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China's Growth Miracle in the context of Asian Transformation[1]

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Abstract

Myrdal did not cover China in his *Asian Drama*. If he did, he would have been most likely pessimistic about China as about other Asian countries in his book. However, China has achieved a miraculous growth since the transition from a planned economy to a market economy at the end 1978. This paper provides answers to the questions: Why was China trapped in poverty before 1978? Why was it possible for China to achieve an extraordinary performance during its transition? Why did most other transition economies failed to achieve a similar performance? What prices did China pay for its success? Can China continue the dynamic growth in the coming decades? What lessons can we draw from China's development experiences in view of the *Asian Drama*. The paper concludes with a positive note: If a developing country adopts a pragmatic approach to develop its economy along its comparative advantages in a market economy and tap into the potential of latecomer advantages with a facilitating state, the country can grow dynamically like China.

Keywords: Development, Transition, Role of state, Chinese economy, Rethinking of economics

JEL codes: N15, O10, P11

[1]This paper is prepared for a UNU-WIDER project commemorating the fiftieth anniversary of Gunnar Myrdal's *Asian Drama.*

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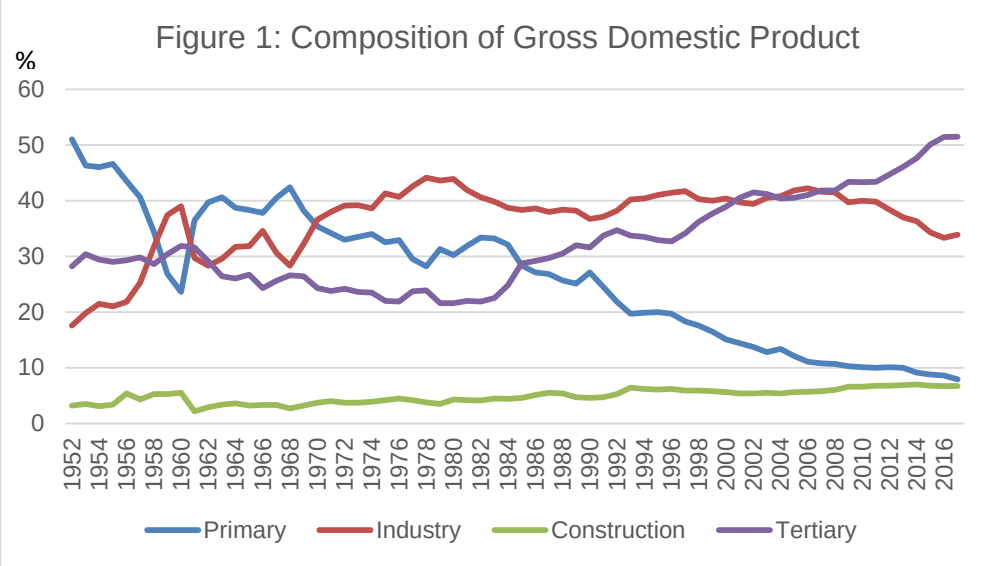
Myrdal did not cover China in his monumental book, *Asian Drama*. When he published the book in 1968, China was approaching 20 years after the victory of socialist revolution, led by Mao Zedong, in 1949， 10 years after the launch of the failed ultra-leftist Great Leap Forward,[3] and 10 years before the beginning of Reform and Opening Up, launched by Deng Xiaoping[4], in 1978. In 1968 China was in the middle of the chaotic Cultural Revolution, which was launched by Mao Zedong himself in 1966 and did not end until his death in 1976.[5]

Unlike other Asian countries studied in A*sian Drama*, China had a strong instead of a soft state. China had also carried out since 1953 a big push for its industrialization drive, recommended by Myrdal in *Asian Drama* to Asian countries for changing their miserable underdeveloped status. China, starting in the first Five-Years Plan in 1953, adopted a state-led planned economic system to pursue a heavy industry-oriented development strategy for purpose of quickly building up a comprehensive system of modern capital-intensive industries. With the big push of the Stalinist planning model as well as Chinese bureaucrats' mobilization and implementation capability, China was quickly transformed from an agrarian economy in 1952 to an economy dominated by industries, as shown in Figure 1, with the capability to test nuclear bombs in 1964 and launch the satellite in 1970.



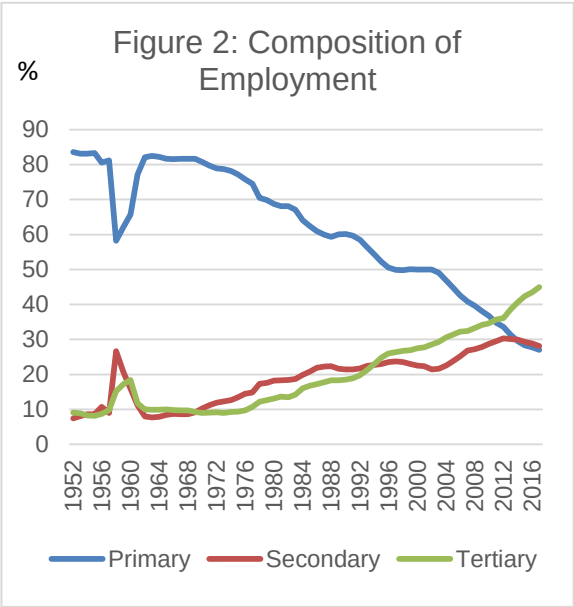
Data sources: National Statistical Bureau, *Compilation of New China Statistical Data, 1949-2013;* National Statistical Bureau, *China Statistical Abstract 2018.*

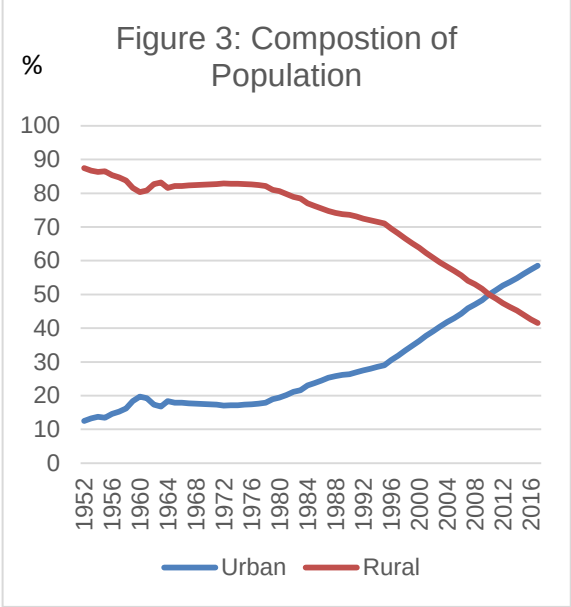
[3]The Great Leap Forward aimed for China to overtake United Kingdom in 10 years and to catch up the United States in 15 year. It set ambitious industrialization targets, for example, doubling the steel output from 5.35 million ton in 1957 to 10.7 million ton in 1958. The program boosted industrial output like a balloon but soon failed, as shown in Figure 1. However, the efforts to industrialize China persisted. The Great Leap Forward also made parallel dramatic changes in rural area, for example, the adoption of People's Commune as the basic farming system. After the socialist revolution, the Chinese government first confiscated landlord's land and distributed the land to poor farmers in 1949-1952 and consolidated the private farms into agricultural collectivizes step by step afterwards. The first attempt was the Mutual Aid team of 3-5 households in 1953, then progressed to Primary Agricultural Cooperative of 20-30 households in 1954-1955, to Advanced Agricultural Cooperatives of around 200 households in 1956-1557, and peaked at the People's Commune of an average farm sizes of 5000 households. After the failure of the People's Commune, the farm system changed to the Production Team system of 20-30 households in 1962. The system remained until the introduction of individual-based farming, the Household Responsibility System, in 1978 when the Reform and Opening Up began.

