange rate)¹, with the corresponding monthly compensation running RMB 1,652 (\$244).

CHINA'S FULL LABOR COSTS IN MANUFACTURING SECTOR

	Hourly (RMB)	Hourly (USD)	Monthly (RMB)	Monthly (USD)
Informal				
Local Workers	6.48	0.96	1499.5	221.5
Migrant Workers	4.27	0.63	1333.7	197.0
Formal				
Local Workers	11.87	1.75	2235.3	330.2
Migrant Workers	8.69	1.28	1965.7	290.3

Note: Full labor cost includes basic hourly wages and social benefit charges.
1USD=6.77RMB as of August 5, 2010

Source: CASS 2007, CULS 2005 and SIEMS' Calculations

¹ As a sensitivity check, if we assume the wage growth rate in the formal sector to be 16% annually and the informal sector's wage rate grows at 13%, the weighted hourly compensation is 1.19 USD in 2010.

2. AN INTERNATIONAL COMPARISON OF HOURLY LABOR COSTS IN THE MANUFACTURING SECTOR

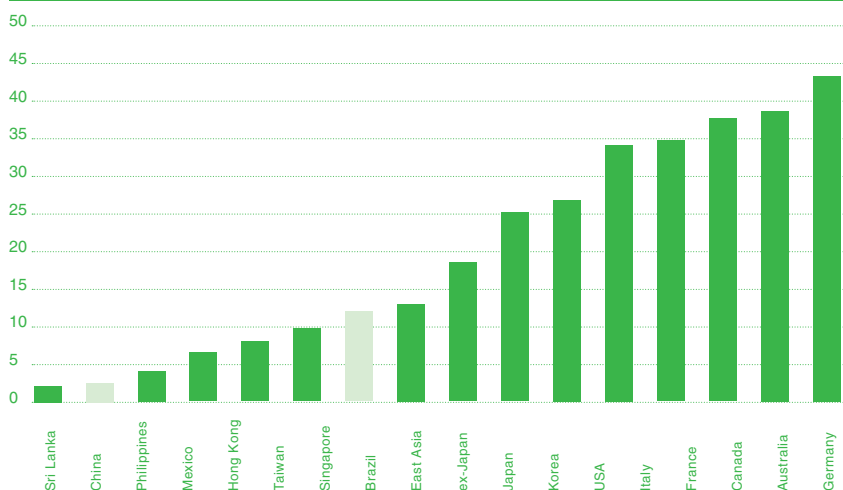
China became the world's workshop based primarily on one condition: an almost endless supply of very cheap labor. But is China's labor still cheap today in comparison to other countries? The US Bureau of Labor Statistics (BLS) provides hourly manufacturing labor costs for some advanced economies and a number of the emerging economies (China is not included but we substitute our own estimates).

For the figures on hourly manufacturing labor costs, it is clear that China is still among the countries with the lowest labor

costs in the sample.² Only Sri Lanka, averaging \$0.7 per hour, is less than China's hourly compensation in manufacturing. Manufacturing labor costs in Mexico and Brazil are approximately 3 and 11 times higher, respectively, than China's. Against the advanced economies, the compensation gap remains enormous.

Manufacturing labor costs in Mexico and Brazil are approximately 3 and 11 times higher, respectively, than China's

FIGURE 1: Hourly Manufacturing Labor Costs in Dollars (2010)



Source: BLS and SIEMS' Calculations.

² BLS' most recent year on wage level is 2007. Manufacturing costs for 2010 were estimated by assuming labor costs changed at the same pace from 2005 to 2007.

3. A CASE STUDY ON HOURLY LABOR COSTS IN THE APPAREL MANUFACTURING SECTOR

In this case study we examine apparel manufacturing, a highly labor intensive sector and one very sensitive to changes in labor costs. According to official sources, the average wage rate in China's apparel industry varies from 76.7% to 80% of the average wage rate in manufacturing, giving China's apparel industry an estimated hourly labor cost of \$0.65 in 2008.³ This is only slightly higher than apparel manufacturing labor costs in India. However, one factor we need to account for is the large wage gaps between China's coastal and inland areas. Currently, average wages in the interior run one-half of those along the coastal regions. Thus, if firms relocated production to inland areas, labor cost could be cut.⁴ Bangladesh, Pakistan and Vietnam, however, do currently have considerably lower labor costs than China, which is why these countries have begun attracting more apparel makers in recent years.

