“Evaluation of technology, trade, and inclusive development: Chinese experiences”

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Evaluation of technology, trade, and inclusive development: Chinese experiences

Abstract

The present study begins by surveying, broadly supports the assertion that technology, trade, sustainability and development-led globalization is the path in the Chinese context not adequately paid to attention except with very few original or significant contributions. This research examines the existing pattern in the areas of trade, technology, investment with a view to locate in the development context in the era of globalization. This study also investigates theories of trade, technology movement under capitalist paradigm along with the empirical one. The survey broadly supports the frequent, through usually undocumented, assertion that China's socialist market paradigm was not different from the capitalist mode of production as tended to neglect and to which they had made few if any original or significant contributions. Alongside, this study used secondary data and analyzed, where the results confirmed that foreign direct investment (FDI), trade and economic growth indicated the presence of long-run sustainable equilibrium relationship between them but created income inequality gap widely among people. It is, thus, important for policymakers to remove obstacles and improve the respective absorptive capacity in order to reap maximized positive inclusive development with equality basis.

Keywords: technology, outsourcing, competitiveness, world manufacturing data, manufacturing competitiveness, China manufacturing, Chinese economy, labor compensation costs etc.
JEL Classification: O33.

Introduction

Technology is a motor-force and always plays an important role in socio-economic-cultural activities of human life. Any debates on how best to promote sustainable and inclusive development are incomplete without a full consideration of issues of science, technology and innovation (STI). Access to new and appropriate technologies promote steady improvements in living conditions, which can be lifesaving for the most vulnerable populations, and drive productivity gains which ensure rising incomes (UN SYSTEM TASK TEAM ON THE POST 2015 UN DEVELOPMENT AGENDA, 2011).

Historically, we have seen in the first Industrial Revolution, starting in the late 18th century, and the second one, around 100 years later, had their victims who lost their jobs to Cartwright's power loom and later to Edison's electric lighting, Benz's horseless carriage and countless other inventions that changed the world. But those inventions also immeasurably improved many people's lives, sweeping away old economic structures and transforming society. They created new economic opportunity on a mass scale, with plenty of new work to replace the old.

A third great wave of invention and economic disruption, set off by advances in computing and information and communication technology (ICT) in the late 20th century, promises to deliver a similar mixture of social stress and economic transformation. It is driven by a handful of technologies − including machine intelligence, the ubiquitous web and advanced robotics − capable of delivering many remarkable innovations: unmanned vehicles; pilotless drones; machines that can instantly translate hundreds of languages; mobile technology that eliminates the distance between doctor and patient, teacher and student. Whether the digital revolution will bring mass job creation to make up for its mass job destruction remains to be seen.

Powerful, ubiquitous computing was made possible by the development of the integrated circuit in the 1950s. Under a rough rule of thumb known as Moore's law (after Gordon Moore, one of the founders of Intel, a chipmaker), the number of transistors that could be squeezed onto a chip has been doubling every two years or so. This exponential growth has resulted in ever smaller, better and cheaper electronic devices. The smartphones now carried by consumers the world over have vastly more processing power than the supercomputers of the 1960s.

Moore's law is now approaching the end of its working life. Transistors have become so small that shrinking them further is likely to push up their cost rather than reduce it. Yet commercially available computing power continues to get cheaper. Both Google and Amazon are slashing the price of cloud computing to customers. And firms are getting much better at making use of that computing power.

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1. Literature review

In a book published in 2011, "Race Against the Machine", Erik Brynjolfsson and Andrew McAfee cite an analysis suggesting that between 1988 and 2003 the effectiveness of computers increased 43m-fold. Frank Levy and Richard Murnane described driving a car on a busy street as such a complex task that it could not possibly be mastered by a computer. Yet only a few years later Google unveiled a small fleet of driverless cars. Most manufacturers are now developing autonomous or near-autonomous vehicles.

Recently machines have found it difficult to "understand" written or spoken language, or to deal with complex visual images, but now they seem to be getting to grips with such things. Apple's Siri responds accurately to many voice commands and can take dictation for e-mails and memos. Google's translation program is lightning-fast and increasingly accurate, and the company's computers are becoming better at understanding just what its cameras (as used, for instance, to compile Google Maps) are looking at.

At the same time, hardware, from processors to cameras to sensors, continues to get better, smaller and cheaper, opening up opportunities for drones, robots and wearable computers. And innovation is spilling into new areas: in finance, for example, crypto-currencies like Bitcoin hint at new payment technologies, and in education the development of new and more effective online offerings may upend the business of higher education.