[4] Deng Xiaoping, born in 1904, was one of the first generation revolutionary leaders. He became general secretary of the Chinese Communist Party in 1956, purged in 1966 at the beginning of Cultural Revolution, restored in 1973 by Chairman Mao, purged again in 1976 by the leftist Gang of Four, Chairman Mao's heirs, when Mao died. He returned to power again in 1978 after the Gang of Four was overthrown.

[5] Mao's ostensible reason for the Cultural Revolution was to prevent China from falling back to the capitalist road. However, one of the true reasons behind his motivation was to regain his political dominance in China after stepping aside from the first line of policy making in 1962 due to the setback of Great Leap Forward and People's Commune in 1958-1961, which led to the Great Famine with 30 million excess death and 33 million postponed birth (Lin 1991).

Nevertheless, when *Asian Drama* was published, China was still trapped economically in a dire situation worse than most other countries analyzed in the book. Measured in current US dollar, China's per capita GDP in 1968 was $91.5, compared to $98.8 in India, $65 in Indonesia, $323.4 in Malaysia, $146.9 in Pakistan, $224.6 in Philippines and $150.2 for Sri Lanka. [6]





Data sources: National Statistical Bureau, *Compilation of New China Statistical Data, 1949-2013;* National Statistical Bureau, *China Statistical Abstract 2018.*

Real change in China did not occur for another 10 years until the Reform and Opening Up began in 1978. In that year, 70.5% of the labor force was employed in the primary sector and 82 percent of China's population living in rural area, as shown in Figures 2 and 3. Moreover, 84% of its population living below the international poverty line of $1.25 a day. China's per capita GDP was $156, about 25% below India's $204 and less than one third of the average of $490 in Sub-Saharan African countries. Like other poor countries, China was also an inward-looking economy with trade consisting of merely 9.7% to its GDP. Myrdal did not have the opportunity to spend another 10 years to do the research on China and publish a sequel to *Asian Drama* in 1978. If he had done it, he, like many economists at that time, would most likely have painted a pessimistic outlook for Chin, similar to his outlook for other Asian countries in his 1968 book, even though China had implemented many of his proposed programs, such as big-push industrialization and land reform, for three decades.

From the above humble starting point, Deng Xiaoping and other veterans initiated at the end of 1978 the Reform and Opening Up programs to transit the Chinese economic system from a planning economy to a market economy. Deng and his associates were purged during the Cultural Revolution and did not return to power until the death of Mao and the downfall of Mao's hand-picked ultra-left successors--the Gang of Four--in 1976.

China is celebrating the fortieth anniversary of Reform and Opening Up this year. In the past 40 years, the prediction of coming collapse of Chinese economy surged repeatedly in the world news media and international forums. However, to the surprise of almost every China observer and economist in the world, China achieved a sustained growth miracle. Instead of collapse, stagnation and frequent crises as in many transition economies in Eastern Europe, Former Soviet Union, Africa and Latin America at the same period of time, the average annual growth rate of GDP reached respectively

[6] The data for per capita GDP used in this paper are all taken from the World Bank's World Development Indicators (https://datacatalog.worldbank.org/dataset/world-development-indicators)

9.5% in the period between 1978 and 2017. This performance was far exceeding the expectation of Deng Xiaoping himself. When he initiated the Reform and Opening Up, the target was to quadruple the Chinese economy in 20 years. The GDP growth rate required for that was 7.2% per year for 20 years. I was a graduate student at Peking University at that time. None of my classmates, including myself, and my professors, including those visiting professors from the West, thought the above growth target was possible to achieve.

In addition, China's trade growth was also un-precedent. The average annual growth rate of trade volume, measured in US dollar, reached 14.8% in 1978-2017. With such an extraordinary growth performance, China overtook Japan to be the second largest economy measured by market exchange rate in the world in 2009, overtook Germany to be the world's largest exporter in 2010, overtook the US to be the world's largest trading country in 2013, and in 2014 China's GDP, measured by purchasing power parity, exceeded the US to become the world's largest economy. China's per capita GDP reached $8,640 and trade consisted of 31.1% of GDP in 2017. During this period of time about 800 million of people were lifted above the international poverty line of $1.25 a day, contributing to more than 70% of poverty reduction in the world. Moreover, China was not only the only emerging market economy that has avoided a systemic financial and economic crisis in the past 40 years but also helped the Asian economies to quickly pull out of the 1997/1998 financial crisis by not devaluing Chinese currency and maintaining dynamic growth and helped the world economy avoid a downward spiral in the 2008 global crisis by using fiscal stimulus to achieve quick recovery and contributing more than 30% of global growth annually.

In this paper, I would like to discuss six related questions: why China's growth performance was poor before 1987, why it was possible for China to achieve such an outstanding performance after the transition in 1978, why China was able to avoid the collapse and stagnation as in other transition economies, what prices China paid for its success, the prospect for China growth in the coming decades and what lessons we can draw from China's development experiences in view of the *Asian Drama*.

I. Why Was China Trapped in Poverty before 1978?

Rapid, sustained increase in per capita income is a modern phenomenon. Studies by economic historians, such as Angus Maddison (2001), show that average annual per capita income growth in the West was only 0.05 percent before the 18th century, jumping to about 1 percent in the 19th century, and reaching about 2 percent in the 20th century. That means that per capita income in Europe took 1,400 years to double before the 18th century, about 70 years in the 19th century, and 35 years thereafter. Before the coming of Modern times in 1700 AD, the gap of per capita GDP in China and India with that of Western European countries was only about 50% and due to their enormous population size, China and India together contributed about 50% of the global GDP (Lin and Rosenblatt 2012).

A continuous stream of technological innovation is the basis for continuous improvement of productivity and income and thus sustained growth in any economy. The dramatic surge in growth in modern times is a result of a paradigm shift in technological innovation. Before the industrial revolution in the latter half of 18th century, technological innovations were generated mostly by the experiences of craftsmen and farmers in their daily production. After the industrial revolution, experience-based innovation was increasingly replaced by experimentation and, later, by science-based experiments conducted in scientific laboratories (Lin 1995; Landes 1998). This paradigm shift accelerated the rate of technological innovation, marking the coming of modern economic growth and contributing to the dramatic acceleration of income growth in the 19th and 20th centuries (Kuznets 1966).