APPAREL MANUFACTURING LABOR COSTS IN 2008 In USD per Hour Including Social Benefits Charges

Country	Wage	Country	Wage
Bangladesh	0.22	Guatemala	1.65
Cambodia	0.33	Tunisia	1.68
Pakistan	0.37	South Africa	1.75
Vietnam	0.38	Honduras	1.76
Sri Lanka	0.43	El Salvador	1.79
Indonesia	0.44	Lithuania	1.97
India	0.51	Morocco	2.44
Haiti	0.52	Turkey	2.54
China⁵	0.65	Mexico	2.55
Egypt	0.83	Poland	2.57
Jordan	1.01	Brazil	3.35
Russia	1.01	Costa Rica	3.44
Philippines	1.07	Slovakia	3.55
Malaysia	1.18	Slovenia	3.55
Peru	1.18	Romania	4.03
Thailand	1.32	Latvia	4.23
Colombia	1.42	Hungary	4.45
Bulgaria	1.53		

Source: Jassin-O'Rourke Group 2008 and SIEMS'Calculations

³ \$1=RMB 6.94, the average exchange rate in 2008

⁴ These hourly labor costs do not take into account labor productivity, which China would hold a considerable advantage. Unit labor costs, or labor costs per unit of output, are not available for cross country comparison.

⁵ China's data was estimated by the author.

4. AN EXAMINATION OF GLOBAL WAGE GROWTH TRENDS

There was an estimated 20% hike in China's minimum wage level this year. As a result, manufacturing wages are rising rapidly in many places. For example, Foxconn, one of the largest contract makers of electronic products, raised assembly line workers' wages from RMB 950 to RMB 1200 (nearly a 30% hike) since June 2010.

This begs the question of whether this large hike is the beginning of many more to come.

We start by examining the wage growth rate in several emerging economies from 2000 to 2009. Clearly,

China's wage growth has indeed been rapid and is only second to India's 16.5% rise. Interestingly, wage gains throughout much of many of the other emerging economies over this period have been quite modest.

China's wage growth has indeed been rapid and is only second to India's 16.5% rise

WAGE GROWTH RATE IN SELECTED ECONOMIES (2000–2009)

Country	Mean Growth Rate (%)
Bangladesh	1.68
Brazil	-1.69
China	12.38
India	16.48
Indonesia	3.61
Sri Lanka	-0.49
Vietnam	1.43

Source: EIU and SIEMS' Calculation

Looking at other comparable economies in similar economic stages of development, however, we find that China and India's wage growth rate is nothing unusual. For example, during the 1970s and 1980s, when the Newly Industrializing Countries (NICs) of Hong Kong, South Korea, Singapore and Taiwan were experiencing exceptional rates of economic growth, their rate of wage growth was also very fast.

It appears that both Brazil and Sri Lanka have had difficulty in recruiting enough manufacturing workers. For example, Brazil's national wage level actually decreased by 1.7% annually between 2000 and 2009. However, its average manufacturing wages grew 8% during this period. According to the BLS, Brazil's manufacturing wage levels grew at 32.5%, 20.3% and 19% in 2005, 2006 and 2007, respectively. Sri Lanka has a similar situation, where its manufacturing wage grew 4% despite a decline in the na-

tional wage rate. When manufacturing wages are rising faster than average wages in general, it implies a shortage of qualified workers for that sector.

Perhaps the critical question is whether China's recent wage hikes in manufacturing are likely to continue at their current pace? Many analysts believe so because of two factors.

First, it has been noted that China's aggregate labor income as a share of national income is now well below the world average and is poised to rise. Second, China's plentiful supply of labor ideally suited for manufacturing is now significantly slowing. We will examine each factor, in turn.

China's plentiful supply of labor ideally suited for manufacturing is now significantly slowing

Empirical studies have found a U-shaped pattern timeline for labor's share of national income. That is, labor's share of national income will decrease initially as per capita GDP increases before bottoming out and then eventually reversing, with labor taking a progressively larger share of national income. For instance, labor's share of national income for the NICs exhibited this pattern as rapid export growth and high rates of domestic investment took every increasing shares of national income before bottoming in the 1980s. China's labor share of GDP had been relatively stable until 2002. Since then, its share has dropped by about 8 percentage points, or from 50% to 42% of national income, making it among the lowest shares in the world. But according to some recent studies⁶, China's adjusted labor share of GDP is significantly higher than this figure, once taking into account the income from self-employment, particularly from sole proprietorship firms. Perhaps more importantly, a recent study by Credit Suisse found a large amount of hidden income from the gray economy that is not reported to the authorities⁷. Estimated at 5.4 trillion in RMB in 2009, this huge mountain of cash would significantly increase labor's share of income.

