



China and India: Demographic and Economic Transformations in Progress

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This presentation will discuss:

- India and China, global importance.
- Similarities and differences between them.
- Demography of China and India.
- Human capital and education levels.
- Recent socioeconomic transformations in both countries.
- Current situations and future prospects.
- Implications for Asia and the world.



Why are India and China important?

- These two countries together have 37% of the entire world population [China 20%, India 17%]. They strongly influence global levels and trends in demography, poverty, economic development.
- Increasing educational attainment in India and China is challenging any complacency in developed countries about our global leadership and superior talent pools.
- China and India are projecting their economic and diplomatic strength in Asia, at the UN, in international diplomacy. No longer can they be ignored.
- Rapid economic development in both countries is helping to raise their populations out of poverty, generating enormous new consumer demand, and rapidly increasing per capita incomes, thus deeply affecting the global economy.

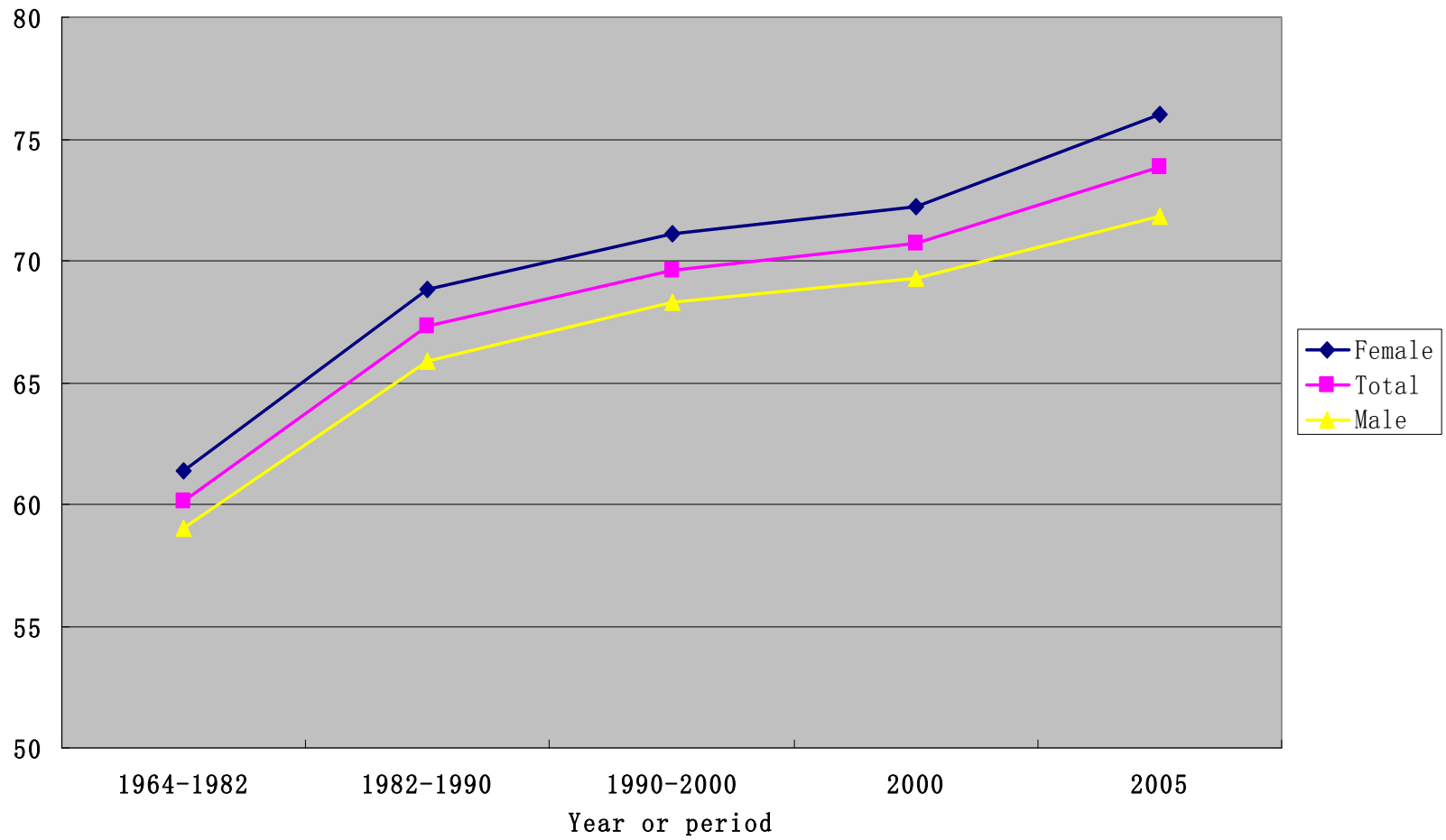


Demography of India and China:

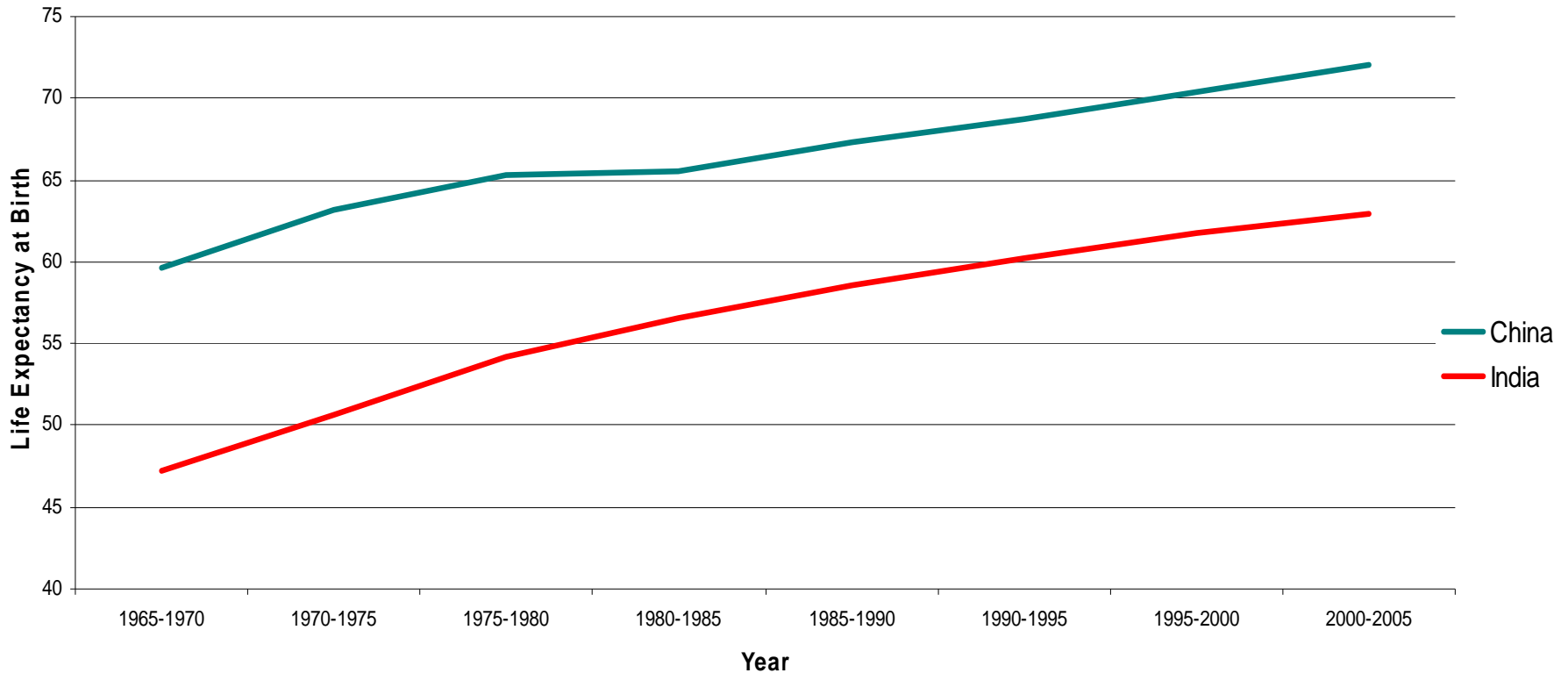
- **Mortality and Health:**
- China has better mortality data than India, and has lower mortality than India—
- Expectation of life at birth: China 74 yrs., India 65-69 yrs.
- Infant mortality rate: China 21-23, India 32-55.
- Under-five mortality rate: China 26-29, India up to 79.
- Maternal mortality rate: China 56 maternal deaths per 100,000 live births, India 540, almost 10 times that of China.
- China has achieved the same comparatively low mortality levels as Latin America and the Caribbean.
- Sources: UN, 2006; US Census, 2008; WHO, 2006.



China: Expectation of life at birth in years



Life Expectancy at Birth, India and China



Source : UN Population Division, *World Population Prospects: The 2006 Revision* and *World Urbanization Prospects: The 2005 Revision*, <http://esa.un.org/unpp>.