The industrial revolution not only accelerated the rate of technological innovation, but also transformed industrial, economic, and social structures, as the historical materialism articulated by Karl Marx and Friedrich Engels (1848) in *Manifesto of the Communist Party*. Before the 18th century, every economy was agrarian; 85 percent or more of the labor force worked in agriculture, mostly in self-sufficient production for the family. The acceleration of growth was accompanied by the movement of labor from agriculture to manufacturing and services. The manufacturing sector gradually moved from very labor-intensive industries at the beginning to more capital-intensive heavy and high-tech industries. Finally, the service sector came to dominate the economy. Accompanying the change in industrial structure was an increase in the scale of production, required capital and skill, market scope, and risks. In order to exploiting the potential unleashed by new technology and industry and to reduce the transaction costs and share risks, it requires innovations as well as improvements in an economy's hard infrastructure, such as power, road networks and port facilities, and its soft infrastructure, including the rules and values, the legal framework, financial institutions, and the education system (Lewis 1954; Kuznets 1966; North 1981; Lin 2011, 2012b).

A developing country like China, which started its modernization drive in 1949 after the victory of socialist revolution, potentially has the latecomer advantages in its pursuit of technological innovation and structural transformation. In advanced, high-income countries, technological innovation and industrial upgrading require costly and risky investments in research and development, because their technologies and industries are located on the global frontier. Moreover, the institutional innovation required for realizing the potential of new technology and industry often proceeds in a costly trial-and-error, path-dependent, evolutionary process (Fei and Ranis 1997). By contrast, a latecomer country in the catching-up process can borrow technology, industry, and institutions from the advanced countries at low risk and costs. So if a developing country knows how and introduces necessary conditions to tap the latecomer advantage in technology, industry, and social and economic institutions, it can grow at an annual rate several times that of high-income countries for decades before closing its income gap with those advanced countries (Lin 2009; Vu 2013). [7]

China was the largest economy and among the most advanced, powerful countries in the world in pre-modern times (Maddison 2007). Mao Zedong, Zhou Enlai and many other Chinese social and political elites joined the socialist revolution for the purpose of realizing the dream of China's rejuvenation. The lack of industrialization—especially the lack of large-scale, capita-intensive, technologically advanced, heavy industries that were the foundation for high labor productivity, and thus high income, and the basis for the production of military machineries, and thus military strength—was perceived as the root cause of China's backwardness. It was natural and seemingly intuitive for the social and political elites in China to prioritize the development of large, heavy, advanced industries when they started the process of nation building after the success of socialist revolution. In the 19th century, the political leaders of France, Germany, the United States, and other Western countries pursued effectively the same strategy, motivated by the contrast between Britain's rising industrial power and the backwardness of their own industry (Gerschenkron 1962; Chang 2003).

Starting in 1953, China adopted a series of ambitious Five-Year Plans to accelerate the building of modern advanced industries, with the goal of overtaking Britain in ten years and catching up to the

[7] The concept of latecomer advantages is related but has a subtle difference to the advantages of backwardness made popular by Gerschenkron (1962). The latecomer advantages refer to a country at a lower development stage can learn from the existing technology, industry and institution of a country at a higher development stage to reduce the cost and risk of innovation in its development process. The advantage of backwardness refers to a country at a lower development stage has a lower opportunity cost than an advanced country in adopting the newest technology as the former can adopt directly the newest technology when it first enters a new industry while the latter is already in the advanced industry and will have to replace the equipment embodied old technology with a new equipment embodied the newest technology when the newest technology become available (Lin 2016).

United States in 15 years. Because those advanced industries were not only protected by patents but also access to knowhow was prohibited by the advanced countries due to their national security consideration, China needed to "reinvent the wheel" when China wanted to build up those advanced industries. Such strategy effectively gave up the latecomer's advantage in technology innovation and industrial upgrading.

Moreover, China was a lower-income agrarian economy at that time. In 1953, 83.1 percent of its labor force was employed in the primary sector, and its per capita income (measured in purchasing power parity terms) was only 4.8 percent of that of the United States (Maddison 2001). Given China's employment structure and income level, the country did not possess comparative advantage in the modern advanced industries of high-income countries, whether latent or overt, and Chinese firms in those industries were not viable in an open, competitive market.

To achieve its strategic goal, the Chinese government needed to protect the priority industries by giving firms in those sectors a monopoly in product markets and subsidizing them through various price distortions, including suppressed interest rates, an overvalued exchange rate, and lower prices for other inputs, including wage for labor. The price distortions created shortages and the government was obliged to use administrative measures to mobilize and allocate resources directly to the nonviable firms in priority industries (Lin 2009; Lin and Li 2009).

These interventions, as shown in Figure 1, enabled China quickly transform the production structure from an agrarian economy to an industrialized economy with the ability to test nuclear bombs in the 1960s and launch satellites in the 1970s. However, the modern capital-intensive industries generated only a few employment opportunities, resulting little change in China's employment and population structure from its agrarian past before the end of the 1970s, as shown in Figures 2 and 3. The costs of such a development strategy were not only the voluntary giving up of the latecomer's advantage but also the inefficiency arising from the misallocation of resources, the distorted incentives, and the repression of labor-intensive sectors in which China held a comparative advantage. As a result, economic efficiency was low and growth before 1978 was driven mainly by an increase in inputs. Despite a very respectable average annual GDP growth rate of 6.1 percent in 1952–78 and the establishment of large modern industries, China's household consumption grew by only 2.3 percent a year, in sharp contrast to the 7.9 percent average growth after 1978.

II. Why Could China Have An Extraordinary Performance after the Transition in 1978?

As discussed in the previous section, a sustain growth relies on a continuous technology innovation in the existing industries and upgrading to new, higher value-added industries. A developing country has the latecomer advantage in technological innovation and industrial upgrading and can potentially grow faster than advanced countries. In the post-World War II period, 13 of the world's 200 plus economies found the way to tap into the potential and achieved average annual growth of 7 percent or more for 25 or more years. China became one of the 13 after the economic transition started in 1978.

The Commission on Growth and Development, headed by Nobel Laureate Michael Spence, finds that these 13 economies have five common features, openness, macroeconomic stability, high rates of saving and investment, a market system, and committed, credible, and capable government (Commission on Growth and Development 2008, p. 22). Spence suggests that the above five features are the ingredients in a recipe but themselves not a recipe of successful development (Spence 2016). In fact, there is a recipe for success. The recipe is to follow a country's comparative advantages to develop its industries and to upgrade its industries according to the changes in comparative advantages in the country's development process (Lin 2009, 2013).

Lin and Monga (2012) show that the first three features are the result of following the economy's comparative advantages in developing industries at each stage of its development and the last two features are the institutional preconditions for the economy to follow its comparative advantages in developing industries. If a country develops its industries according to its comparative advantages, it will produce whatever the country can produce at low cost and export the goods. Otherwise, the country will import from other countries. The country will be an open economy with trade consisting a larger share of its GDP than a country adopting a comparative advantage-defying import substitution strategy. The country will be competitive in domestic and international markets with fewer homegrown crises and better ability to mitigate external shocks due to the government's sound fiscal position than a country adopting an inefficient comparative advantage-defying development strategy. Therefore, a country will have a good record of macro stability. The return to investment will be high in industries that are consistent with a country's comparative advantages, resulting in a high saving and high investment in the country. For the entrepreneurs to make investments according to a country's comparative advantages spontaneously, it requires a price system that can reflects the relative scarcities of each production factors. Such a price system will exist only in a competitive market, which is the fourth feature among the five features of the 13 successful economies. The economic development is a process of structural changes, which will require a committed, proactive, capable state to help overcome the inevitable externality and coordination issues for a dynamic transformation.