This wave is likely to bring vast improvements in living standards and human welfare, but history suggests that society's adjustment to it will be slow and difficult. At the turn of the 20th century writers conjured up visions of a dazzling technological future even as some large, rich economies were limping through a period of disappointing growth in output and productivity. Then, as now, economists hailed a new age of globalization even as geo-political tensions rose. Then, as now, political systems struggled to accommodate the demands of growing numbers of dissatisfied workers.

Some economists are offering radical thoughts on the job-destroying power of this new technological wave. Carl Benedikt Frey and Michael Osborne, of Oxford University, recently analyzed over 700 different occupations to perceive how easily they could be computerized, and concluded that 47 percent of employment in America is at high risk of being automated away over the next decade or two. Messrs Brynjolfsson and McAfee ask whether human workers will be able to upgrade their skills fast enough to justify their continued employment. Other authors think that capitalism itself may be under threat.

2. The digital revolution is opening up a great divide between a skilled & wealthy few & the rest of society

The digital revolution is opening up a great divide between a skilled and wealthy few and the rest of society. In the past, new technologies have usually raised wages by boosting productivity, with the gains being split between skilled and less-skilled workers, and between owners of capital, workers and consumers.

Now technology is empowering talented individuals as never before and opening up yawning gaps between the earnings of the skilled and the unskilled, capital-owners and labor. At the same time, it is creating a large pool of underemployed labor that is depressing investment.

The effect of technological change on trade is also changing the basis of tried-and-true methods of economic development in poorer economies. More manufacturing work can be automated and skilled design work accounts for a larger share of the value of trade, leading to what economists call "premature deindustrialization" in developing countries. No longer can governments count on a growing industrial sector to absorb unskilled labor from rural areas. In both the rich and the emerging world, technology is creating opportunities for those previously held back by financial or geographical constraints; yet new work for those with modest skill levels is scarce compared with the bonanza created by earlier technological revolutions.

All this is sorely testing governments, beset by new demands for intervention, regulation and support. If they get their response right, they will be able to channel technological change in ways that broadly benefit society. If they get it wrong, they could be under attack from both angry underemployed workers and resentful rich taxpayers.

Workers in America, Europe and Japan have been through a difficult few decades. In the 1970s the blistering growth after the Second World War vanished in both Europe and America. In the early 1990s Japan joined the slump, entering a prolonged period of economic stagnation. The digital economy, far from pushing up wages across the board in response to higher productivity, is keeping them flat for the mass of workers while extravagantly rewarding the most talented ones.

Between 1991 and 2012 the average annual increase in real wages in Britain was 1.5 percent and in America 1 percent, according to the Organisation for Economic Co-operation and Development

(OECD) (Technology is not working, 2014). Real wage growth in Germany from 1992 to 2012 was just 0.6 percent; Italy and Japan saw hardly any increase at all. It seems difficult to square this unhappy experience with the extraordinary technological progress during that period, but the same thing has happened before.

Most economic historians reckon there was very little improvement in living standards in Britain in the century after the first Industrial Revolution. In July 1987 Robert Solow wrote a book review, "The Myth of the Post-Industrial Economy", by Stephen Cohen and John Zysman, lamented the shift of the American workforce into the service sector and explored the reasons why American manufacturing seemed to be losing out to competition from abroad. One problem, the authors reckoned, was that America was failing to take full advantage of the magnificent new technologies of the computing age, such as increasingly sophisticated automation and much-improved robots. Solow commented that the authors, "like everyone else, are somewhat embarrassed by the fact that what everyone feels to have been a technological revolution has been accompanied everywhere by a slowdown in productivity growth".

This failure of new technology to boost productivity (apart from a brief period between 1996 and 2004) became known as the Solow paradox. Economists disagree on its causes. Robert Gordon of Northwestern University suggests that recent innovation is simply less impressive than it seems, and certainly not powerful enough to offset the effects of demographic change, inequality and sovereign indebtedness. Progress in ICT, he argues, is less transformative than any of the three major technologies of the second Industrial Revolution (electrification, cars and wireless communications) (Technology isn't working, 2014).

The big leap in American economic growth took place between 1939 and 2000, when average output per person grew at 2.7 percent a year. Both before and after that period the rate was a lot lower: 1.5 percent from 1891 to 1939 and 0.9 percent from 2000 to 2013. And the dramatic dip in productivity growth after 2000 seems to have coincided with an apparent acceleration in technological advances as the web and smartphones spread everywhere and machine intelligence and robotics made rapid progress.

