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## **CHINA: DEVELOPMENT MODELS AND ENVIRONMENTAL GOVERNANCE**

Special Issue Guest Editors: Daniel Fuchs, Frido Wenten

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**MICHAEL ROBERTS**

**China: Three Models of Development**

*ABSTRACT* In the past 40 years, China's growth has been phenomenal. And, since the global financial crisis and the Great Recession in the major capitalist economies, China has continued to close the output gap with the leading capitalist economies. Will China continue to catch up in the next 40 years or will it suffer the fate of the so-called 'middle income trap' experienced by other 'emerging' economies? The article considers three possible models of development as offered by, respectively neoclassical growth theory; Keynesian-style forced investment; and a Marxian model based on the law of value and profitability. The neoclassical model highlights China's comparative advantage of cheap and plentiful labour; the Keynesian model concentrates on the role of China's high investment ratio; the Marxist model emphasises China's exceptional restriction of the law of value in capitalist production: or what might be termed, 'socialism with Chinese characteristics'.

**KEYWORDS** *China, models, Keynes, Marx, Neoclassical*

**I. Introduction**

President Xi Jinping is now China's most powerful leader since Mao Zedong. Like Mao, Xi now has his own 'body of political thought' carrying his name, as added to the Communist party's constitution after the 19th party congress, at which Xi pledged to lead the world's second largest economy into a "new era" of international power and influence (Phillips 2017).

In the past 40 years, China's growth has been phenomenal. And, since the global financial crisis and the Great Recession in the major capitalist

economies, China has continued to close the output gap with the leading capitalist economies. According to World Bank data, China's industrial production in 2007 was only 60 per cent of the US level, whereas by 2011 it was 121 per cent. China's industrial production has risen from being less than two-thirds of the US to overtaking the US by a substantial margin. In those six years China's industrial output almost doubled, while industrial production in the US, Europe and Japan did not even regain pre-crisis levels (Ross 2013).

No country has ever grown so fast and been so large (with 18 per cent of the world's population) – only India, with 17.5 per cent of the world's people, is close. Back in the early 1980s, three-quarters of the world's population were better off than the average Chinese. Now only 31 per cent are. In 2010, 87 countries had a higher per capita GDP than China, yet 83 were lower (World Bank 2020). This is an achievement without precedent.

Even if China's average real economic growth were to slow from now on to about 6 per cent a year instead of the double-digit expansion of the last decade, the gap with the G7 economies would continue to narrow. China's working population has now peaked, but there are still hundreds of millions of rural workers and peasants to be incorporated into the industrial machine; meanwhile, China is still sucking up as much of the world's raw materials as it needs to sustain its expansion.

There is no other way to describe it: China is exceptional in the history of economic development over the last 250 years, surpassing even the earlier economic miracles of Asian economies such as Japan or Korea. China's share of global income has increased from less than 3 per cent in 1968 to nearly 15 per cent in 2016, with most of that increase occurring only after 2002. Indeed, the change in China's share alone accounts for 87 per cent of the entire decline in the share of the advanced economies in the period 1980 – 2015. India is nowhere compared to China.

As a result of this exceptional growth in output and incomes, over 800 million Chinese have been taken out of poverty, as defined by the World Bank, while other huge 'developing' economies have made little progress.

What explains this miracle? There are several explanations that have been offered. This paper aims at analysing these explanations as though they were models of development. In this way, the explanations for China's economic explosion and its prospects for the future are better drawn out.

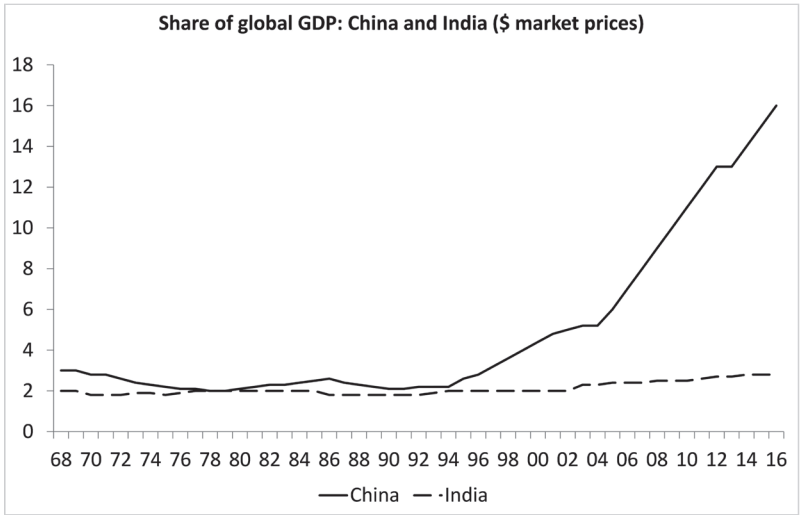


Figure 1: Share of global GDP: China and India (\$ market prices).  
 Source: World Bank, Author's calculations