After the transition from a planning economy to a market economy, initiated by Deng Xiaoping at the end of 1978, China switched its development strategy. The government liberalized the entry of private enterprises, joint ventures, and foreign direct investment to labor-intensive industries, in which China had comparative advantages but were repressed before the transition. With liberalization of entry into the new sectors, in addition to providing incentives for investment, the Chinese government recognized the need to help private firms overcome all kinds of inherent hurdles in the transition process: The overall business environment was poor,[8] the nationwide infrastructure in China was bad,[9] and the nation's investment environment was inhospitable.[10] The Chinese government mobilized its limited resources and capability to build up special economic zones and industrial parks (Zeng 2010, 2011). Within the zones and parks, the infrastructure and business environment were made very attractive. The labor costs were low because of the large amount of surplus labor in rural areas when China started the transition. But China lacked the knowledge about how to turn that surplus labor to an advantage by producing labor-intensive goods of acceptable quality for the international market. And international buyers were not confident that Chinese firms would be able to deliver the goods in a timely manner. To overcome those difficulties, the Chinese governments at all levels and in all regions proactively approached prospective foreign investors, especially those manufacturers in developing Asia that were about to upgrade their operations in the value chain and relocate their labor-intensive processing to other low-wage economies because of rising wages in their own economies. China provided tax holidays to incentivize foreign manufacturers to make investments in the special economic zones and industrial parks (Wei and Liu 2001; Graham and Wada 2001).

[8] In 2013, after more than three decades of market-oriented reform, China still ranked 91 in the World Bank's Doing Business survey (http://www.doingbusiness.org/rankings).

[9] I still remember vividly the experience of my travel by car from Guangzhou, the capital city of Guangdong province, to Shenzhen, the newly established special economic zone, for the first time in 1984. The car had to cross rivers by ferry three times and it took me more than 12 hours to travel the distance of 300km. The infrastructure at that time in China was worse than any African countries where I travelled extensively as the Chief Economist of the World Bank in 2008–2012.

[10] In the World Bank's *Investing Across Borders 2010*, China's investment environment was ranked the worst among the 87 economies covered in the study. See http://iab.worldbank.org/~/media/FPDKM/IAB/Documents/IAB-report.pdf.

In addition, when the transition started in 1978, the official exchange rate was overvalued. To facilitate the trade, the government adopted initially a dual-track exchange rate system, allowing the market-determined exchange rate to operate parallel with over-valued official exchange rate, and the dual-track system converged to a managed floating system in 1994 (2012a). The government also used innovatively the counter-cyclical fiscal policies in the 1997/1998 East Asian financial crisis and 2008 global financial crisis to improve infrastructure, especially the inter-regional infrastructure, such as high ways and high speed rail roads, which contributed to the rapid integration of domestic markets and linkage to the global markets. [11].

With the pragmatic transition approach, accession to WTO in 2001, the favorable exchange rate policy and the infrastructure improvement, China developed labor-intensive light manufacturing and quickly became the world's factory and tap into the potential of latecomer advantage in the process of industrial upgrading. While in 1978 primary and processed primary goods accounted for more than 75 percent of China's exports, by now the share of manufactured goods had increased to more than 95 percent. Moreover, China's manufactured exports upgraded from simple toys, textiles, and other cheap products in the 1980s and 1990s to high-value and technologically sophisticated machinery and information and communication technology products in the 2000s. The exploitation of the latecomer's advantage has allowed China to emerge as the world's workshop and to achieve extraordinary economic growth by reducing the costs of innovation, industrial upgrading, and social and economic transformation.

III. Why Did Other Transition Economies Not Perform Equally Well?

After World War II, all other socialist countries and most developing countries, including those studied in *Asian Drama*, adopted a development strategy similar to that of China. The strategy was influenced by the elites' intuitive perception of modernization in the developing countries, the Soviet Union's experience of rapid industrialization before World War II and the prevailing structuralist development thinking at that time (Lin 2012b, 2012c). Most developing countries shed colonial or pseudo-colonial shackles and gained political independence after WWII. They started earnestly the modernization drives under the leadership of their revolutionary national fathers similar to China before the transition in the late 1970s. Compared with developed countries, these newly independent developing countries had extremely low per capita income, high birth and death rates, low average educational attainment, and very little infrastructure—and were heavily specialized in the production and export of primary commodities while importing most manufactured goods before their modernization drive. The development of modern, advanced industries to control the commanding heights was perceived as the only way to achieve rapid economic takeoff, become an advanced country, and avoid exploitation by the Western industrial powers (Prebisch 1950).

It became a fad after the 1950s for developing countries in both the socialist and nonsocialist camps to adopt a capital-intensive, large scale, heavy industry-oriented development strategy (Lal and Mynt 1996). But the capital-intensive modern industries on their priority lists could not develop spontaneously by market in their countries, retrospectively, due to those industries' defiance of comparative advantages and the resulting lack of viability for firms in those priority industries in open, competitive market (Lin 2009, 2011). Nevertheless, the perception at that time was the inherent

[11] In 1997, China only had 4800 km of highway, compared to 86,000 km in the USA, although the territory sizes in both countries are about the same. The length of highway in China expanded to 25,100 km in 2003 after the investments supported by countercyclical fiscal expansion in East Asian financial crisis and to over 136,000 km now after the investments supported by the fiscal expansion in the 2008 global financial crisis. Moreover, China had more than 22,000 km of high speed rail by 2016, contributing to more than 65% of high speed rails in the world (NBS 2018).

structural rigidities in the economy causing the market failures for developing modern industries.[12] The structuralist thinking at that time thus advised a developing country to adopt an import-substitution strategy to develop the modern capital-intensive industries by direct state intervention to overcome market failures with institutional arrangements similar to what were adopted in China's planning system, including market monopoly, price distortions and direct allocation of financial and other inputs.[13] This strategy made it possible to establish some modern industries and achieve investment-led growth for one or two decades in the 1950s to the 1970s. Nevertheless, the distortions led to pervasive soft budget constraints, rent-seeking, and misallocation of resources. Economic efficiency was unavoidably low. Stagnation and frequent social and economic crises began to beset most socialist and nonsocialist developing countries by the 1970s and 1980s. Structuralism was replaced by neoliberalism after the 1970s (Lin 2012b, 2012c). As encapsulated in the neoliberal Washington Consensus, liberalization from excessive state intervention became a fad in the 1980s and 1990s.