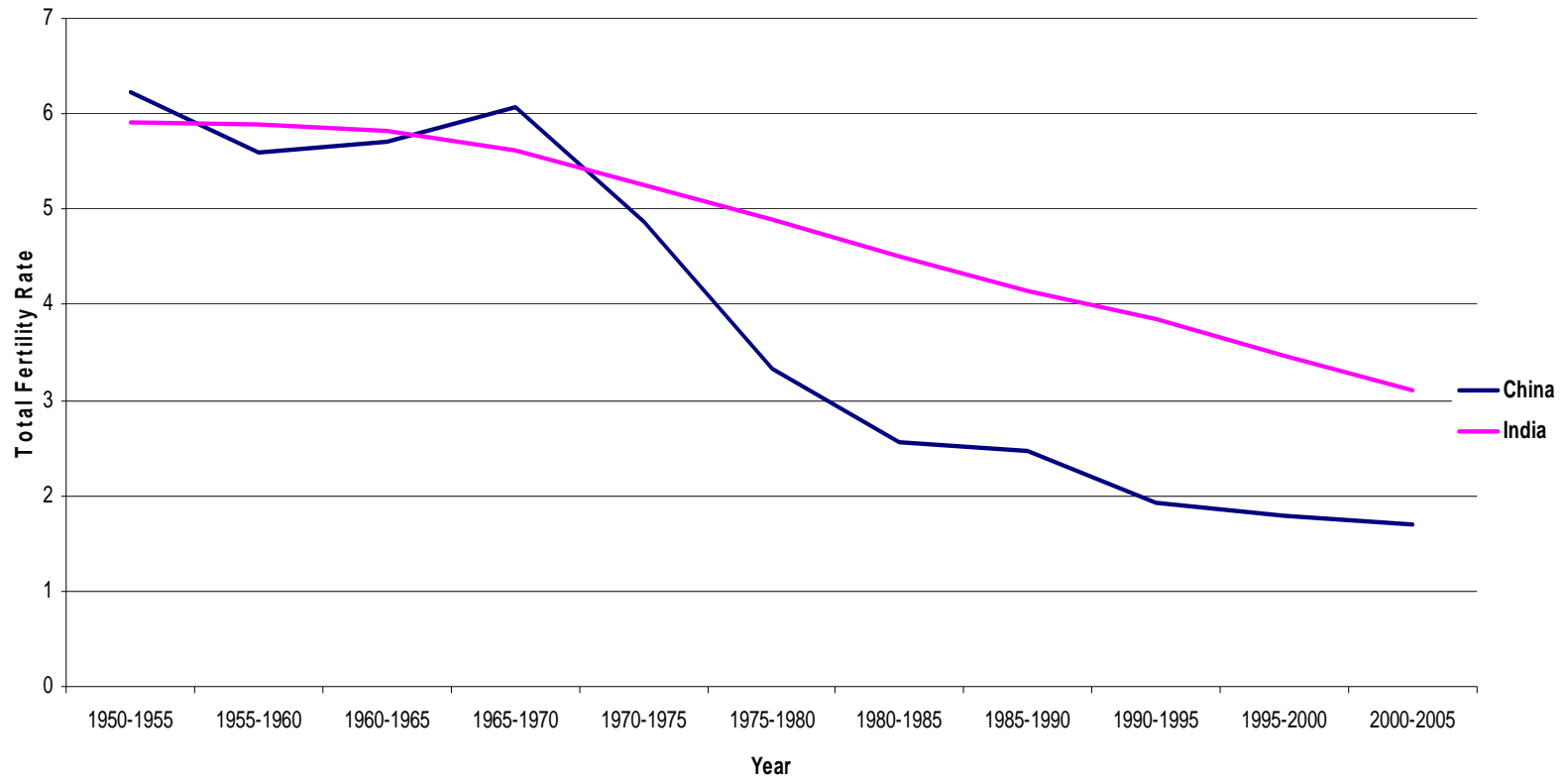


Why? The main factors:

- Chinese Communist emphasis on mortality control.
- China's focus on maternal and child health.
- In China, longer spacing between births, lower fertility concentrated in the most favorable childbearing years.
- India is less urbanized and industrialized than China.
- India has higher illiteracy and lower educational attainment among the general population than China.
- China's much higher per capita income and far lower poverty rate than India.
- China's much higher expenditure on health (private and government) than in India.



India and China Fertility Declines



Source : UN Population Division, *World Population Prospects: The 2006 Revision* and *World Urbanization Prospects: The 2005 Revision*, <http://esa.un.org/unpp>.

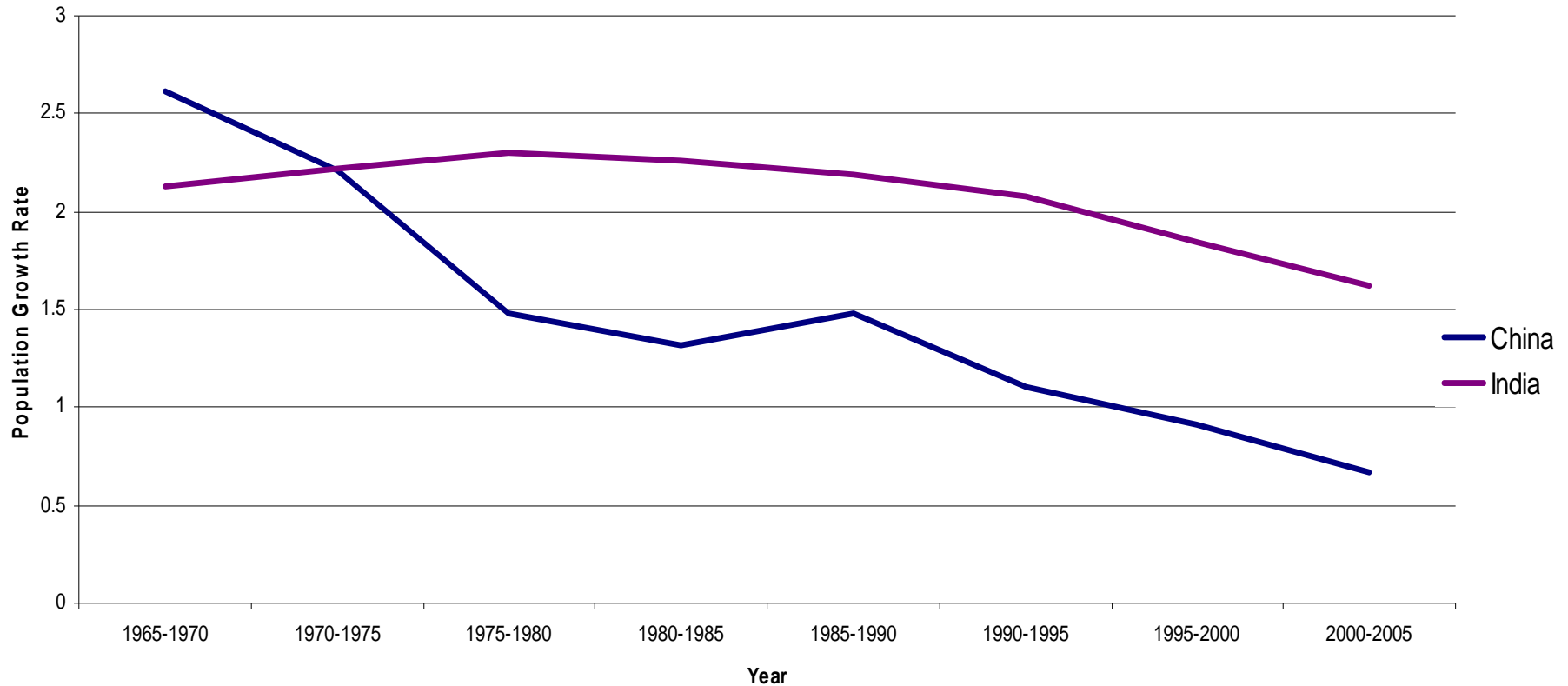


India and China, Fertility and Population Growth:

- Both countries have had steep declines in fertility.
- Total fertility rates today: India 2.8, China 1.7.
- Population growth rates: India, 1.5-1.6%, China 0.6%.
- Positive aspect: Both countries have such low population growth rates and such high economic growth rates that population growth is not greatly constraining their rising living standards or poverty reduction.
- Negative aspect: Fast economic growth combined with continuing population growth in India and China is worsening all kinds of environmental damage.



Population Growth Rates, India and China



Source : UN Population Division, *World Population Prospects: The 2006 Revision* and *World Urbanization Prospects: The 2005 Revision*, <http://esa.un.org/unpp>.



Demographic Dividend in China and India

- When mortality and then fertility declines, countries have a period when most of the population is in the workforce age groups and dependency ratios are low.
- The economies of both China and India have benefited from this “demographic window of opportunity.”
- The population ages 15-64 rose from 67% of China’s total population in 1990 to 72% in 2006; and in India rose from 58% in 1991 to 63% in 2006.
- Some economists argue that one important component of the Asian miracle in recent decades has been this demographic dividend in many Asian countries.



Economic Transformations in China and India:

- In recent decades, both countries have moved away from a planned, top-down Communist or socialist economy to a more market-driven economy.
- What attracts international business to China and India?
- International business expands in India and China partly because these two countries provide economies of scale. Each has an abundant labor force.
- India and China have fast-growing luxury and middle classes—barely tapped markets of great size. Multinationals enter China and India to supply those growing markets, especially since they face mature markets at home.



Migration and Urbanization in India and China

- India is slow to urbanize. China's population today is far more urban than that of India. China: 45%; India: 29%. Why?
- Some analysts argue that China's urban manufacturing, construction boom, and thriving urban markets are pulling villagers to the cities and towns, while in India urban opportunities for in-migrants are not as numerous and varied. Rather, rural poverty and lack of opportunity might push villagers to migrate from rural India.
- Urban population growth rates 1995-2005: China: 4.7% and India 2.5% annually.
- Cities with a population of one million or more: India has 35. China has 183.