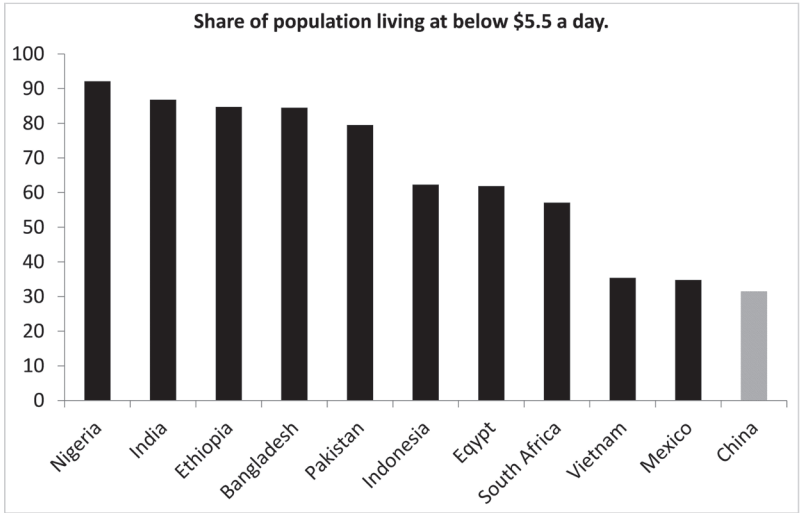


Figure 2: Share of population living at below \$5.50 a day  
 Source: World Bank

## 2. The neoclassical ‘comparative advantage’ model

The consensus view is based on the neoclassical model of growth. World Bank economist Lin (2012) argues that China’s miracle is down to a switch in economic policy under Deng Xiaoping in the late 1970s away from what he calls a comparative advantage defying strategy (CAD) towards a comparative advantage following strategy (CAF). By this he means that China’s leaders realised that the bias in state intervention towards developing heavy industry at the expense of agriculture, or increasing capital inputs instead of using the plentiful supplies of cheap labour, eventually created distortions in the prices of products, weakened agricultural prices and rural incomes relative to industry, kept consumption too low, and generated over-accumulation with low capital productivity. This led to a range of ‘unviable’ industries that could not compete in world markets. However, under Deng, China took advantage of its real comparative advantage, namely a plentiful labour force. Economic growth took off and China competed successfully in world markets through a powerful combination of foreign investment and cheap labour.

According to this view, Mao had previously pursued a wrong strategy. Under Mao, lack of industrialisation, especially the creation of large heavy industries that supported military strength, was seen as the root cause of China’s backwardness. China under Mao gave firms monopoly power in heavy industry sectors and subsidised them with lower-priced inputs, often creating shortages. It allowed China to establish modern industries, test nuclear bombs in the 1960s and launch satellites in the 1970s. But labour-intensive sectors were not stimulated and yet this was where it held a comparative advantage. Thus, efficiency was low and growth prior to 1979 was driven mainly by increased inputs, not productivity.

Then under Deng, the argument goes, China embarked on a ‘dual-track system’, introducing reforms in some areas while maintaining the status-quo in others. Farmers were one of the first beneficiaries. They were allowed to own their land again (collective farms were broken up) and could set prices for selling their production that exceeded quota obligations sold to the state at fixed prices. Meanwhile, private enterprises, joint ventures and foreign investment into labour-intensive sectors were allowed.

According to Lin (2012), you can construct a ‘technological choice index’ based on the capital intensity of the manufacturing sector to measure a country’s choice of development strategy. This index can be used to measure how much the economy is distorted by government ‘intervention’. Given the development stage of a country, the higher this index is, the more an economy is distorted. That’s because government-induced development would the collection of heavy explicit taxes from the economic sectors that were generating a surplus, while directing financial subsidies for the non-viable industries.

Developing capital-intensive heavy industries was extremely costly and such industries could not hope to be viable in an open, free market economy. Thus, the government had to had to intervene and direct the economic institutions and nationalise resources, so as to sustain non-viable industries. According to Lin (2012) and others following this explanation, this was a flawed development strategy responsible for the increasing disparities in economic development among the provinces in China.

Making capital-intensive industries the priority under this strategy was inconsistent with the comparative advantage determined by the factor endowments in those provinces. So Mao’s ‘leap-forward’ strategy retarded the functions of market, impeded capital accumulation, and hindered technology and productivity progress in the provinces.

Therefore, it was imperative to replace the comparative advantage-defying (CAD) strategy with a comparative advantage-following (CAF) strategy. The key criterion for development must be ‘viability’ in the capitalist market. Lin (2012: 193) defined ‘viability’ as “if, without any external subsidies or protections, a normally managed enterprise is expected to earn a socially acceptable profit in a free, open, and competitive market, the enterprise is viable. Otherwise, the enterprise is non-viable.” If an enterprise in the long term does not expect to earn a socially acceptable profit, the enterprise should not be set up or should be driven out of the competitive market. This criterion was ignored in Mao’s CAD strategy, eventually generating a crisis of production.

But is this neoclassical model a convincing explanation for the take-off of China from the 1980s onwards? First, China’s economic growth prior to the Deng ‘reforms’ was not poor. As Lin (2012) himself admits, China’s real GDP increased at an annual average of 6.1 per cent from 1952-78.

According to the World Bank, China's economic growth rate was 6.8 per cent between 1970 and 1979, i.e., more than double that of the US during the same period. If we exclude the very first years of the People's Republic from 1952 to 1962 – i.e., between the completion of the unification of the continental territory and the period of the break with the Soviet Union – there was a recorded average 8.1 per cent growth rate in 1963–78, reflecting very rapid growth even during the Cultural Revolution (World Bank 2013a). The momentum of the Chinese economy was established before Deng.

Second, is the law of comparative advantage useful as a model for development? The law unrealistically assumes perfect mobility of labour. Furthermore, even defining comparative advantage is problematic. How do you measure the *quality* of labour or capital? For example, how can we decide whether the US is a capital-intensive or labour-intensive economy, without taking the quality of those inputs into account?

Third, we need market prices to measure comparative advantage. However, supposed comparative advantages are linked to other economic factors. Comparative advantages are affected by trade. In turn, gains from trade come from other mechanisms, including specialisation, increasing returns, or the generation of commercial networks that can lead to a transmission of ideas and technologies.

Indeed, applying the law of comparative advantage does not mean a smooth equalisation of incomes and prices between regions within China or between economies through international trade, as Lin claims. Instead, it can lead to crises, and indeed it is crises that even out the differentials in costs and deliver industries or regions that are 'unviable'. In other words, CAF could generate even more volatility and fluctuations in output and prices unless checked by CAD policy.