From the perspective of new structural economics, which advocates the use of neoclassical approach to study the determinants and impacts of structure and structural change in the process of economic development, the industrial structure in an economy at a given time is endogenous to the comparative advantages determined by the economy's endowment structure at that time. The state's interventions and distortions before the transition were second-best institutional arrangements endogenous to the needs of providing protections and subsidies to nonviable firms in the priority sectors. But the Washington Consensus reforms, advocated by the academic and policy communities in the 1980s, did not realize the root causes and endogeneity of those interventions. As a result, policy makers and academics recommended that socialist and other developing countries adopted a big bang approach to eliminate immediately all distortions and interventions by implementing simultaneously programs of privatization, marketization, liberalization, and fiscal stabilization with the aim of quickly establishing a well-functioning market to achieve efficient, first-best outcomes.

But if those distortions were eliminated immediately, many nonviable firms in the priority sectors would collapse, causing a contraction of GDP, a surge in unemployment, and acute social disorders. Moreover, some of those advanced industries were the backbones to national defense. To avoid the dreadful social consequence and/or for the need of national defense, many governments continued to subsidize the nonviable firms in those advanced, capital-intensive, large-scale industries through other, disguised, less efficient subsidies and protections even after the privatization (Lin and Tan 1999). Transition and developing countries thus had even poorer growth performance and stability in the 1980s and 1990s than in the 1960s and 1970s (Easterly 2001, Lin 2014).

During the transition process, China adopted a pragmatic, gradual, dual-track approach. The government first improved incentives and productivity by allowing farmers in agricultural collectives to adopt the family farm-based household responsibility system. The farmers became residual claimants and were allowed to sell at the market freely after delivering the obligatory quota to the state at fixed prices (Lin 1992). At the same time, the government introduced profit retention system to the state-own enterprises, giving workers the rights to share partially the productivity improvements. The government also liberalized the entry of private enterprises, joint ventures, and foreign direct investment in labor-intensive sectors, in which China had comparative advantages but that were

[12] From the new structural economics perspective, the reason for those capital-intensive industries could not develop spontaneously in a low-income agrarian country was not because of market failures due to structural rigidity but the lack of comparative advantages and non-viability of firms in those capital intensive industries in an open, competitive market (Lin 2011).
[13] There are different explanations for the pervasive distortions in developing countries. Acemoglu, Johnson, and Robinson (2005); Engerman and Sokoloff (1997); and Grossman and Helpman (1996) propose that these distortions were caused by the capture of government by powerful vested interests. Lin (2009, 2003) and Lin and Li (2009) propose that the distortions were a result of conflicts between the comparative advantages of the economies and the priority industries that political elites, influenced by the dominant social thinking of the time, targeted for the modernization of their nations.

repressed before the transition. In addition, as discussed in the previous section, the government also proactively facilitated the growth of the new industries by setting up enclaves such as special economic zones and export processing zones to overcome the bottleneck of hard and soft infrastructure in their growth.

This transition strategy allowed China to maintain stability by avoiding the collapse of old priority industries and to achieve dynamic growth by simultaneously turning its comparative advantages into competitive advantages. The quick accumulation of capital and upgrading of comparative advantages also allowed China to tap into the potential of latecomer's advantages in the industrial upgrading process. In addition, the dynamic growth in the newly liberalized sectors created the conditions for reforming the old priority sectors. The quick accumulation of capital gradually turned those capital-intensive industries from China's comparative disadvantages to comparative advantages. Firms in those sectors became viable in open, competitive market. As a result, protections and subsidies become unnecessary for their survival. The government can eliminate the remaining protections and subsidies as they became redundant. Through this gradual, dual-track approach, China achieved "reform without losers" (Lau, Qian, and Roland 2000; Lin, Cai, and Li 2003; Naughton 1995; Lin 2012a) and moved gradually but steadily to a well-functioning market economy.

The similar gradual, dual-track approach also worked in a few other socialist economies—such as Vietnam, Cambodia, and Laos in Asia and in Poland, Slovenia in East Europe and Belarus and Uzbekistan in Former Soviet Union. In these small group of transition countries, they all avoid mass privatization of their large scale state-owned enterprises and instead of encountering economic collapse, they maintained stability and growth in the transition process (Lin 2014).

In fact, Mauritius was the first country to adopt a gradual dual-track transition. Like many other developing countries, Mauritius adopted an import-substitution strategy in the 1960s and followed a gradual, dual-track approach by setting up export-oriented special economic zone and active investment promotion in 1970 to transit from the country's import-substitution strategy. Its economy has grown dynamically since then and Mauritius became an African success story (Subramanian and Roy 2003, Zafar 2011).[14] It is interesting to note that Nobel Laureate James Meade (1961) regarded Mauritius as a basket case in his report to Mauritius government before its independence in 1968.

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IV. What Prices Did China Pay for Its success?

Although the economic performance during the transition in the last four decades was extraordinary, however, China also paid a very high price for its success. In addition to environmental degradation and food safety issues, which draw much public complaints and are the results of rapid industrialization and lack of appropriate regulations, the main issue during the transition is widespread corruption and worsening of income disparities. Before 1978, China had a rather disciplined and clean bureaucratic system and an equalitarian society. According to the Corruption Perception Index published by Transparency International, China ranked No. 79 among all the 176 countries or territories in 2016; and based on the estimates of National Statistical Bureau and various scholars' research, China's GINI coefficient has exceeded .45, higher than the international warning level, after 2000 (Li and Sicular 2014). These problems were related to China's pragmatic, dual-track transition strategy.

[14] In the 1980s, the Former Soviet Union, Hungary, and Poland adopted a gradual reform approach. However, unlike the case of China, their state-owned firms were not allowed to set prices for selling on the market after fulfilling their quota obligations. Private firms' entry into repressed sectors was subject to severe restrictions, but wages were liberalized (while in China wage increases were subject to state regulation). These reforms led to wage inflation and exacerbated shortages. See the discussion about the differences in the gradual approach in China and the Former Soviet Union and Eastern Europe in Lin (2009, pp. 88–9).