China's Rural Population Numbers are Decreasing

Urban and Rural Population in China 1995-2007

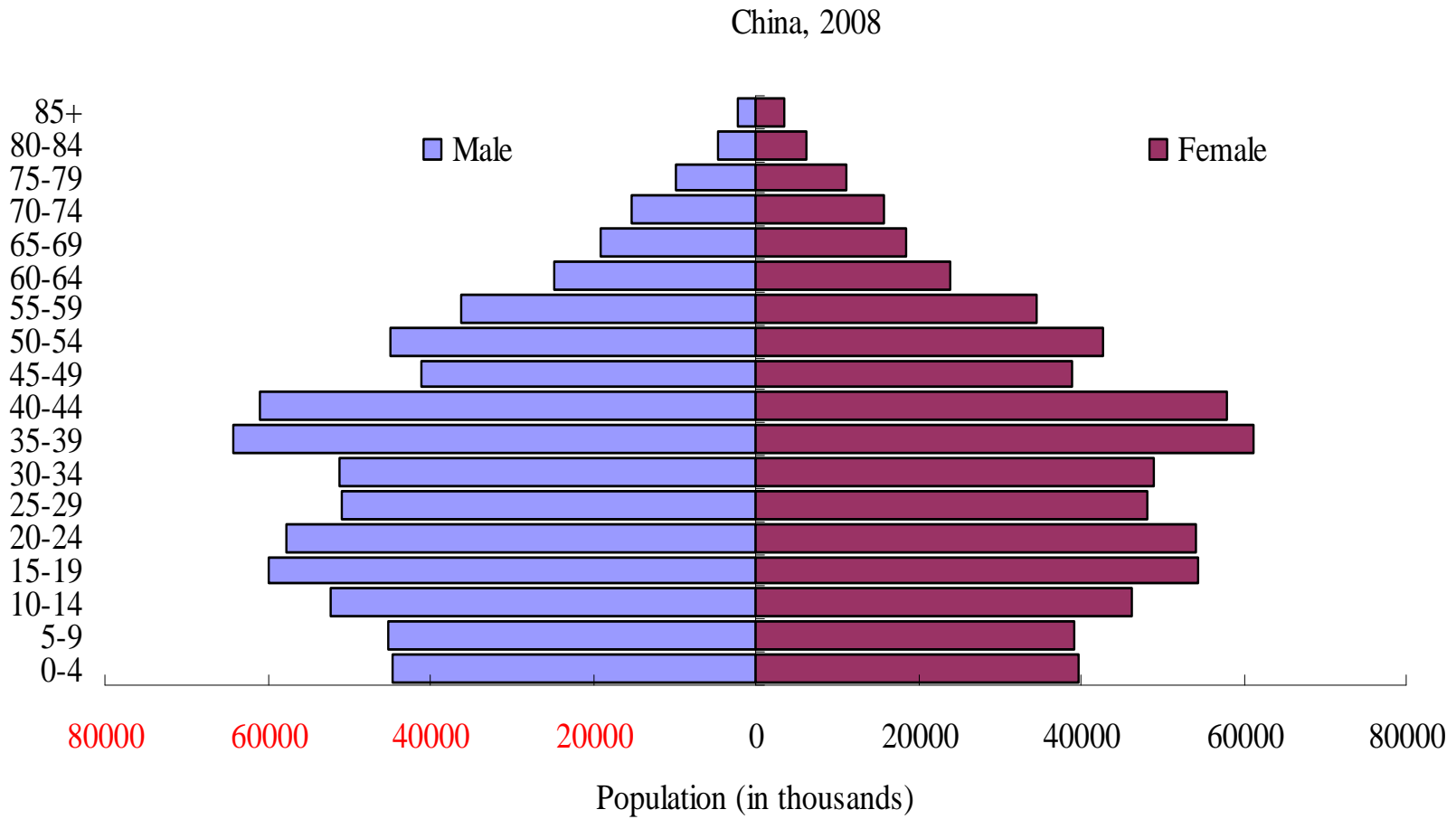


China Demographic Shifts—Negative and Positive Forces

- China's population is aging. This includes the aging of the labor force.
- The rapidly expanding pool of people in their forties and older are not well educated, so they do not constitute a pool of talent in the case of China.
- In contrast, the pool of people in their twenties and thirties is shrinking over time. In general, China's talents are in these age cohorts.
- Fortunately, the steep fertility decline in China has featured a drop in the “quantity” of children but a fast increase in their “quality,” which means greatly improved health status and survival chances as well as much higher levels of educational attainment.