### **3. The Keynesian investment model**

There is a Keynesian explanation, as an alternative to the neoclassical market model. In this model, the key factor in China's development was not a switch to a policy of 'comparative advantage' under Deng. In this model, it was not a switch to using cheap labour and allowing a rise in agri-



cultural prices that allowed China to ‘take off’, but rather increased investment in machinery and technology, i.e. greater capital inputs.

In Keynesian macro theory, total savings equals total investment in an economy. So a rising proportion of national savings therefore necessarily means a rising proportion of investment. The Harrod-Domar (Harrod 1939, Domar 1946) growth model, later developed as the ‘endogenous growth model’, argues that growth depends on the quantity of capital input; so that more investment leads to capital accumulation, which generates economic growth.

In China, this model had relevance. Average growth rates of capital stock in China (excluding housing) rose 9.7 per cent a year from 1952-78 and 10.9 per cent a year in the post-Deng period (Long/Herrera 2016). Including inventories, the rate was even higher pre-Deng. It is this sustained accumulation, enabled in particular by surplus transfers from rural areas, that explains the success of industrialisation and, to a large extent, the robust rate of GDP growth.

Nevertheless, the Harrod-Domar model has a caveat. An increasing proportion of the economy devoted to investment means that any downturn in capital formation can have destabilising consequences. Thus, it was necessary to revise China’s economic policy under Deng to reduce the impact of these destabilising influences. The Deng revolution was not to adopt CAF, as Lin claims, but to end administrative control of investment and replace it with Keynesian-style stimulus and management that would boost private sector investment.

In this interpretation of the Chinese model of development, ‘socialism with Chinese characteristics’ is in reality a radical version of Keynesianism, according to Ross (2014). It is different to Keynesian policies in the US and Europe, where budget deficits have been utilised, low central bank interest rates have been pursued and some forms of quantitative easing, driving down long term interest rates through central bank purchases of debt, have been applied. “In China, in contrast, relatively limited budget deficits have been combined with low interest rates, a state-owned banking system [...] and a huge state investment programme. While the West’s economic recovery programme has been timid, China has pursued full blooded policies of the type recognisable from Keynes

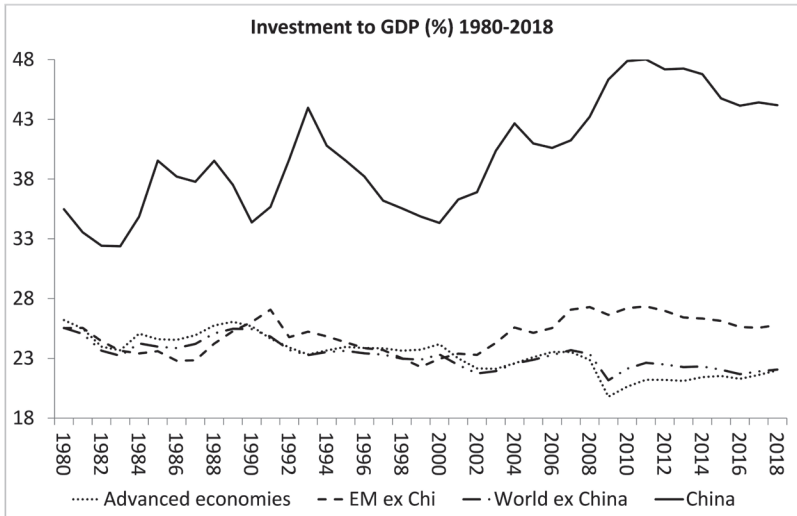


Figure 3: Investment to GDP (%) 1980-2018

Source: IMF, author's calculations

General Theory as well as its own ‘socialism with Chinese characteristics’” (Ross 2014). Ross argues that it was Deng’s lack of ideology or commitment to either a market or state-led economic model (Deng: “I don’t care if the cat is black or white, so long as it catches mice”) that was the reason for China’s economic success.<sup>1</sup>

#### 4. The Marxist value model

A third model of development can be constructed from Marxist theory. Most Marxist analyses of China consider that China is now capitalist (Harvey 2005; Arrighi 2009; Panitch/Gindin 2013). However, others reckon that the Chinese economic model has components distinct from capitalism (Wen 2001; Amin 2013).<sup>2</sup> In the Marxist model presented here, China’s economic development is gauged from by its ability to avoid the unstable impact of the law of value, while also recognising its inexorable power. A Marxist model of China’s economic development does not start

from looking at the comparative advantage of factors of production and or at the rate of savings or investment in an economy. Marxist theory starts from the law of value.<sup>3</sup>

The neoclassical alternative for economies that, like China (and the Soviet Union), had restricted the law of value to the barest minimum through central planning, state ownership of industry and collectivisation of agriculture, was ‘shock therapy’. This solution was imposed in Russia and Eastern Europe; meaning a switch from a centrally planned economy, heavily industrialised and nationalised overnight into a market economy, with foreign investment and privatisation, with disastrous consequences.

Lin (2012) does not advocate ‘shock therapy’ for China, recognising the need for a ‘gradual’ switch from CAD to CAF policies, which he considers Deng did. Yet, in the Marxist model, this means a gradual increase in the influence of the law of value in the Chinese economy: namely a bigger private sector, the accumulation of capital for profit, with prices determined by markets and not by a plan; and, finally, the opening up of ‘free trade’, foreign investment, and the ending of capital controls with a floating currency. This is what Lin and the World Bank advocate for China in the next decade.

In contrast, the Marxist model recognises that it is not the absence of competition that produces imbalances and crises, with development alongside underdevelopment, wealth alongside poverty, employment alongside unemployment; it is competition itself. The problem with the neoclassical model is that there is confusion between the theory of *comparative cost* advantage and *comparative factor* advantage (Shaikh 2016). It is one thing to note that China has or had plentiful supplies of labour to develop (comparative factor advantage); it is another to conclude that not investing in heavy industry, but just using light industry and cheap labour can deliver economic growth and a comparative cost advantage in global markets. China’s exceptional growth would not have been achieved by relying just on the ‘comparative advantages’ of cheap labour and agriculture, combined with foreign investment.