The service sector dominated in financial, military and higher education, for example, the development of online courses could yield a productivity bonanza, allowing one professor to do the work previously done by legions of lecturers. Once an online course has been developed, it can be offered to unlimited numbers of extra students at little extra cost.

Similar opportunities to make service-sector workers more productive may be found in other fields. For instance, new techniques and technologies in medical care appear to be slowing the rise in health-care costs in America. Machine intelligence could aid diagnosis, allowing a given doctor or nurse to diagnose more patients more effectively at lower cost. The use of mobile technology to monitor chronically ill patients at home could also produce huge savings. Such advances should boost both productivity and pay for those who continue to work in the industries concerned, using the new technologies.

At the same time, those services should become cheaper for consumers. Health care and education are expensive, in large part, because expansion involves putting up new buildings and filling them with costly employees. Rising productivity in those sectors would probably cut employment.

The McKinsey Global Institute found that global nonfarm employment rose by about 1.1 billion, of which about 900 million was in developing countries between 1980 and 2010. The integration of large emerging markets into the global economy added a large pool of relatively low-skilled labor which many workers in rich countries had to compete with. That meant firms were able to keep workers' pay low. And low pay has had a surprising knock-on effect: when labor is cheap and plentiful, there seems little point in investing in labor-saving (and productivity-enhancing) technologies. By creating a labor glut, new technologies have trapped rich economies in a cycle of self-limiting productivity growth.

Fear of the job-destroying effects of technology is as old as industrialization. It is often branded as the lump-of-labor fallacy: the belief that there is only so much work to go round (the lump), so that if machines (or foreigners) do more of it, less is left for others. This is deemed a fallacy because as technology displaces workers from a particular occupation it enriches others, who spend their gains on goods and services that create new employment for the workers whose jobs have been automated away. A critical cog in the re-employment machine, though, is paid. To clear a glutted market, prices must fall, and that applies to labor as much as to wheat or cars. Where labor is cheap, firms use more of it. Carmakers in Europe and Japan, where it is expensive, use many more industrial robots than in emerging countries, though China is beginning to invest heavily in robots as its labor costs rise. In Britain a bout of high inflation caused real wages to tumble between 2007 and 2013. This is as an unusual shape of the country's recovery, with employment holding up well but productivity and GDP performing abysmally.

Productivity growth has always meant cutting down on labor. In 1900 some 40 percent of Americans worked in agriculture, and just over 40 percent of the typical household budget was spent on food. Over the next century automation reduced agricultural employment in most rich countries to below 5 percent, and food costs dropped steeply. But in those days excess labor was relatively easily reallocated to new sectors, thanks, in large part, to investment in education. That is becoming more difficult. In America the share of the population with a university degree has been more or less flat since the 1990s. In other rich economies the proportion of young people going into tertiary education has gone up, but few have managed to boost it much beyond the American level.

At the same time technological advances are encroaching on tasks that were previously considered too brainy to be automated, including some legal and accounting work. In those fields people at the top of their profession will in future attract many more clients and higher fees, but white-collar workers with lower qualifications will find themselves displaced and may, in turn, displace others with even lesser skills.

A new paper by Peter Cappelli, of the University of Pennsylvania, concludes that in recent years over-education has been a consistent problem in most developed economies, which do not produce enough suitable jobs to absorb the growing number of college-educated workers. Over the next few decades demand in the top layer of the labor market may well centre on individuals with high abstract reasoning, creative, and interpersonal skills that are beyond most workers, including graduates.

Most advanced economies have made a poor job of finding lucrative jobs for workers displaced by technology, and the resulting glut of cheap, underemployed labor has given firms little incentive to make productivity-boosting investments. Until governments solve that problem, the productivity effects of this technological revolution will remain disappointing. The impact on workers, by contrast, is already blindingly clear.

3. A theoretical discussion on technology & trade

UNCTAD has argued that calls to "free trade" can lock countries into an established pattern of production that – even if it makes efficient use of a country's resource endowments – may not generate the more dynamic productivity gains that drive catch-up growth. These depend on a variety of macroeconomic, structural and technological factors that need to be in place for a strong investment – export nexus to emerge, including in the context of global value chains, and to support a more diversified economic structure (UNCTAD, 2011).

There is a difference between innovation and technology: innovation is the actual development of science and "know-how"; technology is the application of this "know-how" in terms of production and society. It is the latter that matters when it comes to actual increases in productivity and economic growth.