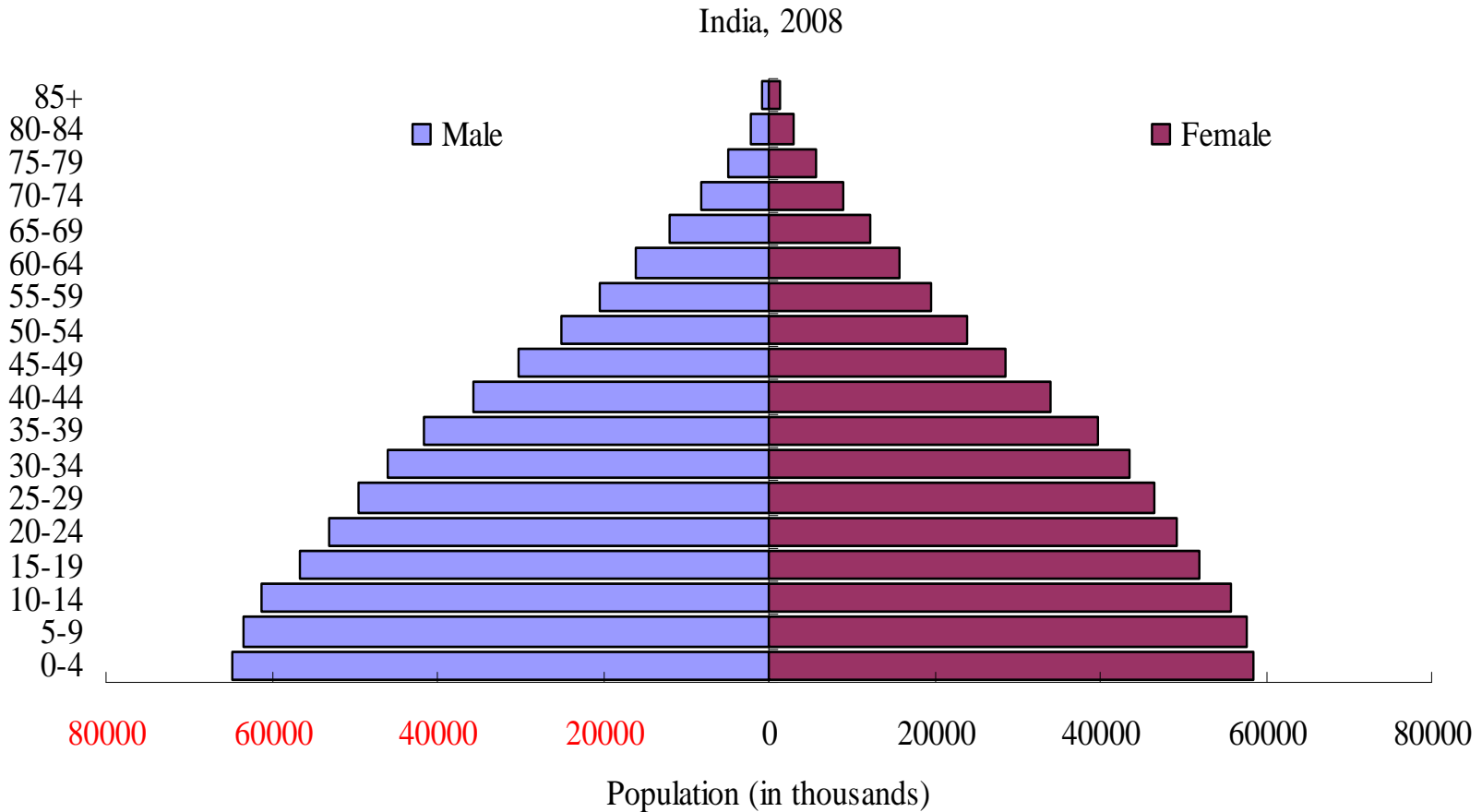
China, 2008 Population Structure



Source: U. S. Census Bureau, International Data Base



India, 2008 Population Structure



Source: U. S. Census Bureau, International Data Base



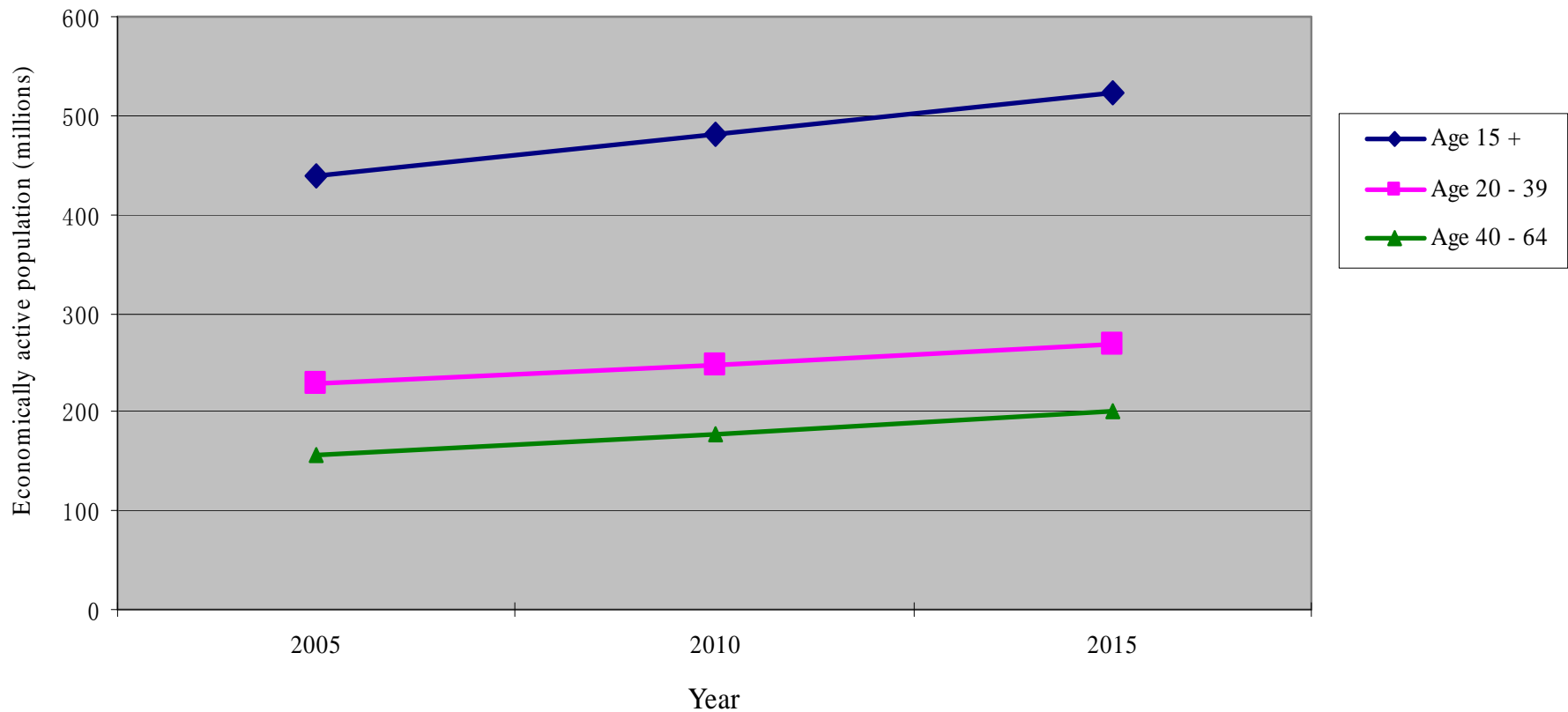
India Demographic Shifts—Negative and Positive Forces

- India's population and labor force are not aging rapidly.
- India's demographic transition has been slower and smoother than that of China. This means that India has a proportionally larger population of children to educate than does China today.
- India's slower and more gradual fertility decline has been accompanied by slower improvement than China in the health status and survival chances of children as well as their levels of literacy and educational attainment.
- Both India and China have serious problems with unemployment and underemployment, in spite of their booming economies. Both countries are struggling to create enough modern sector jobs to meet demand.



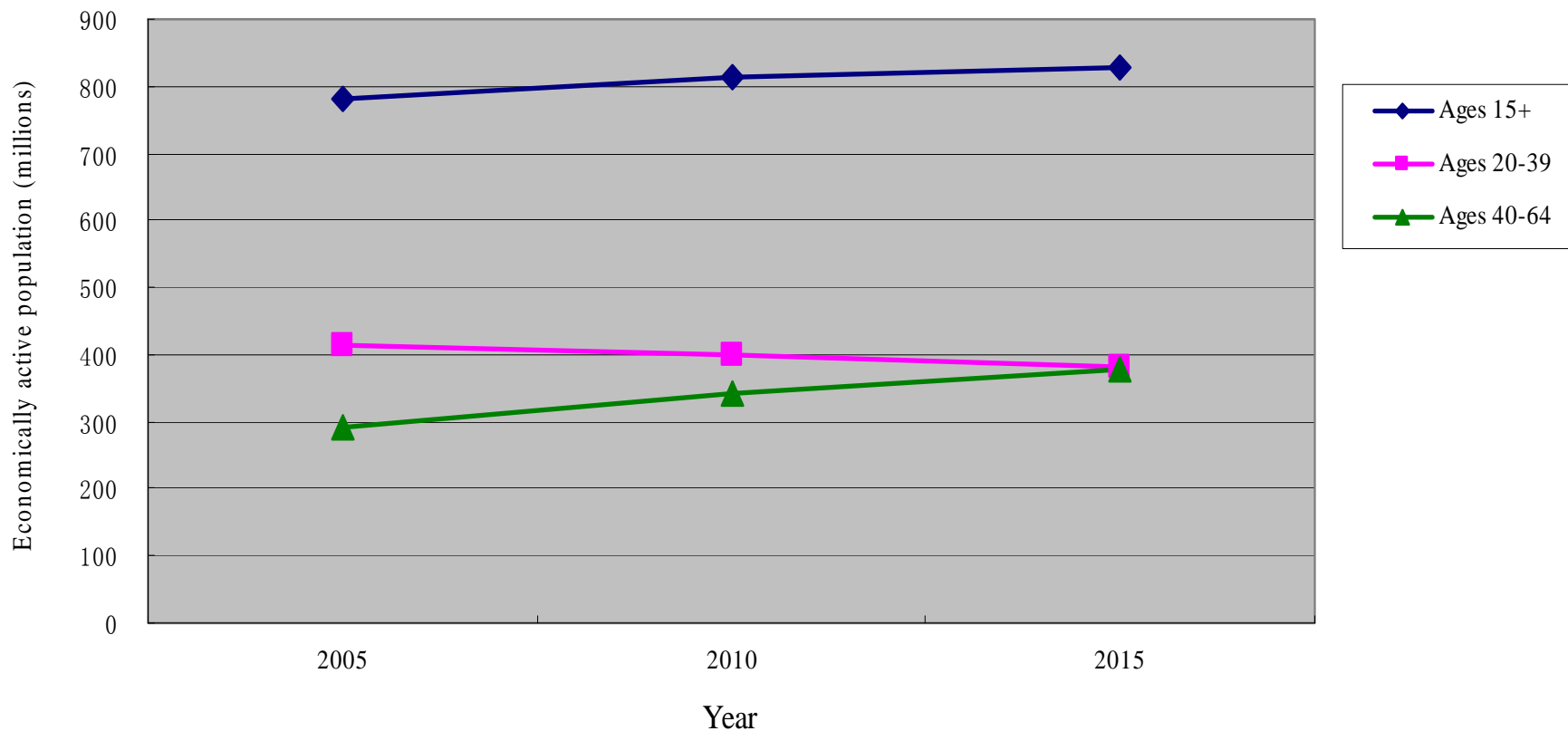
India, Projected Economically Active Population, 2005 - 2015