Indeed, there is a growing contradiction between the expansion of industry and trade on world markets for China using its comparative factor advantages, and the pressure of the law of value exerted through trade and

foreign investment. The effects of foreign investment have a double impact. On the one hand, in the absence of foreign investment, China, like many other developing economies, would have had a structural trade deficit and foreign debt, or an import level restricted to the level supportable by a reduced export sector. However, the risk is that large-scale domestic industry would become dominated by foreign capital, side by side with backward industries in which local capital predominates. This might help the trade balance but would accelerate the devastation of local (capitalist and non-capitalist) production and act as a powerful blocking mechanism against the development of the indigenous forces of production. The destruction of native industry would displace more workers than could be newly employed in the relatively new hi-tech industries. This was the story of many new capitalist economies in the late 19<sup>th</sup> century onwards, as developed by imperialist economies. It remains the story of most of Africa, much of Latin America, and parts of Asia.

China remains the glaring exception. Why? Because, as the Marxist model explains, the law of value which operates in capitalist markets, foreign trade and investment was at first totally blocked and later controlled by a large state-owned sector, central planning and macro policy, as well as by the restricted foreign ownership of new industries and controls on the flow of capital in and out of the country.<sup>4</sup>

As leading Chinese economist Yu Yongding put it: “China has to maintain its capital controls in the foreseeable future. If China were to lose control over its cross-border capital flows, a panic could break out so that capital outflows will turn into an avalanche and eventually bring down the whole financial system” (Yu 2014). It was these very restrictions that up to now have enabled China to expand investment and technology, employ swathes of labour and generally avoid control of its destiny by multinational combines.

The neoclassical model now advocated for China by most mainstream economists, by many within the Chinese leadership and by outside international agencies, deliberately fails to recognise the success of restricting the influence of the law of value in China’s development. The Keynesian analysis correctly looks at savings and investment as the key drivers of China’s development. Yet it also misses a key ingredient of economic devel-

opment, the productivity of labour. And, in so far as there is a private sector in a developing economy and world markets, then profitability is the other key indicator.

The Marxist model argues that the level of productivity will decide economic growth because it reduces the cost of production and enables a developing nation to compete in world markets. However, in a capitalist economy where the law of value and markets operate, there is a contradiction: profitability. In the Marxist model, there is a long-term inverse relationship between productivity and profitability (Roberts 2018a). As the former accelerates, the latter slows. Profitability comes into conflict with productivity growth in a capitalist economy and so will result in regular occurrences of crises in production. A developing economy needs to restrict this conflict to a minimum.

In a comparative study of models of economic growth, Vu Minh Khuong (Vu 2013) looked at productivity growth in developing economies. Productivity growth can be achieved by either increased capital and labour inputs, or from raising the quality of existing capital and labour. Productivity accruing from ‘innovation’ is termed total factor productivity (TFP) in mainstream economics (Solow 1957).

Vu (2013: 242) claims that his analysis shows that “the secret of the Asian growth model lies not in achieving high TFP growth but in sustaining reasonable TFP growth”. According to Vu, capital investment inputs accounted for 54 per cent of the growth lead of developing Asian economies over the Western industrialised economies and for 62 per cent of developing Asia’s lead over other developing economies. High capital investment was almost twice as important as productivity achieved from TFP increases in explaining Asia’s growth lead over advanced economies. Indeed, as a country moves towards being an advanced economy, the role played by investment in its growth increases.

However, the IMF found that higher TFP explained 1.5 per cent points of the 1.75 per cent points of higher average growth rate in developing economies in the 2000s prior to 2008 as compared to the 1990s (Dabla-Norris et al. 2013). TFP growth turned positive in developing economies across all regions after declining in both Latin America and the Middle

East and North Africa (MENA) region in the 1990s, although factor inputs still remained the main driver of output growth in developing economies throughout the 2000s.

So, even if China's rapid growth was originally founded on a very high ratio of capital investment, as well as on cheap labour, it may be a different story from now on. Gross investment has averaged over 47 per cent of GDP since 2009. However, real GDP growth has been slowing. Thus, China's return on new investment (or the productivity of capital input) is declining. Since 2007, the incremental capital-output ratio (ICOR) in China has tripled from 3 to 9, while the growth rate of GDP has fallen by half (Chow 2018).

In the Marxist model of capitalist development, productivity growth must be weighed against the contradiction of the law of the tendency of the rate of profit to fall (LTRPF) as capital is accumulated. In so far as China's private capitalist sector increases its contribution to the overall economy and the public sector's role is reduced, then the profitability in the overall economy becomes relatively more important and the contradiction between productivity growth and profitability intensifies. Both the neoclassical and Keynesian models of development ignore this contradiction.

There have been various attempts to estimate the rate of profit in China (Bai et al. 2006; Roberts 2009; Qu et al. 2013; Herrera/Long 2014; Gaulard 2018; Maito 2018; Qi 2018). The empirical evidence reveals three phases of profitability in China. Between 1978 and 1990, there was an upswing in profitability as production expanded from the Deng reforms and with the opening up of foreign trade. Nevertheless, from 1990 to the end of that decade, there was a fall, as over-investment gathered pace and other economies, particularly in the developing world, went through a series of crises (Mexico 1994, Asia 1997-8, Latin America 1998-01). The falling rate of profit then in that period was accompanied by a slowing in the rate of GDP growth, as the Marxist model would predict. However, from about 2001 onwards, there was a rise in profitability, which also saw a significant rise in the rate of economic growth (as the world (in general) too expanded at a credit-fuelled pace).