Nevertheless, technology is the main motor force to develop the productive forces: to increase our knowledge of and mastery over nature; to reduce the socially necessary labor time needed to produce and reproduce the conditions of life; to improve lifestyles and raise the standards of living (Innovation pessimism, 2013). Technology promotes trade and development, produces wealth (in terms of both quantity and quality of goods and services), and achieves sustainability and inclusiveness with comparative advantage through reducing cost of production. It means that technology reduces burden of mankind.

The full range of amenities which underpin the Millennium Development Goals agenda, including, inter alia, environmental protection, the containment of health epidemics, mitigating climate change, requires access to a range of appropriate technologies. Much of the required technology is already available in the public domain but accessing and linking them to the required knowledge and skills within countries is neither automatic nor costless. It calls for investments in dynamic capabilities, particularly those that shape the ability of national stakeholders to uptake and absorb technologies and make improvements in line with local circumstances (Stiglitz, 2007).

While the constant search for higher profits through the introduction of new machinery and technology into the production process may be a logical thing to do for the individual capitalist, for capitalism as a whole it is disastrous. In other words, if all capitalists attempt to produce more goods at cheaper prices and with fewer workers, then, eventually, there will be a lack of demand for their products resulting in a crisis of overproduction.

Today there is innovation everywhere, but the actual impact of this on society is not dramatic. Great advances have been made in some areas, in many respects society is still the same today as it was 40 years ago: domestic lifestyles are largely unchanged; we still travel around on the same trains, planes, and automobiles; and average life expectancy world-wide (including the USA where each third person is poor). As in the 1970s, Mandel stated that it is hard to deny that American workers participated to a

certain degree in the benefits of US imperialism's monopoly of advanced industrial productivity of technology (Bieler, 2012).

Some level of technological capabilities in countries is critical to ensure the provision of these amenities to all. At the same time, the critical importance of such amenities spans beyond individual countries or regions. In such a case, the international community as such, has a collective responsibility to ensure the provision of these goods (Stiglitz, 2007). Technological change, particularly in developing countries, is not only about innovating at the frontier, but also at adapting existing products and processes to achieve higher levels of productivity as applicable to their local contexts. In this process, the ability of local firms and enterprises to access technological know-how is fundamental to shaping their ability to provide products and services, both of the kind that are essential to improve living standards, and that could also promote growth and competitiveness (Stiglitz, 2007).

There are more people today involved in research and development than ever before, and yet it is estimated that technology and innovation contribute seven times less towards growth than in 1950. It is the existence of private ownership, not only over the material means of production, but also over the ideas and knowledge generated by society (i.e., patents and intellectual property), that is stifling the actual development and implementation of technology. Rather than co-operating and sharing knowledge to produce the best phone possible, companies such as Apple and Samsung instead embroil themselves in an endless series of legal cases over the infringement of various patents or fairly investing in education and applying the most modern techniques in the advanced industrial countries, the capitalists instead take advantage of the abundant supply of cheap labor in Asia and Africa or elsewhere; or simply choose to speculate parasitically in the financial markets, or moderately employing the most advanced production techniques, such as 3D printers, which have the potential to provide another industrial revolution, such technologies are held back for fear of exacerbating the already existing excess capacity – i.e., overproduction – in the system and generating yet more unemployment by replacing workers with machines. Then questions arise here, why invest in real production when there is already excess capacity and when you could make billions on the stock exchange or in various financial derivatives instead? Why spend on R&D in Britain and the USA when you could simply employ hundreds of low-paid workers in China?

The increasingly parasitic nature of capitalism and the use of off-shoring in terms of industry have not helped innovation and technology. On the one hand, they have created greater inequality everywhere, with profits accumulating in the hands of the big multinationals at one end and with an ever more impoverished working class at the other. But on the other, they have also helped to create the largest and most interconnected working class that has ever existed.

4. An inclusive development & capitalism

The Economist's article (published in 2013) shows that there has been a slowdown in the growth of productivity – i.e., the economic and productive output per person – that precedes the crisis and goes back several decades to the 1970s (Innovation pessimism, 2013). This article explains how economic growth can primarily be broken down into two categories: extensive and intensive. Extensive growth refers to the increase in output due to an increase in the factors of production by expanding the workforce.

Intensive growth, by contrast, is the increase in output for a given size of the workforce. This reflects an increase in the productivity or intensity of labor – what Marx refers to as an increase in "relative surplus value" in terms of capitalism. The difference between "extensive" and "intensive" growth, therefore, is a difference of quantity and quality: extensive growth merely increases the quantity of the productive forces; intensive growth increases their quality.