That said, there are reasons to believe that labor's share of income in China are set to rise. Historically, labor share of national income typically reaches its bottom when per capita GDP reaches \$6,000 in Purchasing Power Parity (PPP) terms. Afterwards, workers' share of output starts rising. According to EIU's macroeconomic projections, Indonesia will reach this threshold point around 2015, India at 2017, Vietnam around 2019 and Bangladesh not until 2029. China's GDP per capita income already surpassed \$6,000 in 2008. Unless China breaks this old labor U-curve relationship, it should be the first one to see a rising labor share of national income.

⁶ Li, D., Liu, L., and Wang, H., 2009, "The U Curve of Labor Share in GDP during Economic Development" *Economic Research Journal*, Issue 1.

⁷ Wang, Xiaolu, 2010, "Gray Income and the Distribution of National Income", *Comparative Studies* Vol. 48.

Recent wage hikes and labor unrest, however, have not been specific only to China. Bangladesh in July implemented an almost two-fold rise in the minimum wage for its garment industry in a bid to end months of worker unrest. Vietnam's government recently decreed a double-digit pay raise and enacted a new labor law. Cambodia, India and Indonesia have also recorded large strikes for worker pay raises since early this year.

LABOR SHARE OF GDP IN SELECTED ECONOMIES (1960–2005)

Country	Adjusted Labor Share	Country	Adjusted Labor Share
Australia	0.56	New Zealand	0.59
Bolivia	0.54	Russia	0.52
Cameroon	0.60	US	0.61
Canada	0.58	Latvia	0.49
China	0.52	Poland	0.48
Chile	0.45	Romania	0.55
Spain	0.55	South Africa	0.57
Czech	0.46	Thailand	0.42
Denmark	0.59	Sweden	0.61
Honduras	0.64	Switzerland	0.61
Japan	0.56	Malaysia	0.51
Korea	0.54	Tunis	0.50

Source: Li, Liu and Wang, 2009⁸

⁸ Li, D., Liu, L. and Wang, H., 2009, The U Curve of Labor Share in GDP during Economic Development, Economic Research Journal Issue 1.

II. LABOR PRODUCTIVITY

Labor compensation (wages plus benefits) is only one factor affecting the cost effectiveness of labor. To determine the real cost of labor, we need to factor in labor productivity.⁹

Among the emerging market economies, there exist large productivity gaps. For example, according to the Hong Kong Trade Development Council's recent estimation¹⁰, China's average output per worker in the manufacturing sector (measured in PPP adjusted current US dollars), was \$22,500 in 2008. Vietnam, Bangladesh and Cambodia, conversely, were \$8,100, \$7,200 and \$4,200, respectively, a fraction of China's.

One of the basic tenets of labor theory states that firms should cease hiring when the value of the marginal product of a worker equals the going wage rate. Thus, to keep unit labor costs equal across countries, China's wage level should be approximately 2.7 times higher than Vietnam's, 3.1 times higher than Bangladesh's, and over 5 times higher than Cambodia's. But as shown in section one, we do not see wage differentials anywhere close to this magnitude.

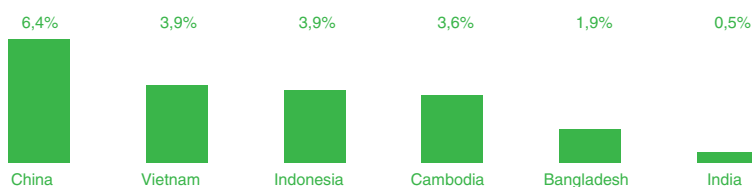
Examining labor productivity growth in the manufacturing sector in recent years, we find similar results. China's labor productivity has grown much faster than its Asian neighbors. The most striking observation is that India's manufacturing productivity growth is actually quite anemic, having averaged just 0.5% annually.