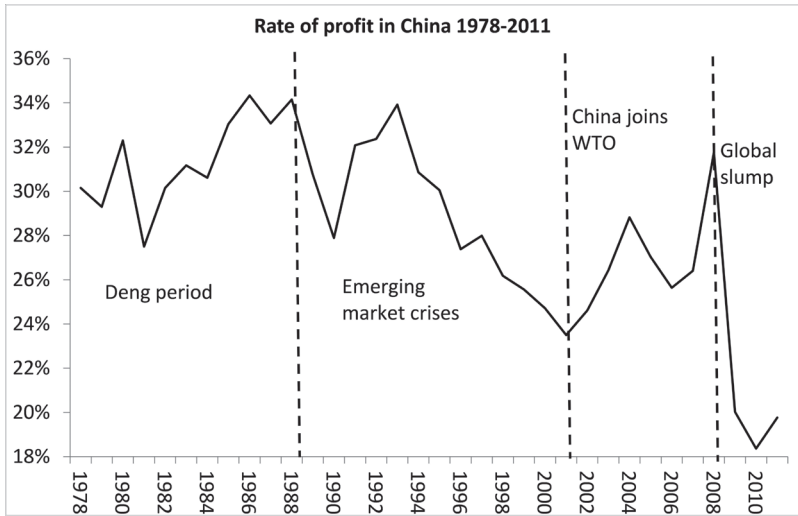


Figure 4 : The rate of profit on capital in China (%), 1978-2011  
*Source: Bai et al. (2006) and Qu et al. (2013), author's calculations*

All of these studies find that the driving factor behind the decline in China's rate of profit on capital was a rising organic composition of capital, which is the Marxist term for the ratio of capital input (constant capital in Marxist terms) over labour input (variable capital). Increased exploitation of labour helped to counteract this long-term decline in profitability, particularly in the 2000s, but has not done so since the end of the Great Recession in 2009.

Nevertheless, Marx's LTRPF and law of value have not operated with the same intensity and impact in China as in the major capitalist economies. The Great Recession and the subsequent Long Depression in the major capitalist economies confirm that. China's real GDP growth and investment have outperformed all other G20 economies in the last 10 years (including India, if its GDP is measured accurately).

In China's "socialism with Chinese characteristics", there has been a significant expansion of privately-owned companies, both foreign and domestic, over the last 30 years, with the establishment of a stock market and other financial institutions. Indeed, most observers, using official data,

reckon that private sector enterprises now constitute around 60-70 per cent of GDP and assets (Xinhua 2018).

Nonetheless, this is misleading. Szamosszegi and Kyle (2011), for the U.S.-China Economic and Security Review Commission, analysed the influence of the state sector in China. They defined the state sector as consisting of three main components: state-owned enterprises (SOEs) fully owned by the state through the State-owned Assets and Supervision and Administration Commission (SASAC); SOEs that are majority owners of enterprises that are not officially considered SOEs but are effectively controlled by their SOE owners; and entities, owned and controlled indirectly through SOE subsidiaries based both inside and outside of China (SHEs). Urban collective enterprises and government-owned township and village enterprises (TVEs) also belong to the state sector but are not considered SOEs. The authors commented:

“A common mistake is to assume that any entity that is not an SOE belongs to the private sector. There is a state sector, which consists of SOEs, and a non-state sector, which consists of firms with other forms of ownership, including pure private ownership by domestic and foreign natural persons and mixed ownership entities in which SOEs are part owners and/or controlling. For the vast majority of these listed firms, the largest shareholders are SOEs.” (Szamosszegi/Kyle 2011: 10)

They further argued: “When data are analyzed by sector, it becomes clear that SOEs and SHEs account for the majority of investments in many sectors in the Chinese economy (ibid.: 16), with a weighted average of 48% in 2007. They stated: “SOEs and SHEs were responsible for 40 percent of China’s GDP and 45 percent of non-agricultural GDP in 2007” (ibid.: 21). Szamosszegi/Kyle went on:

“Given additional information on the prevalence of SOE ownership in China’s capital markets, anecdotal and observed data on the prevalence of SOE ownership among LLCs [limited liability corporations] and other ownership categories, and the SOE role in round-tripped FDI, it is reasonable to conclude that by 2009 nearly half of China’s economic output could be attributable to either



SOEs, SHEs, and other types of enterprises controlled by the SOEs indirectly. If the output of urban collective enterprises and the government-run proportion of TVEs are considered, the broadly defined state sector likely approximates 50 percent. This conclusion goes beyond all the published estimates we have reviewed, but is consistent with the opinions of knowledgeable individuals currently dealing with Chinese enterprises in policy and business settings.” (ibid.: 25).

More recently, Laurie Belsie of the NBER, commenting on a study by Hsieh and Song (2015), concluded that “the transformation of China’s industrial sector that began in the late 1990s was not simply a resource shift from the public to the private sector. It also involved policy changes that transformed the remaining state-owned firms and created new ones” (Belsie 2020).

Instead of using the official definitions of the state sector, the authors used another approach to identify state ownership that included ownership by ‘a legal person’. More than two-thirds of these companies were directly or indirectly controlled by SASAC but legally registered as private. When these private companies are redesignated as state-controlled, then SOEs still make up a substantial part of the national economy – controlling roughly 30 percent of the total secondary and tertiary assets, or over 50 percent of total industrial assets. The average size of SOEs is much bigger than their non-SOE peers, with average assets of the former accounting for over 13 times of the latter (Gao Xu 2010).

Moreover, a report by Stratfor Worldview (2018) found that

“[...] 80-90% of SOEs are concentrated in vital or high-profit industries such as finance, power, energy, telecommunications and defence manufacturing. And these enterprises — particularly the roughly 100 centrally administered SOEs — have grown much bigger. By 2017, the assets of these enterprises alone had reached 72 trillion yuan (\$10.4 trillion), up more than tenfold from 2003 and almost equivalent to China’s total GDP for that year. [...]. Since 2013, SOEs have received more than 60 percent of all new loans in China each year, peaking at 78 percent in 2016.”