Marx explained how capitalism, in its early, progressive phase, gave a huge impetus to the development of the productive forces. Competition between different capitalists, in the pursuit of increased profits and greater markets, led not only to extensive growth – through accumulation and reproduction – but also to intensive growth, as the capitalists reinvested profits into the development of new machinery, technologies, and productive techniques. Those who could not keep up with the application of the latest technology and technique produced at a higher cost and were undercut by their competitors. The weak went under and were consumed by the strong, leading over time to a concentration and centralization of capital in the hands of the few, as Marx describes in Capital:

"Hand in hand with this centralization, or this expropriation of many capitalists by few, other developments take place on an ever-increasing scale, such as the growth of the co-operative form of the labor process, the conscious technical application of science, the planned exploitation of the soil, the transformation of the means of labor into forms in which they can only be used in

common, the economising of all means of production by their use as the means of production of combined, socialized labor, the entanglement of all peoples in the net of the world market, and, with this, the growth of the international character of the capitalist regime (Capital)".

This, then, was the historical role of capitalism: to concentrate the previously scattered means of production into giant monopolistic firms; to establish an interconnected capitalist world market; to develop the means of production and thus lay the material basis for socialism – that is, the creation of a society not of scarcity, but of superabundance.

5. A so-called socialist market paradigm of China

The growth of China's economy is overwhelming: it produced US$9.5 trillion-worth of goods and services in 2013, nearly three times more than in 2007. But question arises here: has that growth come simply from deploying more labor and capital? Or did total factor productivity – the efficiency with which those two inputs are used – also increase? As we know, a period of high growth does not necessarily involve a rise in productivity. The more people are in employment, and the more factories and roads are for them to use, the bigger an economy will be. But those workers and roads may not be put in good use. As long as the amount by which labor and capital grow outpaces any fall in productivity, GDP will still increase. Growth of this sort, however, can last only so long. Neither labor nor capital is infinite.

In the long run, improving the productivity with which they are used is the magic ingredient for any economy, the only path to sustainable growth. Concerning China, productivity increased just 1.5 percent a year between 1997 and 2012, according to the People's Bank of China (The Weak World Economy, 2014).

In China, the initial success in the late 1970s and early 1980s was mainly due to agricultural reforms. From the late 1980s, China entered a period of large-scale rural industrialization and active reform of the urban industrial sectors. The change of state policy on international trade played an important role in creating a good external environment for sustainable economic growth. China's trade policy changed from import-substitution and self-reliance before economic reforms to export-promotion and openness after reforms (Groves et al., 1994, 2001).

The export promotion policy was pursued with a number of radical reforms, including liberalization of the foreign exchange market, encouragement of foreign direct investment (FDI), and industrial restructuring to exploit China's comparative advantages in international trade.

The Chinese government has re-orientated their economy away from export-led growth and towards investment. The reasons for this are straightforward: with a collapse in demand in the USA and Europe – China's main export markets – as a result of the crisis, the Chinese economy needed to find a new source of growth or face a crisis and collapse of its own.

In order to maintain their blistering pace of economic growth, China effectively enacted one of the world's largest ever Keynesian experiments, with credit expanded massively to fund an enormous surge in investment; lending in China rose from 122 percent of GDP in 2008 to 171 percent in 2010 − a larger increase of credit than that seen in the USA in the run up to the financial crisis of 2007 − and, as a result, the total debt-to-GDP ratio (including household, corporate, and government debt) now stands at around 200 percent.

This investment binge has created enormous contradictions, both within China and on a world scale. The expansion of credit has led to a huge build-up of local government debt in China and the central governments are under pressure to try to deflate this credit bubble without bursting it in the process. Meanwhile, the massive amount of investment in China – accounting for up to 50 percent of Chinese GDP – has further increased the productive forces in China, and, thus, globally also, which, in turn, only exacerbates the existing excess capacity and crisis of overproduction. As the views of Paul on the Chinese economy:

"Investment should expand an economy's capacity to meet the needs of its consumers or its export markets. But in China, Krugman argues, much investment spending is Sisyphean: it is simply adding to the economy's capacity to expand its capacity.

"...It is clear that China should lower its investment rate. But Krugman and others say that a lower investment rate could precipitate a crash. Their concern echoes a 70-year-old model of growth devised by Roy Harrod and Evsey Domar, in which the economy is balanced on a knife-edge between boom and bust.

"The model recognizes that investment plays a dual role in an economy. It is both "a source of extra capacity" and a "source of demand". Sometimes these two roles work at cross purposes. If growth slows, then the economy will not need to add as much capacity. That implies less investment. But because investment spending is a source of demand, less of it also implies less demand, lowering growth still further. In avoiding excess capacity, the economy ends up creating more of it.