There are, however, two powerful forces which should begin narrowing the productivity gap between China and some of these other emerging markets. First, much of the gain in

Among the emerging market economies, there exist large productivity gaps

China's labor productivity has grown much faster than its Asian neighbors

FIGURE 2/ Manufacturing Labor Productivity Growth (2000–2007)



Source: APO Productivity Databook 2010, Asian Productivity Organization

⁹ Unit labor costs were not available for country by country comparison.

¹⁰ "The Competitive Supply Chain: China v Arising Asia", June 3, 2010

China's labor productivity has come from the enormous population migration from the rural to urban centers. India is really just starting this process¹¹. Secondly, expected changes in the literacy rate can exert powerful changes in labor productivity over time. The adult literacy rate in China, Brazil, Indonesia and Vietnam are already quite high but in Bangladesh and India adult literacy is pitifully low. As the literacy rate in these two economies continue rising so should these nations' rate of labor productivity.

LITERACY RATE IN SELECTED ECONOMIES (2008)

All (15–59)	%	Young (15–24)	%
Bangladesh	55.0	Bangladesh	74.4
Brazil	90.0	Brazil	98.0
Cambodia	77.0	Cambodia	87.0
China	93.7	China	99.3
India	63.0	India	83.0
Indonesia	92.0	Indonesia	97.0
Philippines	93.6	Philippines	94.8
Vietnam	92.5	Vietnam	96.8

Source: WDI and SIEMS' Estimations

¹¹ China's urbanization rate stood at 43% in 2008, in comparison to India's 30%.

III. LABOR SUPPLY POTENTIAL AND LEWISIAN TURNING POINT

CHINA'S NOMINAL MANUFACTURING WAGE GROWTH RATE (FORMAL EMPLOYMENT)

year	Growth Rate	Year	Growth Rate
1999	0.10	2004	0.12
2000	0.12	2005	0.12
2001	0.12	2006	0.14
2002	0.13	2007	0.16
2003	0.14	2008	0.16

Source: China Statistical Yearbook and SIEMS' Calculation

The acceleration in China's wage gains along the coastal areas coupled with the absence of many of the migrant workers who failed to return to the big coastal manufacturing hubs after returning home during the global economic crisis has given the appearance that the Chinese labor market has reached a real turning point. According to Arthur Lewis, an economist who has pioneered work in this area, most emerging market economies are composed of two sectors – a highly productive and dynamic urban sector – and a relatively unproductive and stagnant rural sector. The marginal product of labor in rural areas is relatively low in comparison to the marginal product of labor in the urban sector. This productivity differential gives momentum for large scale labor migration from the rural to the urban sector. At some stage however, the wage level in the rural sectors will rise high enough so that workers will stop migrating, reaching the so-called “Lewisian turning point”.

The variables to assess whether an economy has reached this Lewisian turning point are potential labor supply and wage differentials between the rural and urban sectors. Rising wages and some sporadic labor shortages, things China is witnessing today, are necessary but not sufficient conditions for the existence of a Lewisian turning point.

We start by examining the demographic profile of China. The following charts provide the medium variant predictions by the United Nations. Contrary to conventional wisdom, we cannot find any evidence that China's labor shortage problem is imminent. Interestingly, China still currently has a “solid” demographic profile. For example, in the (15–24) worker age cohort (traditionally the ideal age range in low-tech manufacturing), a recent local peak of 228 million was reached in 2010 (accounting for 16.9% of total population). Even by 2015, the total labor supply in this age group is

Most emerging market economies are composed of two sectors — a highly productive and dynamic urban sector — and a relatively unproductive and stagnant rural sector

estimated to be a solid 200 million, more than they numbered in year 2000. While it is true that by 2050, China will be an aged society (with a median age of 45), the absolute number of young workers is expected to number approximately 150 million, more than the Vietnam's total expected population by that year.

If we examine China's working-age population (15–59), China's age of cheap, plentiful labor may not be over. By 2015, the expected size in this cohort will peak at 923.5 million, which is roughly 66% of the total population. By 2020, the working-age population is estimated to be as high as projected in 2015.