In another survey by Milhaupt and Zheng (2016) for the Paulson Institute, of government or party affiliations of the founders or de facto

controllers of China's 100 largest private firms (by revenue) as ranked by the China National Association of Industry and Commerce, as well as China's top ten private internet firms (by revenue), as ranked by the China Internet Association, 95 out of the top 100 private firms and eight out of the top 10 internet firms had a founder or de facto controller who was currently or formerly a member of central or local political organisations such as People's Congresses and People's Political Consultative Conferences. "One recent survey by the Central Organisation Department, the party's personnel body, found that 68 per cent of China's private companies had party bodies by 2016, and that 70 per cent of foreign enterprises had." (McGregor 2019).

For example, Huawei, China's largest telecommunications equipment maker shares are held by its employees, in particular, the state-controlled trade union – although it is argued that the union has no say in corporate governance (Li 2019). Also, state-controlled industrial associations actively supervise the operations of private firms in their respective industries and have retained much, if not all, of the power exercised by their state predecessors. Private firms are prodded or even forced to participate in state-led industrial restructuring efforts. The right of to corporate ownership must yield to the state's plans for restructuring an industry (Milhaupt/Zheng 2015).

Thus, it can be argued that even now much of employment and investment is still undertaken by publicly-owned companies or by institutions that are under the direction and control of the Communist party.<sup>5</sup> The biggest part of China's world-beating industry is not foreign-owned multinationals, but Chinese state-owned enterprises. The major banks are state-owned and their lending and deposit policies are directed by the government (much to the chagrin of China's central bank and other pro-capitalist elements). There is no free flow of foreign capital into and out of China. Capital controls are imposed and enforced, and the currency's value is fixed in a narrow band to set economic targets (much to the annoyance of the US Congress).

The size and influence of the state sector in China is not replicated in any other economy. The IMF public sector database (IMF 2017) shows that public sector stock to GDP stands at 150 per cent; this is well ahead of that other Asian miracle of the past, Japan, and three times larger than in India

or the US. Public sector assets are over three times larger than the private sector, while in every other major economy, private sector assets are larger. Public investment in China is annually 16 per cent of GDP compared to less than 4 per cent in the US or the UK. China is home to 109 corporations listed on the Fortune Global 500 – but only 15 per cent of those are privately owned (Guluzade 2019).

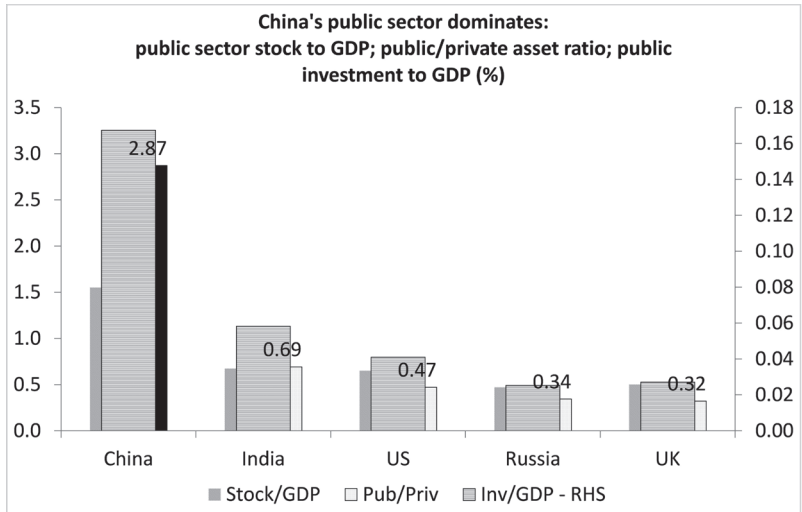


Figure 5: Public sector stock to GDP; public/private asset ratio and public investment to GDP

Source: IMF (2017), *Investment and Capital Stock database*, author’s calculations. Averages for period 2010-14.

At the same time, the single party state machine infiltrates all levels of industry and activity in China. According to an analysis by Joseph Fan and others (Fan et al. 2011:1),

“the Chinese Communist Party (CCP), by controlling the career advancement of all senior personnel in all regulatory agencies, all state-owned enterprises (SOEs), and virtually all major financial institutions state-owned enterprises (SOEs) and senior Party positions in all but the smallest non-SOE enterprises, retains sole possession of Lenin’s Commanding Heights.”

Fan et al reckon that the CCP Organization Department (CCP OD) manages all senior promotions in all major banks, regulators, government ministries and agencies, SOEs, and even many officially-designated non-SOE enterprises. And through this mechanism the Party promotes people through banks, regulatory agencies, enterprises, governments, and Party organs.

In listed companies, each enterprise also has a Communist Party Committee, headed by a Communist Party Secretary. These advise the CEO on critical decisions and are kept informed throughout the enterprise by Party cells that also monitor the implementation of party policies. Indeed, the Party Secretary plays a leading role in major decisions and can overrule or bypass the CEO and board if necessary (Fan et al. 2011).

According to the Financial Times, companies have communist cells embedded in their operations and top executives spend much of their time dealing with government officials on policy and other issues. Fraser Howie, co-author of the book *Red Capitalism* (Walter/Fraser 2011) is quoted in saying that the move highlighted how ostensibly private companies are “state overseen enterprises”. “All Chinese corporates are effectively either state owned enterprises or state overseen enterprises,” he said. “And there seems to be no move to get away from that and indeed more and more effort to make it very clear the private sector are beholden to the Party.”<sup>6</sup>

## **5. The future of China’s development**

But what of the future? Let us consider what the three models suggest. If Lin (2012) and others of the neoclassical CAF school are correct, then China needs drastic restructuring of its economic model. The argument goes that China is now a ‘middle-income’ (capitalist) economy and unless it allows the market to rule, it will not close the gap in productivity and income per head with the older, advanced capitalist economies.