India, Projected Economically Active Population, 2005-2015



China, Projected Economically Active Population, 2005 - 2015

China, Projected Economically Active Population, 2005-2015



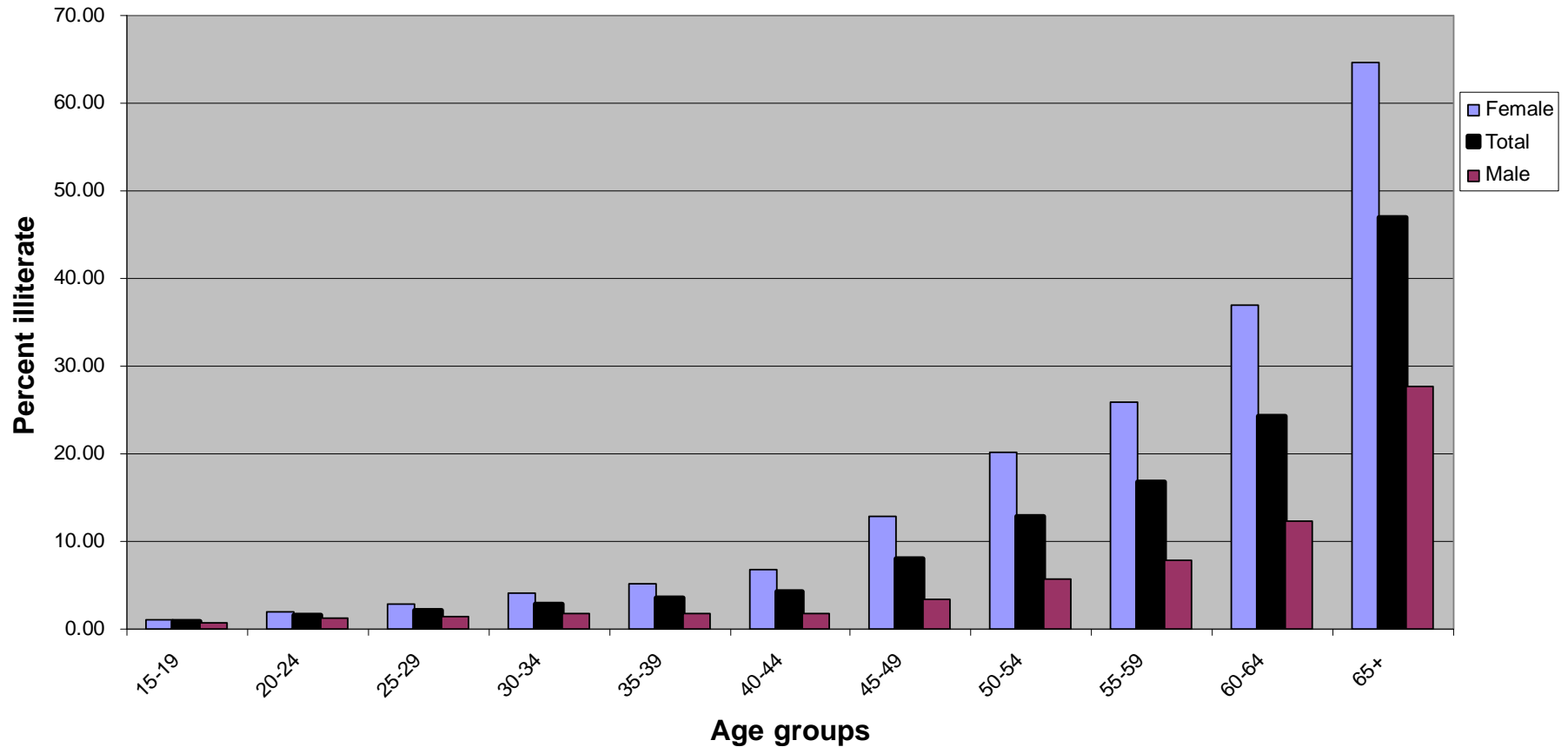
Literacy in China and India

- Both countries are rapidly reducing illiteracy.
- Adult literacy rates ages 15+: India 65%, China 89%.
- Men are much more literate than women in both countries. Adult literacy rates for women: China 84%, but India only 53%. [UNESCO data for India 2006, China 2005 1% sample survey.]
- Young adults are much more literate in both countries: Of the population ages 15-24 in China, 99% are now literate, and in India, 81%.



China is fast becoming a literate population

China 2005 Illiterate Adult Population by Age Group and Sex



Educational Attainment of Children & Youth

- Both countries are aiming toward universal primary education, a great challenge.
- India: UNESCO estimates that 89% of children are in primary school, and 86% of children complete a full course of primary education.
- China: 99% of children enter primary school, and by the 5th grade, at least 96% of girls and 97% of boys are still in primary school.
- Secondary school data poor for both countries. China struggling to provide 9 years of compulsory education, but not there yet.
- Tertiary (post-secondary) education. UNESCO estimates that 12% in India and 22% in China in tertiary education age groups are enrolled in tertiary education.





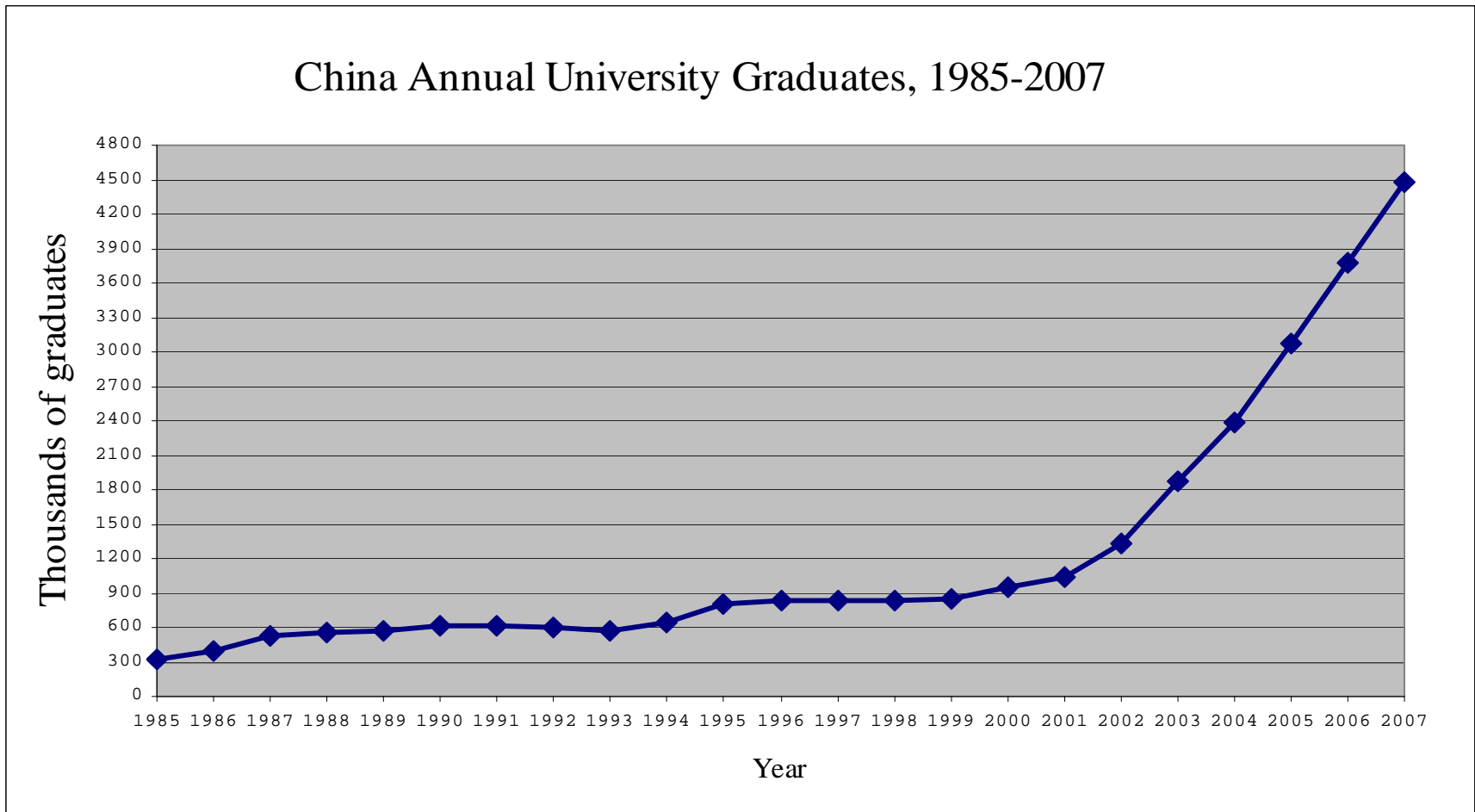
Context - India's Educational Growth Trends

- ◆ **Graduate degrees and above** has risen from 2.4% (20.5 million) in 1991 to 4.5% (48.7 million) in 2005.
- ◆ Numbers with a high school education: 8.2% (69.7 m) in 1991 → 23% (246.9 m) in 2004.
- ◆ **The annual number of new university graduates** (degrees from 3 yr rather than 4 yr programs) has risen more than 10 times between 1991 and 2005 and is currently around 3.9 m.
- ◆ India's pool of **young university graduates** (those with seven years or less of work experience) is estimated at 14 million. This talent pool is 1.5 times the size of China's and almost twice that of the US.

Source: Rhea Duttagupta 2006 for The Conference Board.



China Annual University Graduates, 1985-2007



Educational Attainment by Age Group

- In general, middle-aged and older workers in China have not benefited from advanced education.
- China's pool of talented and educated workers is concentrated among younger workers. Opportunities for advanced education have risen only recently.



China, Post-secondary Educational Attainment

Percent of each adult working age group, Nov. 2005:

Age group	Technical college	University undergraduate	University Post-graduate	Undergraduate & post-graduate
20-24	8.7	5.4	0.2	5.6
25-29	8.0	3.9	0.4	4.3
30-34	6.2	3.0	0.3	3.3
35-39	4.5	2.4	0.2	2.7
40-44	4.3	2.1	0.2	2.4
45-49	3.4	1.2	0.1	1.3
50-54	2.7	0.9	0.1	0.9
55-59	2.4	0.8	0.0	0.9



Economic Growth and its Components

- National Bureau of Economic Research, 2007, analysis of India and China performance 1993-2004:
- GDP growth: China about 9.7%, India 6.5%.
- Employment growth: China about 1.2%, India 1.9%.
- Industrial output: China grew 11% annually, India 7%. But India's growth rate of jobs in industry was 3.6% a year, China only 1.2%.
- Services: Data problematic for China. India grew 9% a year in services output, with total factor productivity rising 3.9% a year in India services.
- Bottom line: India excels in services, China excels in manufacturing.



Poverty and Living Standards

- The national economy is booming in both countries.
- The World Bank estimated that 2005-06 per capita GDP growth was 7.7% in India and 10.1% in China.
- India is still a Low Income country, but is in the higher part of that range, while China now qualifies as a Middle Income country, based on World Bank *World Development Report 2008* data.