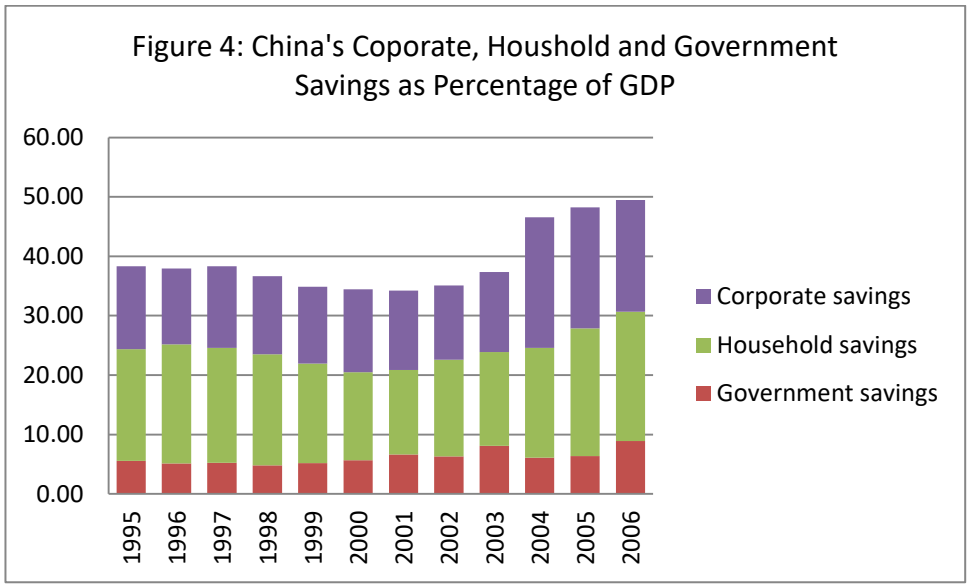
As already mentioned, the Chinese government adopted a pragmatic, dual-track approach in the transition. The government, one the one-hand, provides transitory protection and subsidies to the nonviable state-own enterprises in the old, capital-intensive sectors so as to maintaining stability and, on the other hand, liberalizes and facilitates the entry to the new, labor-intensive sectors which are consistent with China's comparative advantages so as to achieving dynamic growth. One of the most important costs for the old capital-intensive sectors was the cost of capital. Before the transition in 1978, the government used fiscal appropriation to pay for investments and cover working capital, the SOEs did not have to bear any cost for capital. After the transition, the fiscal appropriation was replaced by bank loans. The Chinese government set up four large state banks and a stock market to meet the capital needs of large enterprises. To subsidize the SOEs, the interest rates and capital costs are artificially repressed.

When the transition started, almost all firms in China were state-owned. With the dual-track transition, private-owned firms grew dynamically and some of them become large enough to get access to bank loans or list in the equity market. As interest rates and capital costs are artificially repressed, whoever could borrow from the banks or list in the stock market are therefore subsidized. These subsidies were paid for by the low returns to savings in the banks or in the stock market made by individual households, farms and micro, small and medium-sized firms in industries and services. Those people providing the funds are poorer than the owners of the large firms they financed. The subsidization of the operation of rich people's firms by poorer people was one reason for increasing income disparities. Moreover, the access to bank loans and equity market generates rents for the recipients, leading to bribery and corruption of the officials who control the access.

Similarly, before 1979 natural resources mining was operated free of concession fees by large-scale state-owned enterprises (SOEs) and their outputs were provided to other state-owned enterprises at very low prices. After 1983, the government allowed private firms to enter the mining sectors and liberalized controls over output prices in 1993. Concession fees and output taxes are kept low as a measure to compensate for state-owned mining enterprises' social policy burden of employing redundant workers and covering the pension of retired workers (Lin, Cai and Li 1998, Lin and Tang 1999). For new private mining companies, they do not have those social policy burdens. Acquiring a concession promises them overnight enrichment and becomes a source of income inequality and corruption.

In addition, banking and other large-scale service industries, such as power and telecommunication, are operated by state-owned monopoly enterprises. These monopoly rents were also sources of inequality and corruption.

It is noteworthy that in general the marginal propensity to consume decreases with income. Therefore, if wealth is disproportionately concentrated in the higher income group, the nation's consumption-to-GDP ratio will be lower and the savings ratio will be higher. The concentration of wealth in the large firms has a similar effect. A consequence of the widening of income disparities is relatively high household savings and extraordinarily high corporate savings in China as shown in Figure 4 (Lin 2013)



Data Source: National Statistical Bureau, *China Statistical Yearbook* (1998-2009).

For copping the corruption issue, the Chinese government under President Xi Jinping after taking office in 2013 launched a wide ranging, persistent anti-graft campaign. However, the root of widespread corruption is the rents arising from the distortions embodied in the dual-track transition for the purpose of protecting and subsidizing the large-scale SOEs in capital-intensive industries defying China's comparative advantage. In the 1980s and 1990s China was a poor country and capital was scarce. After 4 decades of rapid economic growth, capital becomes relative abundant and comparative advantages in China evolve accordingly. Many capital-intensive industries turn from defying China's comparative advantages to becoming consistent with China's comparative advantages. As a result firms in those industries become viable and should be competitive and profitable in domestic and global markets as long as they have good management. The nature of subsidies and protections to the recipient firms changes from a necessity for survival to a pure rent. It is imperative and time to eliminate all remaining distortions and protections so as to completing the transition to a well-functioning market economy and to uprooting the cause for corruption and income disparity. Indeed this is exactly the intention of the comprehensive reform agenda adopted in 2013 by the third plenary session of the 18th party congress of Communist Party of China. The government sets up a national committee for deepening reform, headed by President Xi Jinping himself, for purpose of completing the transition to a well-functioning market economy. Hundreds of reforms have been introduced. The implantations take time. However, the direction of the transition is clear and the government's determination for moving China along the direction is strong.

V. Can China Maintain Dynamic Growth and Become A High-income Country in the Years Ahead?

The question that arises is, if China removes all remaining distortions and completes this transition to a well-functioning market economy, for how long it can maintain dynamic economic growth and realize its dream of becoming a high-income country. This question is hotly debated in China and closely followed globally. The reason for the question is that China's annual growth rate dropped continuously from 10.6% in 2010 to 6.7% in 2016. A growth of 6.7% was the lowest that China has ever reached since 1990 and it was the first time for China to experience a six concessive years of deceleration after the transition started in 1978.

To answer the question as to whether, after more than 30 years of extraordinary growth, China can maintain dynamic economic growth in the coming years, one needs to answer two related questions: The first, how large China's growth potential is and the second, what the reasons were for the persistent deceleration of China's growth after 2010.

Pritchett and Summers (2014) project that China's growth rate to decrease to a range of 2.3%-5.5% in the next 20 years. Eichengreen et al (2012) suggest that, based on international experiences of rapid-growing catch-up economies after reaching $17,000, measured in purposing power parity and 2005 constant dollar, a level of which China will reach soon, China's growth rate will slow down to around 6%. From the analysis of this paper, the potential for rapid economic growth depends on the size of the latecomer advantage that China still enjoys. To measure the size of the remaining latecomer advantage, in my view one should compare China's per capita GDP with the per capita GDP in advanced countries, such as the US. This is because per capita GDP is a proxy for a country's average labor productivity and average labor productivity is a measure of the average level of technology and valued-added of industries in a country.

According to the data for 2008 which was the last published by Maddison (The Maddison-Project, http://www.ggdc.net/maddison/maddison-project/home.htm, 2013 version), The per capita GDP in China, measured at purchasing power parity, in 2008 was 21% of US's in the same year. This proportion was similar to that for Japan in 1951, Singapore in 1967, Taiwan China in 1975 and South Korea in 1977. All stood at 21% of the US figure in their relevant years.

In the twenty years from 1951 to 1971 Japan grew at an average annual rate of 9.2%. From 1967 to 1987, Singapore grew at 8.6%. From 1975 to 1995, Taiwan China grew at 8.3%. From 1977 to 1997, South Korea grew at 7.6%. These four East Asian economies were among the 13 economies referred to in Section II as having tapped into the growth potential from the latecomer advantage and as having enjoyed high growth rates of 7% or more continuously for 25 or more years.