China as a whole is thrifty: its saving rate is even higher than its investment rate. But savers and

investors are not usually the same. Standing between them is China's financial system, which transfers vast resources from the first to the second. The IMF criticized about China's growth, it has become 'too reliant on investment and an unsustainable surge in credit'. However, China is in the midst of a precarious shift from investment-led growth to a more balanced, consumption-based model. Its investment surge has prompted plenty of bad debts.

6. "Go global" development strategy of China

China recorded enormous growth rates based on the growth of exports through adopting "Go Global" strategy. The government becomes the supplier of information and assistance services, as well as promoter of incentives and reduction in investment risks. There were also published guidelines, covering outward FDI to some countries and sectors, and there were conducted many infrastructural projects, connected with acquiring relatively small, but technologically advanced enterprises in developed countries and allocating production there. Chinese firms are taking to expand into international markets.

6.1. The most competent Chinese business agency. Alibaba operates a series of online marketplaces in China and elsewhere, handling more transactions than Amazon and eBay combined. Online retailer Alibaba says it sold $2bn (£1.2bn) of goods in the first hour of China's annual "Singles' Day". That compares to $3.1bn in sales seen in the first half of last year's event – considered the world's biggest online retail sales day.

Last year, Alibaba shipped more than 150 million packages or about $5.75bn in gross merchandise volume. Since then, it has gone on to become a massive day of sales for China's fast growing e-commerce market. The market is expected to grow at an annual rate of 25 percent over the next few years, from $390bn in 2014 to $718bn in 2017.

Conclusions

Any effective global partnership supporting inclusive development, therefore, needs to frame development for all as the overall goal. This will need a rebalance of priorities and concerns globally to achieve a paradigm shift where the relevance of cross cutting issues, such as technology and innovation, is not contestable. Such a new global deal will need fresh thinking, supported by effective policies and instruments in order to provide a roadmap for action.

Technological learning and innovation capacity that is critical to enable the provision of essential amenities to all is fundamental to ensuring overall sustainable development. Simply put, a country develops capabilities to innovate, and the absence of such capabilities results in limitations to apply existing technologies in all sectors, including those of public importance, such as health, agriculture and climate change.

Economic development concentrated in a few geographical (where mainly focusing on specific areas like IT sector, technology trade, military or defense trade), among specific social groups and is increasing in urban areas, ultimately, whole exercise is focused on how to promote international trade for private corporate sectors to maximize profits through competitiveness and more liberalization. This oligopolists-led globalization, worldwide poverty, malnutrition, income inequality, unemployment, and environmental degradation rigorously increased. Overcoming poverty requires a context-specific multi-pronged strategy that includes: a basic societal needs approach, a human rights entitlement approach, a natural resource management and properly utilization approach, and a focus on inclusive economic development in all sectors: agriculture, manufacturing, and service, including health, education etc. Only through adopting multiple capability approach, it will create job opportunity to all with people's freedom and choices.

Recommendations & policy implications

For achieving inclusive development with sustainability, it requires investment not only in higher value manufacturing industries but also into sectors that contribute to broader public policy goals (such as health and nutrition, education, agriculture, and environment) as well as across a range of activities that support overall development, including also marketing, management and financial services.

Such investments, over a period of time, help to increase absorptive capacity and the ability to adapt and apply existing technologies, thereby leading to a gradual increase in productivity and social welfare. Learning opportunities for innovation arise regularly from a variety of sources, such as from investments in new machinery and equipment, technology suppliers, mobility of labor, interactions with other knowledge agents, trade and investment. External opportunities, such as contract manufacturing for export and supplying to global value chains, are additional sources of learning.