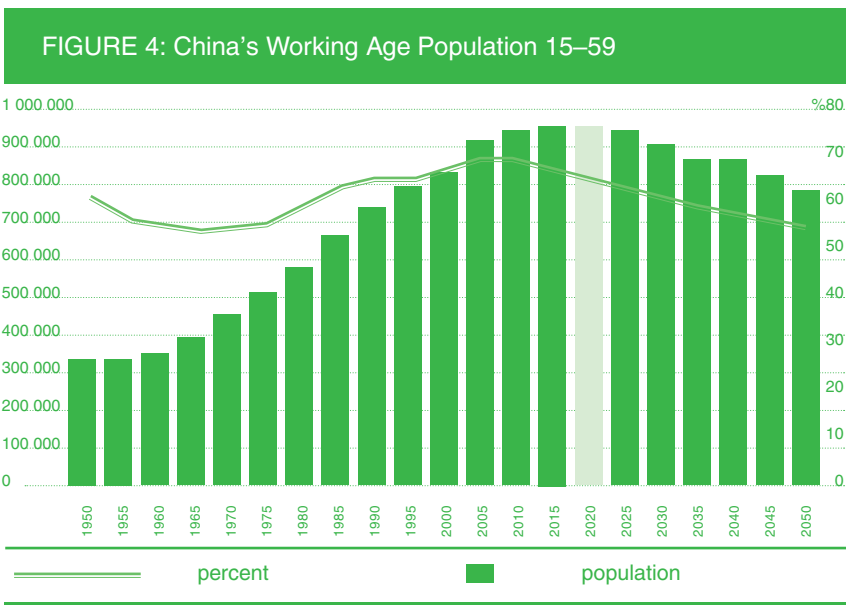
FIGURE 3: China's Workforce Projection 15–24



Source: UNPD

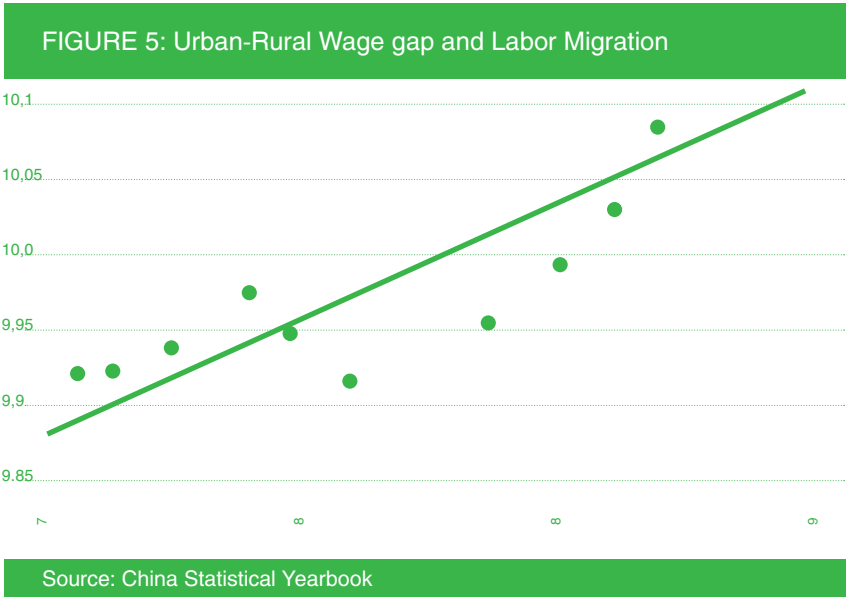
China's rural employment as a share of total employment remains high. It was 38% of the total in 2009 but only produced approximately 9% of total output. This implies that the marginal productivity gap remains significantly tilted in the urban sector's favor and why the wage gap between both regions remains so large. The annual rural income was about RMB 2,300 in 1995, compared to RMB 4,200 in the urban sector. This income gap increased to about RMB 9,100 by 2007, with urban sector earning nearly RMB 15,000, compared to rural sector's RMB 5,700.

Migrant workers have been responding to this gap as might be expected. The number of total migrant workers has been increasing steadily, from an estimated 194 million in 1995 to 246 millions in 2007. According to current research in this field (Cai Fang et al, 2009), China still has over 70 million workers currently in the rural sector available to work in the urban



sectors. It is this persistent gap that will keep rural migration toward the urban centers strong in the coming years, helping to mitigate wage inflation in the coastal manufacturing hubs.