Poverty and Living Standards, China and India

Country	Year	Per capita gross national income (GNI) PPP\$	Year	Population below \$1 a day, %	Population below \$2 a day, %
China	2006	\$7740	2004	9.9%	34.9%
India	2006	\$3800	2004-05	34.3%	80.4%



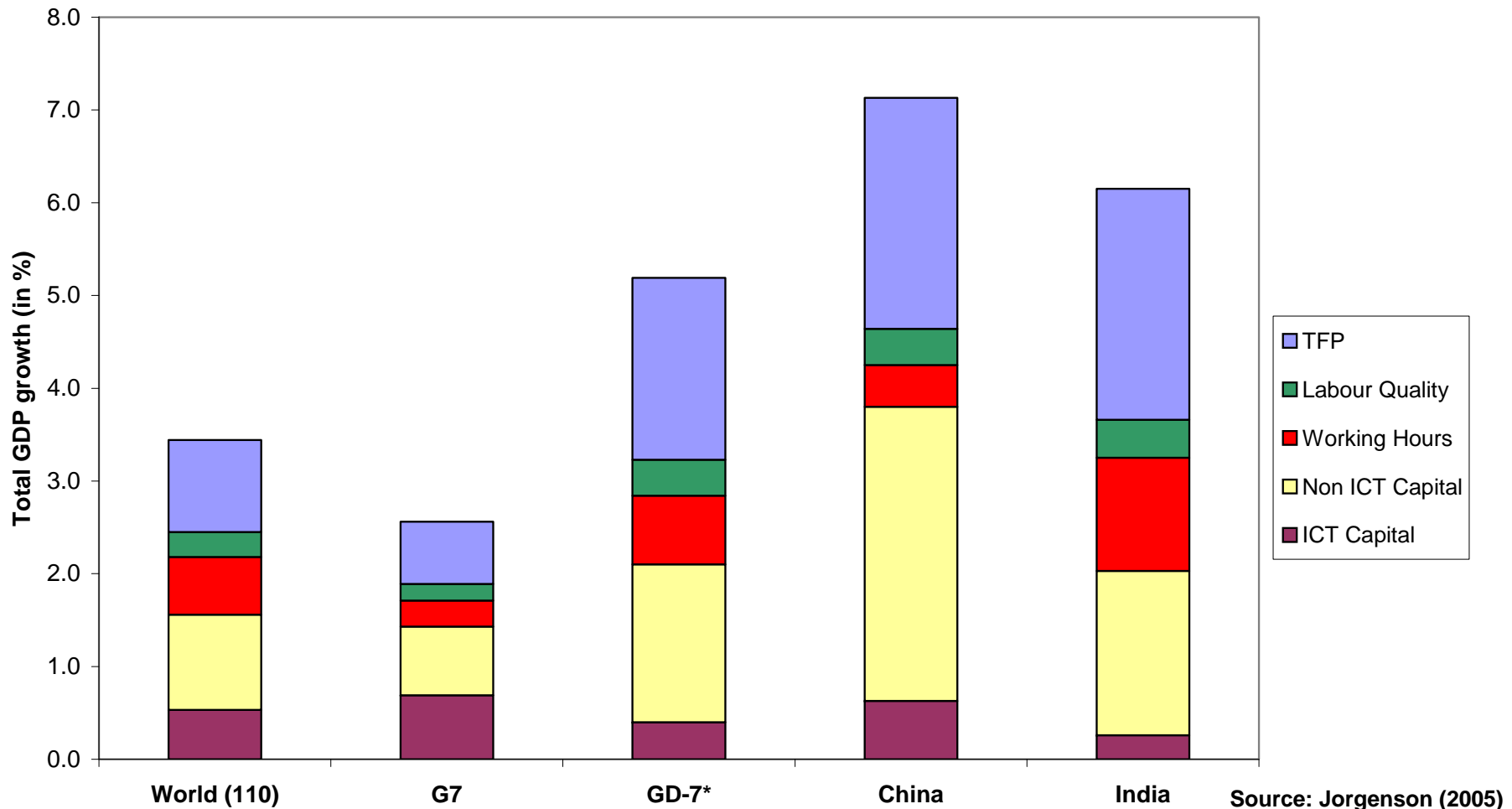
Foreign Direct Investment in India and China

- China dominates the developing world as the main recipient of Foreign Direct Investment. FDI pours into China, bringing with it new technology, modern business management, and links to foreign markets. FDI of \$63 billion flowed into China in 2006.
- India received \$4.7 billion in FDI in 2003.



In recent years, capital investment and productivity growth have fueled China's & India's economic growth

The Contribution of Capital, Labour and TFP to Real GDP Growth, 1995-2003



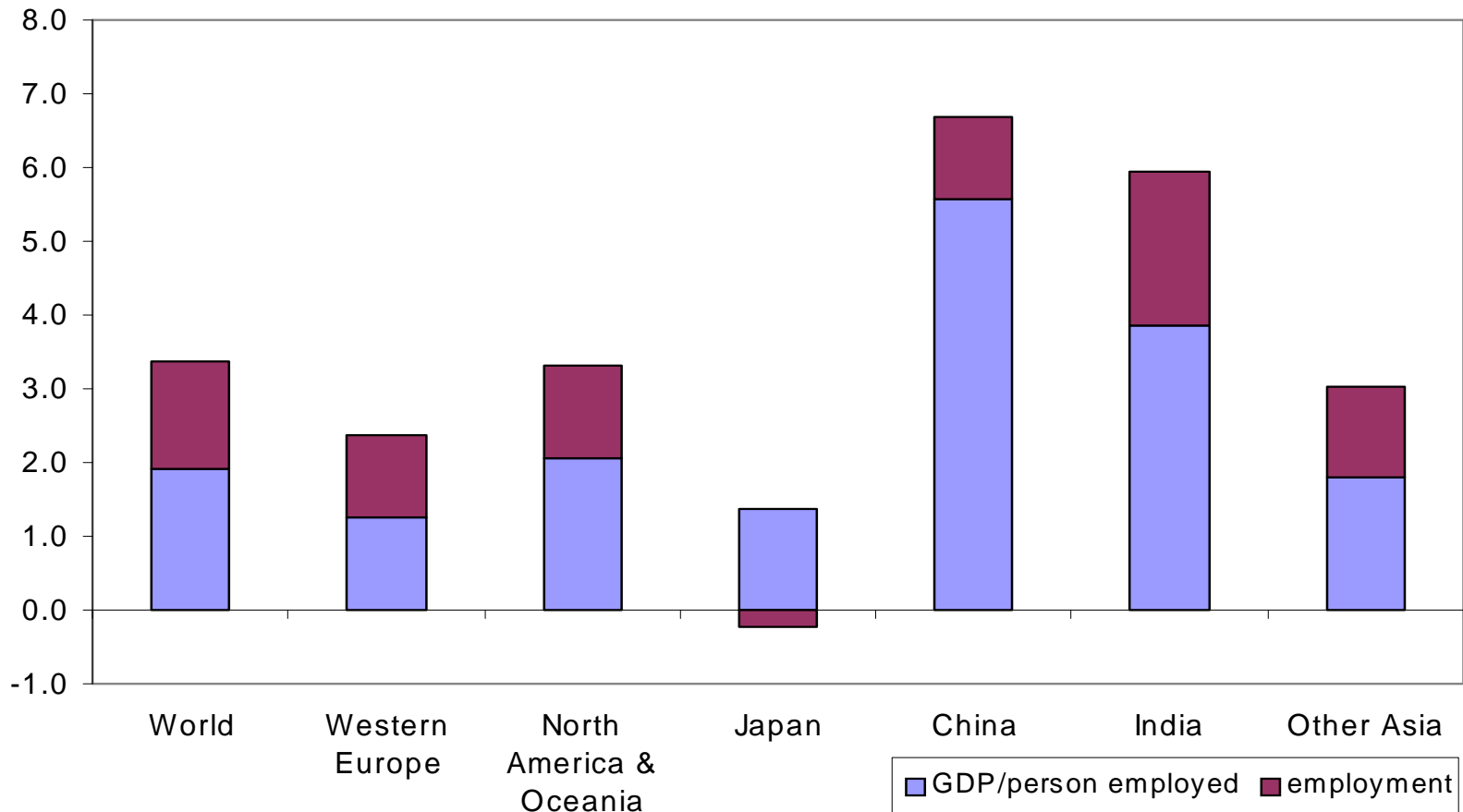
Productivity and Jobs

- Another way to measure the components of economic growth is to decompose GDP growth into 2 components: employment growth and growth in productivity per worker.
- From this perspective, China's and India's recent growth performance has been driven primarily by productivity growth.
- In China, job creation has been barely enough to keep up with labor force growth, now about 1% a year. India's generation of jobs has been a greater contributor to economic growth.
- Conference Board research has shown that productivity in all sectors of China's economy has increased very rapidly. This has helped to increase wages and incomes from a very low base.



Comparative Growth Performance

GDP growth decomposed into labour productivity and employment growth, 1995-2004



Causes of China's & India's Rapid Economic Growth

- One-time correction and privatization. The shift from a Communist command economy (China) or a mostly closed, socialist, and bureaucratically stifling economy (India) to a market economy enormously increases productivity per worker. This shift is still in process in both countries.
- Labor force transformation out of agriculture. When a worker shifts from agriculture to non-agricultural work, this multiplies worker productivity. This process will continue for decades in both India and China.



Globalization in China's and India's Economies

- China has globalized in MANUFACTURING:
- In the category of the larger enterprises in Industry (including manufacturing and mining), China's 2004 Economic Census showed that foreign-invested enterprises and those with investment from Taiwan and Hong Kong:
 - ---were 21% of the total enterprises, had 27% of China's 66 million total employees in these larger industrial enterprises, produced one-third (33%) of China's total output from the larger industrial enterprises, and exported 72% of the total value of all industrial exports from China's large industrial enterprises "of designated size and above"!