The argument of the Sinology ‘experts’ of mainstream economics is that only ‘turning to the market’ will enable China to escape from the so-called ‘middle income trap’.<sup>7</sup> They mean that, to begin with, ‘emerging economies’ can grow fast with big capital investment and exports using cheap labour and new technology – the Chinese model. Yet less than a fifth

of the 180 countries in the world have succeeded in becoming advanced economies. Of the 101 countries that were ‘middle-income’ in 1960, only 13 had managed to break from the pack to become advanced economies by 2008 (World Bank 2013a).

One reason why countries get stuck in this ‘middle-income trap’ is that they reach what is known as the ‘Lewis Point’, after the leftist economist of the 1950s, Arthur Lewis (Lewis 1954). Put simply, this is the point at which a developing country stops being able to achieve rapid growth relatively easily, which is initially achieved by taking rural workers doing unproductive farm labour and putting them to work in factories and cities instead. At a certain point, this ‘reserve army of labour’ is exhausted, urban wages rise, incomes reach a certain level and a ‘middle-class’ emerges. Leaning on Lewis’ theory, mainstream economics asserts that then there must be a switch to boosting domestic consumption that a state-led economy cannot do (McGregor 2010).

A World Bank report, taking up Lin’s and other neoclassical views and published in conjunction with China’s advisory body, the Development Research Center of China’s State Council, argued that there would be an economic crisis in China unless state-run firms were scaled back. The report said the answer was to set up ‘asset-management firms’ to sell off state industries, overhaul local government finances and promote “competition and entrepreneurship” (World Bank 2013b).

Yet is this scenario of the ‘middle-income’ trap really due to the loss of ‘comparative advantage’ in cheap labour, Lewis-style? Or is it due to the failure of developing capitalist economies to raise productivity and sustain investment in technology and human capital in the face of cycles of falling profitability and global crises, often engendered in the mature capitalist economies and thus outside the control of individual national economies?

It is no accident that only two large developing capitalist economies have succeeded in becoming part of the rich capitalist club in the last 50 years. Measured in GDP per capita and starting at \$3000 per head (PPP real) 40 years ago, Taiwan and Korea now have per capita GDPs over \$25,000. In the same period, no other Asian (large) tiger or Latin American economy has risen above \$13,000 – still within the World Bank’s middle income range (Agénor et al. 2012).

Taiwan was a special client state of the US and also benefited hugely from China's own expansion and from Japanese trade. Korea also had a special trade agreement with US. Both economies had large state holding companies, military regimes that restricted 'free markets', and were oriented to investment in heavy industry and technology – not the neoclassical model. Interestingly, at its current stage in this process, China's per capita GDP is higher and growing much faster than even Taiwan and Korea were at their take-offs.

In a recent monumental study of the 'Asian economic miracle', Reda Cherif and Fuad Hasanov of the IMF concluded that "high sustained growth" was the result of what they called "True Industrial Policy" (TIP) where "the state set ambitious goals, managed to adapt fast, and imposed accountability for its support to industries and firms. We argue that [...] TIP was based on the state intervention to facilitate the move of domestic firms into sophisticated sectors beyond the existing comparative advantage" (Cherif/Hasanov 2019: 63). The IMF economists' conclusion directly contradicts the neoclassical model of comparative advantage that promotes "import substitution industrialization strategies, prevalent until the late 1980s among developing economies" because "that led to inefficiencies, lack of innovation, and persistent dependence on key imported inputs" (ibid.).

The development challenge ahead for China is not 'rebalancing' the economy away from investment towards consumption, but to raise productivity growth through innovation in a new period of an ageing and diminishing working population. Growth comes either from increasing capital and labour inputs or from higher productivity. And it is through the latter that China must deliver. In this area, China has a long way to go, but it is catching up.

Almost half of China's gross domestic product (GDP) growth since 1978 was from (capital deepening) i.e. more of the same technology; about a third was from productivity, measured by total factor productivity (TFP), and the rest was from an expanding labour force and investments in human capital (World Bank 2019). Consistent with the recent slow-down in TFP growth, China's labour productivity growth has also been declining.

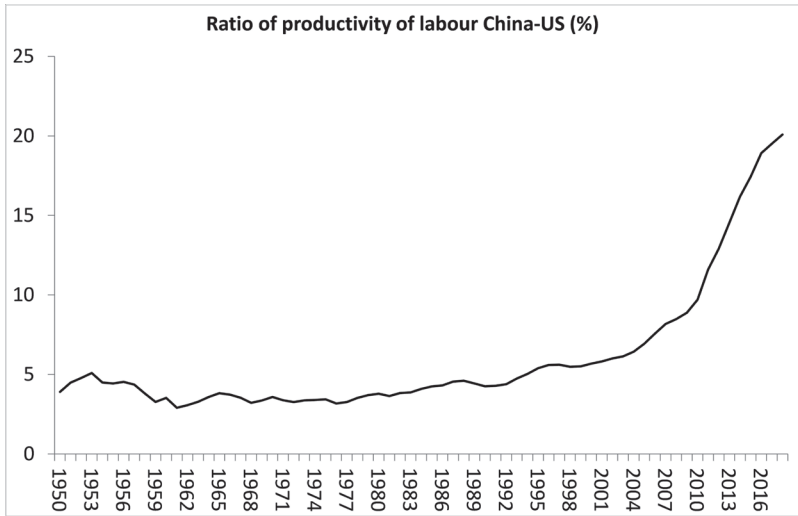


Figure 6: Comparative ratio of productivity of labour China-US (%)  
*Source: OECD, World Bank; author's calculations*

China's average productivity level is just 20 per cent of that of the US. And the US economy remains highly productive even compared to other advanced economies. While the US share of global research and development (R&D) has declined, in part due to a rapid increase in China's share, the US remains the global R&D leader, accounting for nearly 30 per cent of the world total. Data on patents granted – either of the total or specifically foreign – show that the US share has held roughly steady at around 20 per cent. China's share of total patents granted has risen very rapidly over the last decade to over 20 per cent, but most patents granted to Chinese innovators have come from the domestic patent office, with far fewer granted abroad (Roberts 2018b).