How do we explain then, the rash of wage hikes and the reported labor shortages in China? One factor explaining the current labor market turmoil is China's economic strength following the global financial crisis and great recession. By late 2009, over 25 million migrant workers had lost their jobs

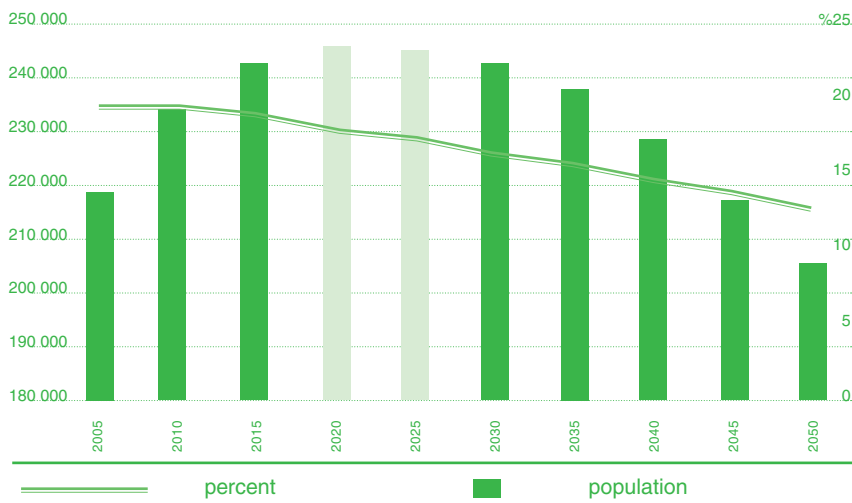


and returned to their native rural homes. Many of these migrant workers turned their attention to cities closer to their hometown as desirable working places. However, as the global economy began recovering and Chinese manufacturers started receiving orders again, firms needed to boost wages to get those fired workers back as quickly as possible. Thus, the current round of sharp wage increases should only be regarded as a special one-off case for many manufacturers.

IV: LABOR MARKET DEPTH AMONG THE EMERGING MARKETS – A COMPARISON

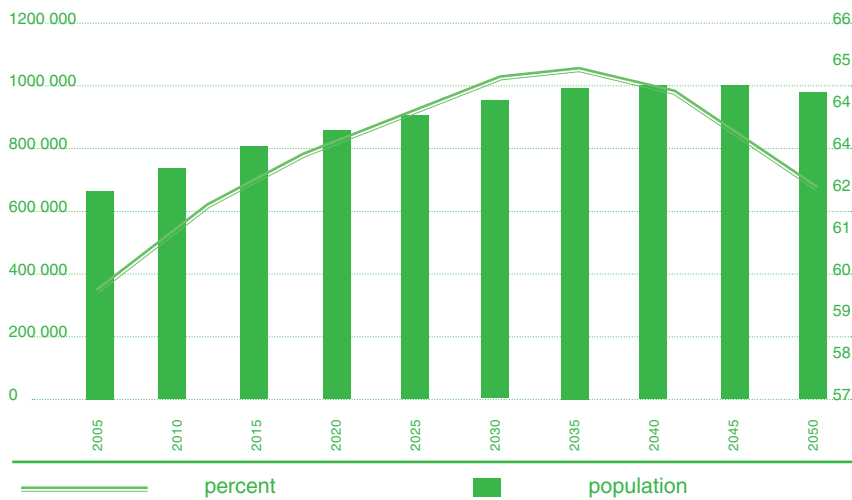
We turn our attention to labor market depth in an attempt to determine which country has the greatest potential to host relocated production facilities from China. Sri Lanka and Cambodia have the least labor supply among the six most attractive Asian candidates, which limits their ability to attract large scale manufacturing. The total labor supply of five candidates in 2010, excluding India, is around 334 million, about one-third of China's

FIGURE 6: India's Workforce Projection (15–24)



Source: UNPD

FIGURE 7: India's Workforce Projection (15–59)



Source: UNPD

labor supply. Vietnam is frequently mentioned as a possible successor for some of China's manufacturing base. But Vietnam's labor supply during 2010–2050 is projected to be about 64 millions. In the past 10 years, Vietnam's average unemployment rate has averaged 2.3%, which means there are actually not many workers in the existing labor force available for new employment opportunities. The positive sign is that Vietnam's urban population is only about one-quarter of its total population, which means that Vietnam's rural workers could migrate to the urban sectors as manufacturing workers, greatly expanding the urban labor force.