India's Competitive Strengths

- India has globalized in SERVICES.
- Indian firms are more innovative than China's, particularly in design functions, for example, apparel. [USITC 2003]
- India's large college-educated population with good English-language skills makes India especially competitive in staffing outsourced call centers.
- India leads China in global banking and information technology.
- India is the global leader in outsourcing services, including software development and call centers, employing about 350,000 people in the sector. India leads in knowledge-based services, IT-enabled services, and pharmaceuticals (Bottelier, 2006).



Small GDP share of manufacturing sector in India is mirrored by large role for services

Sectoral Shares in GDP (%), 2005

Income Group	Agriculture	Industry	Manufacturing	Services
Low income	22	28	15	50
Lower middle income	12	42	27	47
Upper middle income	6	32	19	62
High income	2	26	19	72
China	13	47	34	40
India	17	27	15	56

Source: WDI (2007), CSO (India), CEIC

China: Lower middle income group

India: Low income group



Global CEO Priorities

- The Conference Board annually surveys CEOs to determine their highest priorities and concerns.
- The global search for talent, especially for management and also for skilled workers, is rising in salience and importance.
- Multinationals are actively searching for opportunities in India.



2007 CEO Challenge: Talent Rises in Prominence

<u>Rank rose since last year's survey</u>	<u>from</u>	<u>to</u>
✓ Finding qualified managerial talent	11 th	4 th
✓ Top management succession	16 th	11 th
✓ Finding a qualified skilled workforce	25 th	14 th
Where/how to invest capital	21 st	15 th
Seizing opportunities for expansion/growth in India	24 th	19 th
✓ Vigilance on ethics issues	30 th	23 rd



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Offshoring to China and India

- In February 2008, The Conference Board and Duke University's Fuqua School of Business reported the newest trends from their Offshoring Research Network:
- Large, medium and small companies are increasing their offshoring in a global race for talent and also for cost savings.
- Multinationals are not only offshoring manufacturing to China and elsewhere. They are increasingly building geographic knowledge clusters and locating high-skilled innovation in product development, professional services, and software design especially to India and China.
- Major challenges in these countries are high employee turnover, wage inflation, and increasing difficulty finding qualified personnel there.
- Source: Arie Y. Lewin, <http://offshoring.fuqua.duke.edu>



Competition for Talent—Supply-Demand Imbalance

- ◆ In India and China, the competition for top talent has become acute. Hiring them and then retaining them is very difficult. Wages & benefits rising fast, job-hopping and poaching common.
- ◆ A flood of multinational companies is out to attract the best brains, not just for their operations in India and China, but also for their overseas needs.
- ◆ The outstanding success of India's leading educational institutions, and now some in China as well, has drawn multinationals to try to hire their best graduates. India has, in effect, become the world's scouting ground for talent, and China is rising fast behind India.
- ◆ Sources: Duttagupta on India, 2006; Banister & Learmond on China, 2007, for The Conference Board.



So the real challenge is:

A large educated workforce but a shortage of talent in India? That's right!

Companies worldwide are rushing to take advantage of the country's cheap and abundant labour force. But now India's domestic growth is taking off, creating unprecedented demand for workers locally with the right leadership and technical skills.

China has the same problem. Lots of university graduates today but most of them do not have the desired mix of talents for corporations.



The bidding for talent in India:

Not paying enough : Bombay-based Larsen & Toubro Ltd., India's top construction and engineering outfit, has seen its sales jump by 35% in the past year. But L&T Chairman Anil Manibhai Naik can't hire enough mechanical engineers to keep up with all the work. Despite boosting wages for rookie engineers by 25% -- to roughly \$5,700 per year -- Naik is still losing potential recruits to the software industry, multinational competitors in India, or rivals in the Persian Gulf that pay twice his current rate.

Pay and Lifestyle issues: Multinationals i.e. Pepsico, GE, Citibank, Accenture continue to tap into India's growth, and have helped fuel an explosion in wages, especially in the tech and outsourcing sectors. For years they have offered Indians top salaries, opportunities to work abroad, and prestigious credentials, but as both domestic and foreign companies push deeper into new areas such as retail and industrial engineering, the bidding for qualified labor is heating up. Today, salaries for senior managers at some Indian companies nearly equal those at multinationals.

Paying a lot : As India's domestic economy expands, the shortfalls are spreading beyond technology. Wages for semi-skilled workers in the textile factories of Coimbatore, for example, are up 10% this year, while supervisors' salaries have risen by 20%. Pay in the banking industry is up 25% in the past year and has more than doubled in hot areas such as private equity. Airline pilots have seen wages rise 25%. Overall, Indian salaries will rise by 12.8%, compared with inflation of 5.5%.

Source: Duttagupta 2006 for The Conference Board.



Qualities of China's Talented Employees

- Generally young, recently college-educated, urban, very bright, eager to work for multinationals, hard-working.
- Common problems:
- English-language or other foreign-language skill is usually partial and problematic, due to inadequate oral foreign language training.
- Frequently poor university education, not very useful for your needs when hired, not practical enough.
- Often naïve and inexperienced, yet expecting good salaries and rapid advancement. Salaries rising fast.
- Frequent job-hopping, often for small salary increases.
- Severe scarcity at management level—they have too little work experience.

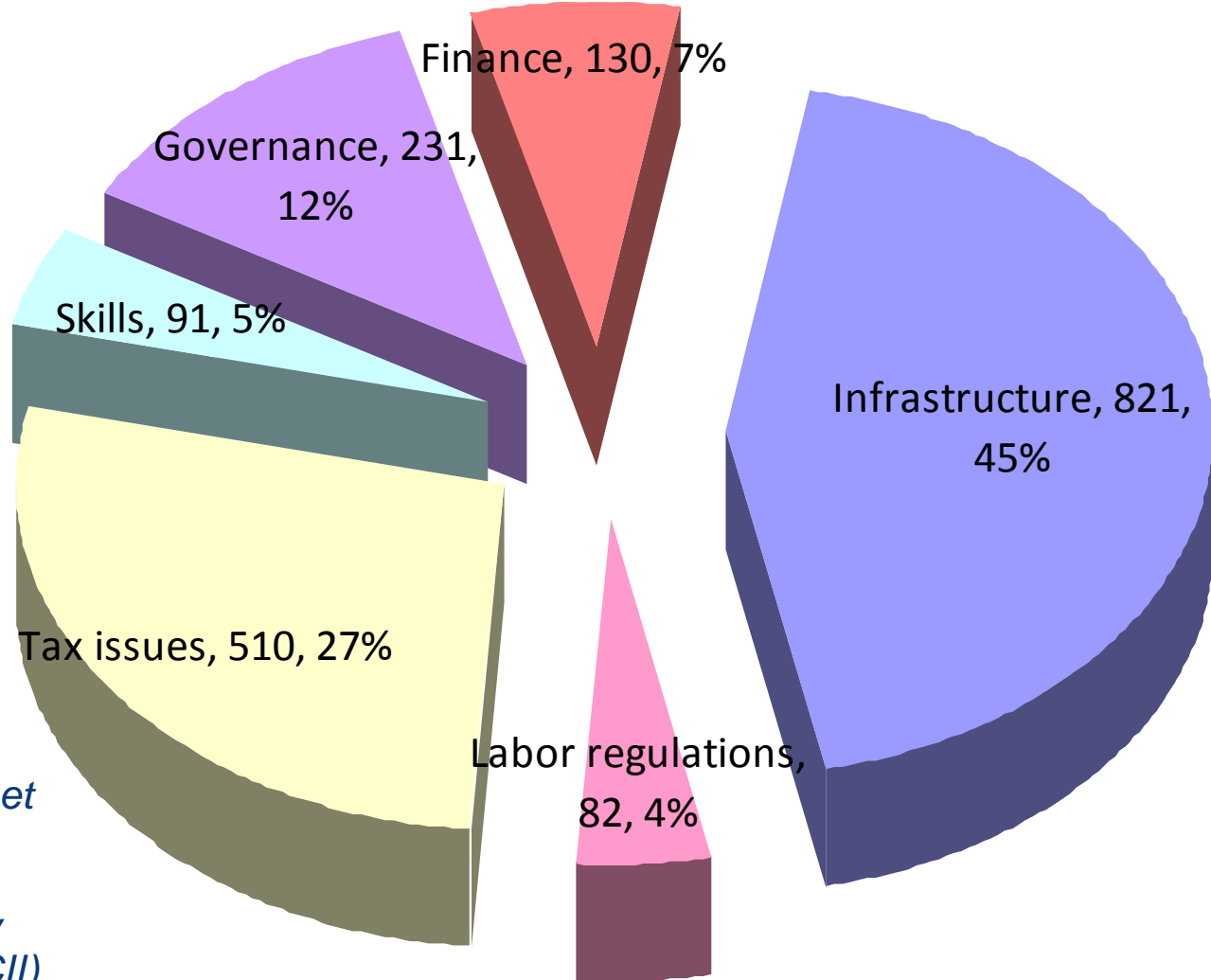


Comparisons: China, India, Eastern & Central Europe

- McKinsey Global Institute asked global managers: “Of 100 graduates with the correct degree, how many could you employ if you had demand for all?” Answers:
- Engineers: China & Russia, 10%; India, 25%; Poland, Hungary, Czech Republic, 50%.
- Finance & Accounting: China & India, 15%; Poland, 30%; Czech Republic, 40%; Hungary, 50%.
- Only 3% of university graduates with general degrees in China are seen as employable.
- China and India have very low capability to produce suitable middle managers.
- Source for all of the above: McKinsey Global Institute, “The Emerging Global Labor Market,” Q1, 2006.