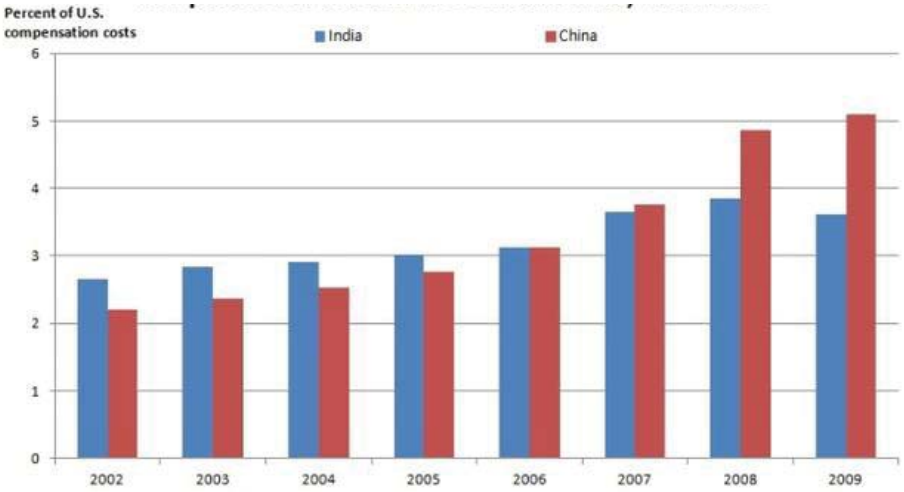
However, because learning does not occur automatically or without costs, it requires appropriate incentives, policies and institutions... Trade rules, intellectual property rights and investment are means to achieve overall development, including through technological change. There is a need to ensure that they are coherent with overall technological development objectives of countries. There is also a need for efforts to ensure that existing agreements maximize policy space and, where appropriate, expand it in sectoral areas of interest to developing countries to ensure inclusive, sustainable development.

References

1. Arndt, H.W. (1987). *Economic Development: History of an Idea*. Chicago: University of Chicago Press. Free Trade (2013) Britannica. Available at: http://www.britannica.com/EBchecked/topic/218403/free-trade.
2. Bieler, A.M. (2012). Uneven and combined development and unequal exchange: the second wind of neo-liberal free trade? *Trade Union, Free Trade and Transitional Solidarity*, p. 21. University of Nottingham.
3. *Chinese President Xi Jinping made the remarks while addressing the CEO Summit of the ongoing Asia-Pacific Economic Cooperation (APEC) meetings* (2014).
4. Chossudovsky, Michel (2010). *The Global Economic Crisis, The Great Depression of the XXI Century*, Global Research on Globalisation. Available at: http://www.globalresearch.ca/the-global-economic-crisis-the-great-depression-of-the-xxi-century-2/19025.
5. Crotty, J. (2009). Structural causes of the global financial crisis: a critical assessment of the 'new financial architecture, *Cambridge Journal of Economics*, 33 (4), pp. 563-580.
6. *Export & Import Statistics* (2014). World Bank.
7. *IMF Forecaste* (2014). IMF.
8. *IMF Forecaste* (2014). IMF.
9. Innovation pessimism. Has the ideas machine broken down? (2013). *The Economist*. Available at: http://www.economist.com/news/briefing/21569381-idea-innovation-and-new-technology-have-stopped-driving-growth-getting-increasing.
10. Magdoff Fred, F.J. (2014). Stagnation and Financialization, *Monthly Review*, 66 (1), May. Available at: http://monthlyreview.org/2014/05/01/stagnation-and-financialization/.
11. Prabhakar, A. (2013). World Economic Trends, *International Journal of Management Studies (IJMS)*, pp. 109-163.
12. Pride, W.M., Hughes, R.J. & Kapoor, J.R. (2011). "Foundations of Business" 3rd edition, Cengage Learning.
13. Report of the Secretary General of UNCTAD to UNCTAD: Development-led globalisation: Towards sustainable and inclusive development path (2011). New York/Geneva: UNCTAD.
14. Schumacher, R. (2012). Free Trade and Absolute and Comparative Advantage: A Critical Comparison of Two Major Theories of International Trade, Universitatsverlag Potsdam.
15. Stiglitz, J. (2007). Knowledge as a Global Public Good. In T. a. F. Abbot, *International Intellectual Property in an Integrated World Economy*, Aspen Publishers.
16. The Party V the People (2014). *The Economist*. Available at: http://www.economist.com/news/leaders/21621803-communist-party-faces-its-toughest-challenge-tiananmen-time-it-must-make-wiser.
17. The Weak World Economy (2014). *The Economist*.
18. The Wealth of the Billionaires (2014). Wealth-X and UBS.
19. UN SYSTEM TASK TEAM ON THE POST 2015 UN DEVELOPMENT AGENDA (2011). The Department of Economic and Social Affairs and the United Nations. United Nations.
20. UNCTAD, S. G. (2011). *Development-led Globalisation: Towards Sustainable & Inclusive Development Path.* New York: UNCTAD XIII/1/2011.
21. World Investment Report (2014). UNCTAD.