Bangladesh, India and Indonesia seem the most likely hosts for large scale manufacturers, particularly India with a labor reserve as large as China's. Furthermore, India's demographic structure is much better than China's, as evidenced by its large cohort of young workers. For example, India's young workforce (15–24) will peak at 245 million in 2020, while China's young workforce peaked in 1990 at 247 million. India's young workers will number as many as 245 million in 2025 and then gradually decline to 206 million by 2050. In 2009, 60% of India's workers were employed in the rural sector, implying a huge potential urban labor pool of cheap workers from urbanization. Going by labor costs alone, Bangladesh has a significant cost advantage relative to China. It also has a very large rural sector¹². This indicates that Bangladesh has some promise in attracting some labor-intensive manufacturing from China in the years ahead. India's case is very much similar to Bangladesh, except that India's labor cost is much higher than Bangladesh's.

¹² For instance, there were nearly three quarter people living the rural areas and roughly 50% of all workforce were employed by agricultural sector in 2005.

WORKFORCE PROJECTION OF SELECTED ECONOMIES (15–59)

Year	Bangladesh		Cambodia		Sri Lanka	
	(thousands)	(%)	(thousands)	(%)	(thousands)	(%)
2005	92 647	60.5	8 010	57.8	12 748	65.3
2010	103 509	63	9 272	61.6	12 946	63.4
2015	113 381	64.7	10 301	63	12 872	60.8
2020	122 174	65.8	11 098	62.7	12 969	59.7
2025	128 711	66	11 914	62.8	13 008	59
2030	133 819	65.9	12 812	63.7	12 982	58.5
2035	137 124	65.3	13 761	65.2	13 087	58.8
2040	138 139	64.1	14 638	66.3	12 876	58
2045	137 068	62.4	14 861	64.6	12 299	55.9
2050	134 811	60.6	14 913	62.7	11 873	54.7
	Indonesia		Vietnam			
Year	(thousands)	(%)	(thousands)	(%)		
2005	138 668	63.3	52 418	62.3		
2010	149 704	64.4	58 929	66.2		
2015	158 860	65.1	62 589	66.8		
2020	166 387	65.5	64 571	65.9		
2025	171 515	65.1	65 283	64		
2030	173 784	64	65 452	62.1		
2035	173 371	62.3	65 349	60.5		
2040	171 550	60.5	65 282	59.4		
2045	168 876	58.9	64 949	58.4		
2050	166 294	57.7	63 199	56.6		

Source: UNPD

V. WHO WILL BE THE WORLD'S NEXT WORKSHOP?

In the paper we focused primarily on wages as a determinant for manufacturing locations because China, the world's workshop, has so disproportionately benefited from low wages. But wages typically account for only a fraction of the total cost of most manufacturing goods. For example, even in the labor intensive garments manufacturing, labor costs typically account for only 15% to 22% of total costs, whereas fabric and logistics can account for as much as 60%. For some products with high degree of automation, such as car manufacturing, labor costs are only a minor consideration.

Asian emerging market economies possess no clear comparative advantages in the immediate future

There are obviously many other factors that multinationals use in determining optimal location. If we take the total cost perspective, these other Asian emerging market economies possess no clear comparative advantages in the immediate future. Poor transportation infrastructure, frequent electricity shortages, and large scale corruption (one factor which China shares) characterized all the other emerging market economies examined in this paper. Moreover, none of these candidates possess a well developed supply chain in many manufacturing industries like China. Chinese wages may be rising rapidly in some of the OEMs (original equipment manufacturers) like Honda, but China's well developed supply chain of auto parts makers make it hard for the OEMs to simply uproot and leave just because of higher wage levels.

Examining the export structure of various emerging economies, we contend that the threat of some emerging economies to China's world manufacturing workshop status may be exaggerated. For example, there

CLOTHING EXPORTS OF SELECTED ECONOMIES

	World Share (%)		Share in Economy's Total Manufactured Goods (%)	
	2000	2008	2000	2008
Bangladesh	2.6	3.0	79.3	71.1
Cambodia	0.5	1.0	69.8	84.8
China	18.2	33.2	14.5	8.4
India	3.0	3.0	14.1	6.1
Indonesia	2.4	1.7	7.2	4.5
Pakistan	1.1	1.1	23.8	19.2
Sri Lanka	1.4	1.0	51.8	40.9
Viet Nam	0.9	2.5	12.6	14.3
World			3.1	2.3

Source: WTO and SIEMS' Calculations

have been anecdotal accounts that Vietnam is quickly becoming a major clothing exporter, taking significant market share from China. However, data doesn't support this view. Vietnam's clothing exports accounted for just 2.5% of total world clothing exports in 2008, compared to China's 33% share. Another "major" exporter, Bangladesh, only accounted for about 3% of global clothing exports in that same year. Despite relatively faster growing wages last decade, China's export share of the clothing market nearly doubled.