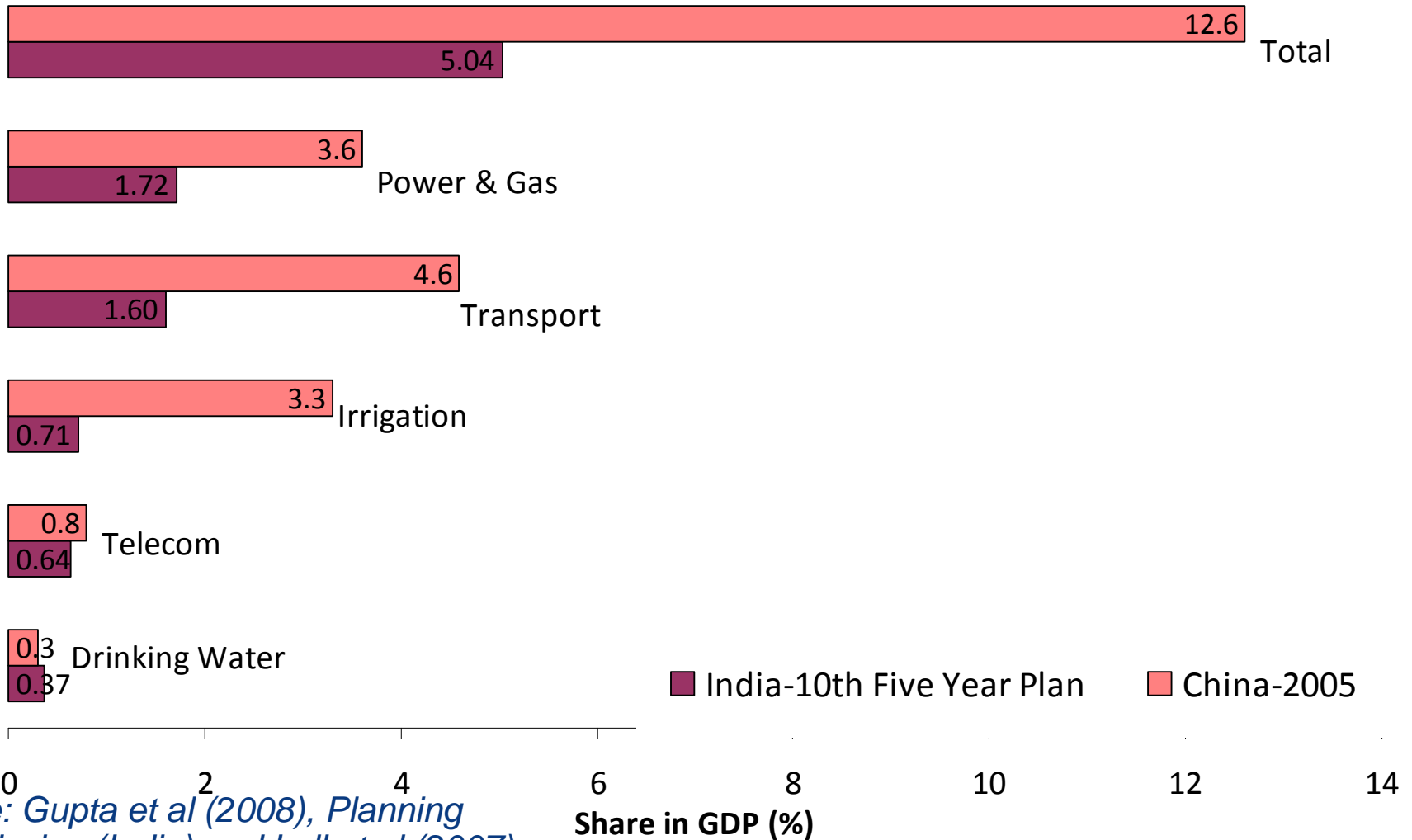
Abundant obstacles for growth of India firms remain



Source: Gupta et al (2008) and Investment Climate Survey (World Bank- CII)



Compared to China, lack of infrastructure in India is still a bigger constraint



Source: Gupta et al (2008), Planning Commission (India) and Lall et al (2007)

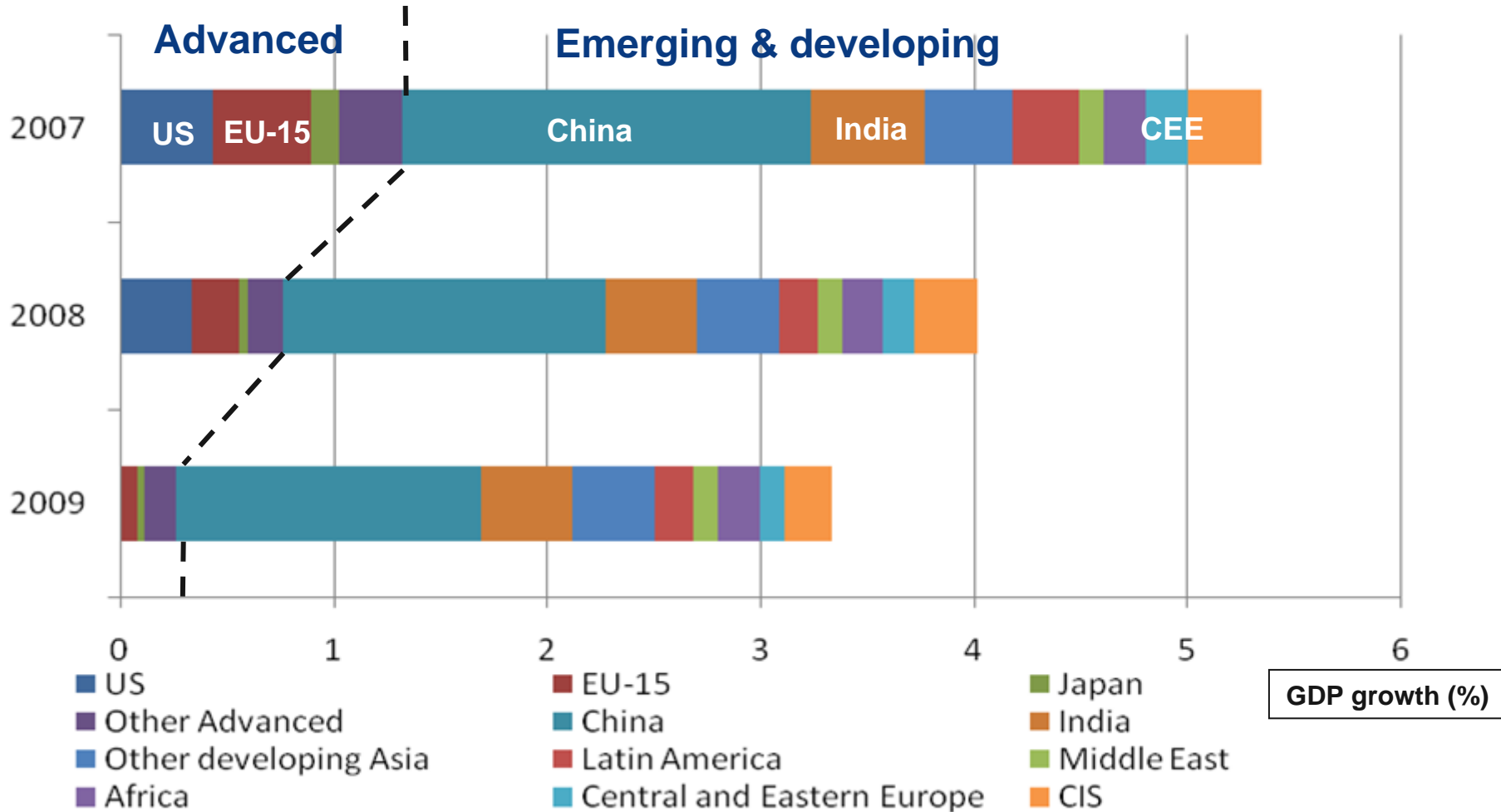


Future Prospects, India and China

- China's "demographic window of opportunity" is abating, while India's is increasing.
- By 2026, the workforce age groups 15-64 will be 68% of the total population in both countries.
- However, competition for talent in both countries is so fierce that labor compensation costs are rising rapidly for skilled and educated workers.
- China and India will continue to lure businesses and foreign direct investment, partly because of their expanding middle class and luxury markets.



Global GDP growth projected to drop sharply; greater role for emerging economies, especially China, India



Source: The Conference Board Total Economy Database, OECD, IMF, World Bank

Note: GDP weights are based on 2006 levels of GDP at 1990 PPPs obtained from Angus Maddison, University of Groningen.



Implications for Asia and the World

- Both countries are very competitive in the global economy and this is expected to continue.
- Both countries are aggressively asserting their diplomatic and economic leadership abroad.
- Indian and Chinese companies are expanding abroad and strongly impacting other economies.
- Top talented individuals from both countries are not only leading enterprises in their own countries; they are also migrating abroad and providing top talent in developed countries and emerging markets.



Conclusions:

- China and India are well along in their demographic transitions.
- They are raising their per capita incomes and reducing poverty.
- They are explosively globalizing and strongly affecting the world economy.
- India and China are fast increasing their numbers of university graduates and youth with graduate degrees.
- Competition for talent at home is acute, and these countries are also supplying Asia and even North America with highly talented migrants.
- India and China are both competing aggressively in the world economy. China is the world's workshop and India is the world's back office. They both have more growth potential.