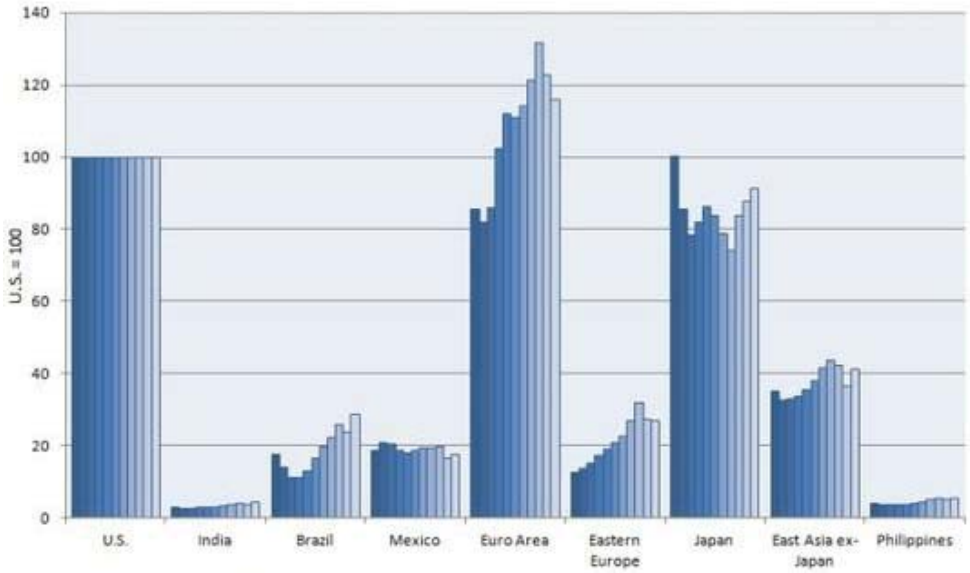
Appendix

Cheap labor and competitiveness



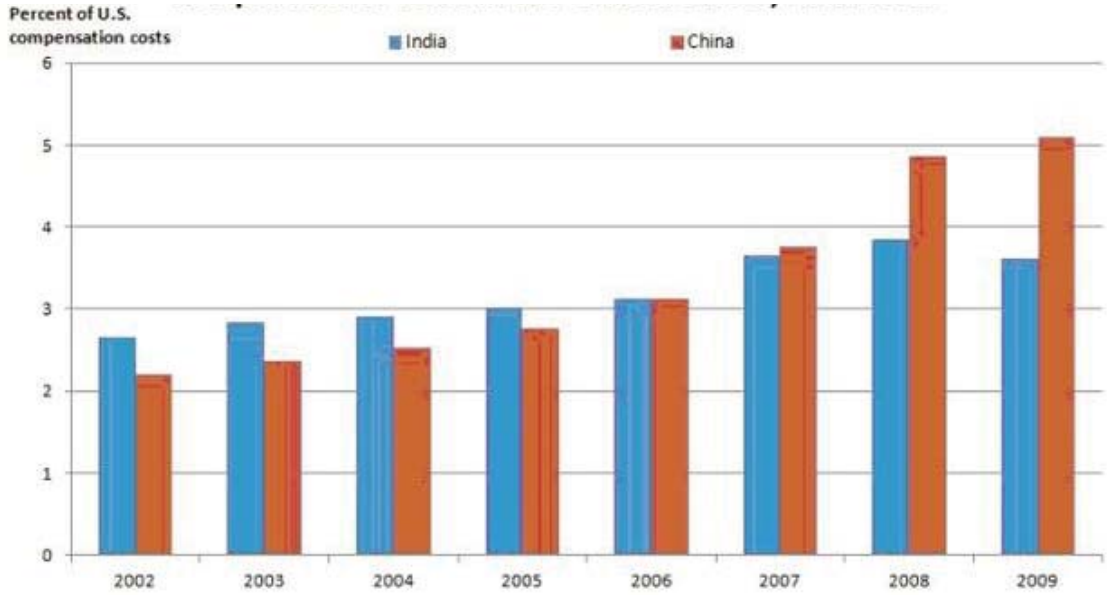
Source: U.S. Bureau of Labor Statistics, International Labor Comparisons.
Note: Data for India refer to the organized manufacturing sector only.

Fig. 1. Average hourly compensation costs in India and China, as a percent of costs in the United States, 2002-2009



Source: U.S. Bureau of Labor Statistics, International Labor Comparisons.
Note: Data for India refer to the organized manufacturing sector only. For a description of the economic groups, see the technical notes at www.bls.gov/ilc/ichcctn.pdf, Table 2.

Fig. 2. Average hourly compensation costs for all employees in manufacturing, selected economies and regions, 2000-2010



Source: U.S. Bureau of Labor Statistics, International Labor Comparisons.
Note: Data for India refer to the organized manufacturing sector only.

Fig. 3. Average hourly compensation costs in India and China, as a percent of costs in the United States, 2002-2009