TELECOMMUNICATIONS EQUIPMENTS EXPORT OF SELECTED ECONOMIES

	World Share (%)		Share in Economy's Total Manufactured Goods (%)	
	2000	2008	2000	2008
China	6.8	27.1	7.8	11.3
India	0.0	0.1	0.2	0.3
Indonesia	1.2	0.5	5.4	2.3
Philippines	0.4	0.2	3.2	2.2
Viet Nam	0.0	0.1	0.6	1.3
World			4.6	3.8

Source: WTO and SIEMS' Calculations

When moving to some higher end product, for instance, like telecommunication equipment and integrated circuits, China's strength becomes even clearer. China's world export share is much higher than its Asian neighbors and it is the only country that recorded significant increases in market share from 2000–2008.

Interestingly the area most likely to compete with China's coastal manufacturing hubs in the foreseeable future is "inland" China. Foxconn has

INTEGRATED CIRCUITS EXPORT OF SELECTED ECONOMIES

	World Share (%)		Share in Economy's Total Manufactured Goods (%)	
	2000	2008	2000	2008
China	1.7	10.5	2.1	3.1
India	0.0	0.1	0.2	0.3
Indonesia	0.2	0.2	1.1	0.6
Philippines	5.4	3.7	41.9	31.8
Viet Nam	0.0	0.1	0.6	0.5
World			4.9	2.7

Source: WTO and SIEMS' Calculations

already invested new factories in Henan and Sichuan province. Intel moved its Shanghai factory to Chengdu, Sichuan province. And numerous smaller manufacturing firms are following the same route. With comparable wage levels of Vietnam and India but possessing a superior transportation infrastructure and supply chain, inland China is quickly becoming the new host for many manufacturing firms, both local and foreign.

There are 8 inland provinces with populations numbering more than 40 million

Moreover, China's interior has a huge domestic labor reserve. For example, Anhui province has over 61 million residents, of which 70% are working age. Henan and Sichuan provinces have over 94 and 81 million residents, respectively. There are 8 inland provinces with populations numbering more than 40 million (i.e. 320 million in total). Operating costs in inland provinces are also significantly lower than in the coastal areas. For example, the wage level in inland China is at least 50% lower than coastal cities and it is also much cheaper to acquire land. Infrastructure in these inland provinces is also for better relative to their Asian competitors. China has invested enormously in its transportation infrastructure (i.e., high-speed railway system, paved road, waterway etc.) throughout its interior provinces.

And last but not least, a presence in China will always be advantageous because it gives multinationals easy access to a vast and rapidly growing domestic market.

VI. CONCLUSIONS

The view that China is quickly losing its world workshop status is premature. Chinese labor costs, by and large, remain remarkably low compared to other emerging market economies. Despite recent wage escalations, the share of labor costs to total manufacturing costs is lower now than it was in 2001. Labor productivity has been so strong in recent years that real wages have been falling, at least until very recently. Furthermore, there is still a large reserve of labor supply that is available in the rural sector. Firms can tap into this labor reserve by relocating factories to inland provinces, where the reserve wage level is much lower than that in coastal areas.

Moreover, despite the recent labor tensions, foreign direct investment (FDI) remains high in China. In July 2010, for example, FDI was running about 30% higher than a year ago. Foreign manufacturers continue finding China a good place to invest. It seems unlikely that multinationals in China will begin choosing India, Vietnam and Bangladesh as more preferable destinations in large scale until these countries acquire a significant wage cost advantage or significantly narrow the enormous gaps in productivity with China. What is likely, however, if wage rates continue rising rapidly in China, some low-end manufacturing, like apparel, will begin choosing these other Asian nations as a preferred destination.

While cheap labor has been a key for Chinese growth over the past three decades, it has also contributed to widening income inequality. The recent acceleration in wage gains made by factory workers will actually be a healthy thing for China's economy over the long-run if it reduces this growing disparity in income and wealth. In the meantime, however, there are good reasons to believe that China will remain the world's workshop for at least the next ten years.

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