Just as these economies were able to utilize the technology gap and exploit the latecomer advantage to grow for 20 years of 7.6%-9.2% per year, so too potentially China can grow for twenty years of 8% per year from 2008. Ten years have passed since 2008. Another 10 years of potential growth at 8% per year remain.

If China has the potential to grow at 8%, why has the growth rate declined persistently down to below 8 percent since 2010 and reached 6.7% in 2016? The potential growth rate reflects the possibilities for technological innovation and industrial upgrading from the view of supply side. The realization of this potential growth rate depends as well on demand-side conditions.

From a demand-side point-of-view, growth has three components: net exports; investment and consumption. High-income countries have not yet recovered from the global financial crisis of 2008: in these countries per capita GDP is stagnant, there is a large debt overhang, which they need to reduce, and consumption has increased very slowly. The stagnation of the US, west European countries and Japan has depressed international trade with a major impact on Chinese exports as China is a major global supplier of consumption goods. From 1979 to 2015 China's annual average export growth was about 16%. It was -2.8% in 2015 and -7.7% in 2016. The poor export performance was one of the reasons for a deceleration in China's growth.[15]

The second reason was that China, like most countries, adopted countercyclical fiscal expansion to support investment and growth after the 2008 global crisis. These projects were

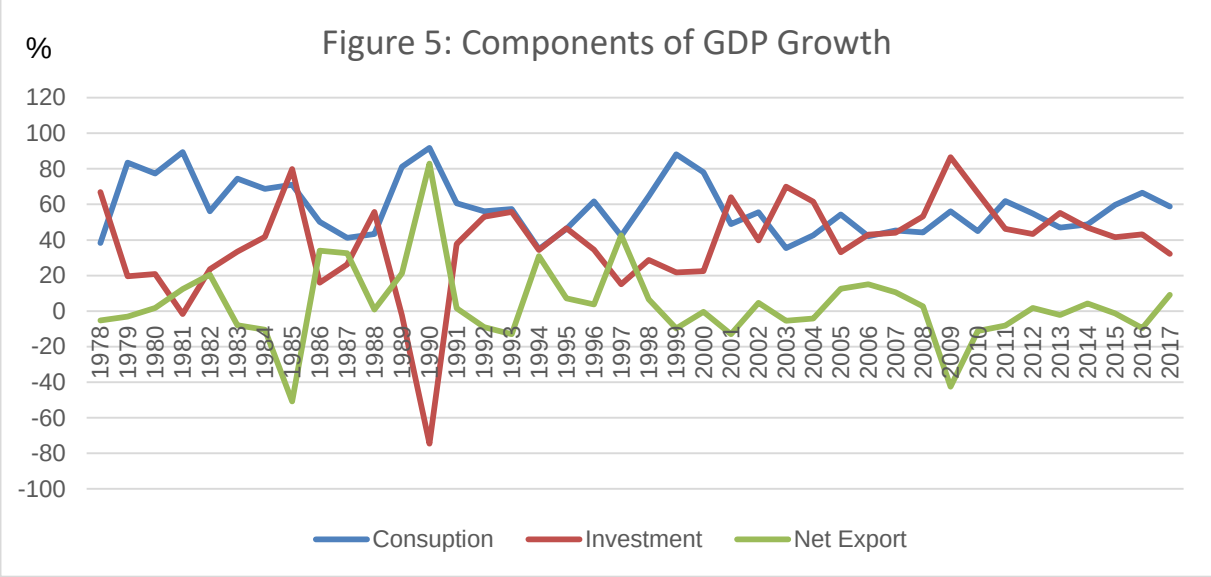
[15] China's growth bounced back to 6.9% in 2017. The main reason was the export growth recovered from -7.7% in 2016 to 7.9% in 2017.

completed but the global economy has not fully recovered. As such, incentives for private investment remain low. Without a new round of stimulus programs, investment growth rates will drop.

The above two factors affect all countries: growth has decelerated not just in China but also and often more sharply in other BRIC countries and many other countries. Fortunately, China maintains a high employment rate. Household income has continued to grow rapidly at about 8% per year, with consumption growing at a similar rate, in China. This is the reason why China was able to maintain a growth rate higher than other BRIC and emerging market economies.

Looking forward, high-income countries are very likely to have a secular stagnation (Summers 2014), similar to that of Japan after 1991 due to the lack of structural reforms. These economies are likely to grow at less than their normal growth rate of 3%-3.5% per year. The external demand is likely to remain sluggish.

How much China can turn the 8 percent growth potential to actual growth in the coming years depends largely on domestic demand, including investment and consumption. There is a popular view that China needs to switch its unstainable investment-led growth model to a consumption-led growth model. This is not a right prescription for China or any country. Consumption is a desirable goal of development but its growth can be sustainable only with an increasing household income. The latter requires continuous improvement of labor productivity through technological innovation and industrial upgrading, both of which rely on investment. In fact, as shown in Figure 5, due to rapid income growth resulting in high consumption growth, consumption has been the major source of growth in China since the transition started in 1978. Except for a few years with investment surges as a result of events such as the entry to WTO in 2001 and the countercyclical fiscal stimulus in 2009, consumption contributed more to China's growth than investment did.



Data sources: National Statistical Bureau, *China Statistical Abstract 2018.*

The key for assessing how much China's growth potential can be realized in the coming years depends on whether China has good investment opportunities in face of the existence of excess capacity in many industries as a result of lingering global crisis and whether China has sufficient resources to support the investment. Although there is excess capacity in many industries such like steel and cement due to slack demands, as a upper-middle income country China has very considerable rooms for investment in upgrading the industries to higher value-added industries, urbanization and intra-urban infrastructure and environmental friendly green technologies. Such investments will

increase efficiency and environmental sustainability while taking the latecomer advantages. China also has plenty of resources for investments. Its fiscal position is very sound. In 2015 national, provincial and local governments combined debt was less than 60% of GDP, amongst the lowest in the world. Private savings are around 50% of GDP, one of the highest in the world. China also has more than $3 trillion of foreign exchange reserves. With good investment opportunities and abundant funding, China will maintain a reasonable rate of investment growth, create jobs and increase household income and consumption. With these conditions and depending of reforms to eliminate remaining distortions from the dual-track transition, there is no reason why China cannot reach its annual growth target of 6.5% or more before 2020 and 6% in the following decade. If China does reach these targets, it is very likely that around 2025, Chinese per capita GDP will reach the threshold of 12,700 US dollars, making China a high-income country (Lin, Wan and Morgan 2016).

VI. Final Remarks

Three additional questions to answer before I conclude the paper: 1) Why did China start the Reform and Opening Up program in 1978 to transit from the planning economy to a market economy? 2) Why did China not follow the popular, seemingly more logic, neoliberal shock therapy of privatization, marketization, and stabilization encapsulated in the Washington Consensus and instead China adopted a gradual, dual-track transition, which was regarded as the worst possible transition strategy, although retrospectively this approach is the best? 3) What lessons we can draw from China's experiences in the past half century for other developing countries?

For the first question, I think it is because Deng Xiaoping came back to power by purging Mao's hand-picked successors, the Gang of Four, in a palace revolt, he needed to justify his actions in order to gain support of the people and consolidate his power. After almost 30 years of socialist revolution, Chinese people still lived in poverty. The need to shift from the ultra-left policy so as to improving people's living was a good justification for his action to purge the Gang of Four (Lin 2012a).

Then why Deng adopted a gradual, piece-meal transition approach? There is no theory at that time to support this approach. On the contrary, a gradual, piecemeal transition approach was considered as a worse possible transition strategy as the prevailing theory at that time suggest that such an approach would make the economy worse than a planning economy (Murphy, Schleifer, Vishny 1992) . The accepted wisdom in the 1980s/1990s was that the correct way to transit from a planning economy to a well-functioning market economy was to implement the Washington Consensus of privatization, marketization and stabilization simultaneously in a shock therapy (Summers 1994). In the Marshall Lectures (Lin 2009), I argue: First, pragmatism has been a virtue in Confucianism, probably sharped by the need of survival in a land with high population pressure and frequent hits of natural disasters. Second, Deng himself was one of the first-generation political leaders who started the socialist revolution and introduced planned economy to China. In an authoritarian regime the power of a leader is not delineated by his/her formal, official position but based mainly on the personal trust and prestige that a leader receives from the people.[16] If a leader is to renounce policies that he or she pursued in the past, he may lose his/her prestige in people's mind.[17] Therefore, it was rational for Deng to adopt a tinkering strategy to reform and opening

[16] In his final years, Deng's only formal title was an honorary chairman of China's Bridge Society. He was, however, the *de facto* supreme leader until his death. Similarly, Mao Zedong was regarded as the ultimate leader by members of Chinese Community Party for more than 10 years before he was elected chairman in the party congress in 1945 due to his extraordinary wisdom and strategy in the revolution against Nationalist Party and fight against Japanese invasion.

[17] As argued in the previous note, in China a leader's prestige is accumulated through the merits of his/her contributions to the people and the nation during his/her career and people's trust of his/her wisdom to provide a good guidance for the nation's future. If a political leader openly admits that he/she made a mistake in a major policy in the past, his/her prestige and authority

up the system instead of a comprehensive overhaul or a complete replacement of the system. Vietnam and Lao also adopted a gradual, dual-track reform approach. In both countries, like in China, the first-generation revolutionaries, who had brought socialism and planned economies to their countries, initiated the transition. In Eastern European and former Soviet Union countries, their leaders were all second or even third or fourth generation of leadership when they adopted the shock therapy to transit from the planning system. They were not accountable for the introduction of the planning system and could replace the old system with a new one in a wholesale way.

Finally, what can we learn from China's experience? When China started the transition in 1978, pessimism about China's future prevailed and, even up to recent years, the coming collapse of Chinese economy was a repeated theme in the economic profession. Myrdal did not review China's situation in his *Asian Drama*, if he did he would have most likely been pessimistic. In fact, in post WWII, the economic profession's view about East Asia's future was gloomy. The irony is that China, East Asian economies and Mauritius were all considered as a basket case by economic profession but beat the odds to be the most successful newly industrialized economies. Moreover, the developing countries, which followed the right development approach based on the prevailing theories advocated by the economic profession all performed poorly. The dominant development thinking was structuralism when development economics became a sub-discipline of modern economics in post WWII. The import-substitution strategy, advocated the structuralism, was adopted widely in Latin America, Africa and South Asia in the 1950s/1960s. Their economies performed poorly. Their income gap with advanced countries widened instead of narrowed. After the 1970s, the neoliberalism replaced the structuralism as the dominant thinking in the economic profession. The transition approach based on neoliberalism was the Washington Consensus, which advocated the use of shock therapy to establish a well-functioning market economy by simultaneous implementation of marketization, privatization and stabilization. Eastern Europe and Formal Soviet as well as many developing countries in the 1980s/1990s followed this approach, resulted in "lost decades" with a lower average growth rate and higher frequency of crises than before the transition. On the contrary, the few economies performed well in development, for example the East Asian economies' export-oriented strategy in the 1950s/1960s, and the successful transition economies like China's gradual, piecemeal dual-track approach were considered as wrong approaches by the mainstream economic profession.

Why was the economic profession's perception of developing countries in general pessimistic? Why did the developing countries in general fail by following the guidance from the mainstream ideas to formulate their development and transition policies and the few successful economies' development and transition policies in general were considered wrong? The reasons are likely because the economic profession always use the high-income countries as their reference to see what the developing countries do not have and cannot do well. The developing countries do not have advanced industries and their market institutions do not perform well, compared to the advanced countries. Based on the above observations, the mainstream theories in their policy recommendations advise the developing countries to own what the advanced countries have and to do as what the advanced countries are doing. The intentions are good but the results are disappointing.

Using the high-income countries, especially an ideal high country, as a reference, a developing country must be inefficient beset with traditional, low-productivity industries and backward or distorted institutions. However, these seemingly inefficient industries and institutions are either endogenous to its stage of development, for example the traditional agriculture and the related agrarian institutions, or the legacy of previous policy interventions, for example, the inefficient state-owned

will be hurt. This was the main reason Chairman Mao stepped aside from the central stage of power in 1962 after admitting his mistakes in the Great Leap Forward and the motivation for him to launch the Cultural Revolution to regain the power.

enterprises and related government interventions. Without understanding the roots of the endogeneity in industries and institutions and appropriate theories to guide the change of endogenous phenomena, economists often become pessimistic about the developing countries. Myrdal's outlook about the Asian countries is an example. The repeated prediction by the economic profession about the coming collapse of Chinese economy in the past 40 years is another example. Pessimism arises because those structural backwardness and distortions not only cause the market to be inefficient and the government to be ineffective, especially compared to the ideal case, but also are rigid and hard to eliminate.

The mainstream theories fail to guide successful development and transition because in general those theories neglect the endogeneity of those backwardness and distortions in the developing and transition countries. To have successful development and transition in developing countries, it is essential for the economic profession to change the reference from the developed countries to the developing countries themselves. From the experiences of China and East Asian economies in the last half century, a successful development in a country should start with what a country has and what the country can do well. What a country has refers to the country's endowments, such as abundant supply of labor force, at a given time and what the country can do well is the comparative advantages based on its endowments. The state's development and transition policy is to mobilize the limited resources under the state's command proactively and pragmatically for purpose of removing the bottlenecks in hard and soft infrastructure to facilitate the country's comparative advantages to become the country's competitive advantages in domestic and international market. This is exactly what the new structural economics, which I advocate as the third edition of development economics, intends to achieve (Lin 2011, 2012b, 2012c; Lin and Monga 2017). If the state in a developing country can play such a facilitation role in its catch-up and or transition process, the country can be competitive and grow dynamically even though it is beset with a backward or distorted structure and turn from a low-income country to an industrialized high-income country within one or two generation. As Keynes (1935) said, "it is ideas, not vested interests, which are dangerous for good or evil". The Chinese experiences in the past half century suggest, as long as the ideas for development and transition are right, every developing country can be optimistic about its future.

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