Knowledge and technology intensive (KTI) industries make up 38 per cent of US GDP, the highest of any major economy. But China is not far behind at 35 per cent, unusually high for a developing economy. While the US is the largest producer of high-tech goods, its share of world exports has shrunk considerably while China's share has grown. China's R&D intensity, measured by R&D spending as a percentage of GDP, was 2.1 per cent

of GDP versus 2.8 per cent for the US. Indeed, China has seen an almost 160 per cent increase in intellectual property receipts from other countries in the past decade, compared with an 11 per cent increase for the US over the same time frame, which indicates China's increased knowledge diffusion throughout the world (Santacreu/Peake 2019).

China's recent policies have focused on fostering discovery and new technologies. China remains, on average, quite distant from the global technology frontier and thus has substantial remaining potential for catching-up. According to the World Bank, China could double its GDP simply by catching up with OECD countries in its TFP (World Bank 2013b).

The global innovation index – developed by the World Intellectual Property Organization (WIPO), INSEAD, and Cornell University – shows that China's innovation capacity has been improving steadily. China is moving up in cross-country rankings, from 29 in 2011 to 17 in 2018, and is the highest-ranking middle-income country and the first middle-income country to join the 20 most innovative (WIPO 2019).

The biggest threat to US hegemony in R&D and innovation technology is Beijing's plan to replicate foreign technologies and foster national champions that can take them global. A program launched in 2015, called 'Made in China 2025', aims to make the country competitive within a decade in 10 industries, including aircraft, new energy vehicles, and biotechnology. China, under Xi, aims not just to be the manufacturing centre of the global economy, but also to take a lead in innovation and technology that will rival that of the US and other advanced capitalist economies within a generation. Beijing aims to boost the share of domestically made robots to more than 50 per cent of total sales by 2020, from 31 per cent in 2018. (China Briefing 2018).

Under Xi, China has also redoubled efforts to build its own semiconductor industry. The country buys about 59 per cent of the chips sold around the world, but in-country manufacturers account for only 16 per cent of the industry's global sales revenue, according to PwC (Bloomberg 2018). To rectify that, Made in China 2025 earmarks \$150 billion in spending over ten years. These moves by China are at the heart of the trade war hotting up with the US. US Commerce Secretary Wilbur Ross has described the Made in China plan as an "attack" on "American genius" (Woodward



2017). Then there is China's Belt and Road Initiative, a global development strategy involving infrastructure development and investments in 152 countries and international organisations.<sup>8</sup>

China's exports have soared in dollar terms – 17 per cent annually in the past two decades – and its export market shares for both gross trade and added value have risen significantly. The contribution of China's exports to its growth has been falling with the slowdown in global trade since the global financial crisis of 2008, but its share of global trade has been rising. China's share of global exports of goods increased from only 3.9 per cent in 2000 to 14.6 per cent in 2017 (World Trade Organization 2019).

Foreign investments have been critical of China's export growth and international competitiveness. Foreign-invested enterprises contributed to nearly half of China's imports and exports, one-fourth of industrial output, and one-fifth of tax revenue in 2017. China was the second-largest destination for FDI in the world, after the United States, in 2018. According to the World Investment Report 2017 (UNCTAD 2017), multinational firms consider China the second-most-preferred destination for cross-border investment in the world. China evolved from being a net importer of FDI to a net exporter in 2016. Despite experiencing a sharp decline in 2017, China's outbound investments were the third largest in the world. China's FDI and ODI still have room to grow.

China's drive under Xi for technological equality and higher productivity through innovation does not follow the neoclassical school development model that is 'consumption-led' and dominated by markets. Nevertheless, the supporters of this model dominate the development discussion. The neoclassical model remains full of holes. It is not true that the Chinese economy has restricted consumption. Consumption may have fallen as a share of GDP during the fast pace of the investment expansion and urbanisation of the last 40 years, but real consumption in China has been growing at 8.8 per cent annually for over two decades – the highest of any major economy.<sup>9</sup>

What has happened with the relative 'liberalisation' of the economy, the expansion of the private sector, global trade and investment is the encroachment of the law of value into new areas of the economy, and with it, a huge rise in the inequality of wealth and income. China's gini coef-

ficient, an index of income inequality, rose, according to Xie and Zhou (2014) from 0.30 in 1978, when the Communist Party began to open the economy to market forces, to 0.49 by 2008. This rise was partly the result of the urbanisation of the economy as rural peasants move to the cities. Urban wages in the sweatshops and factories are increasingly leaving peasant incomes behind (not that those urban wages are anything to write home about when workers assembling Apple iPads are paid under \$2 an hour). Yet it is also partly the result of the elite controlling the levers of power, while allowing some Chinese billionaires to flourish. Urbanisation has slowed since the Great Recession, from a peak annual rate of 3.75 per cent before to just 1.3 per cent after (NBSC 2017), and so has economic growth. China's gini inequality index is still at a high level, even though it has fallen back a little since 2008.<sup>10</sup>

The debate within the leadership will continue about which way to take China: towards a full market economy open to the winds of global capitalism, or to stay as it is. The Chinese Communist Party's Third Plenum of the 18th Congress in 2013 did not really commit to anything like 'free market' capitalism. There was no change in the general philosophy of 'socialism with Chinese characteristics' and thus the maintenance of the dominance of the state sector. Also, there would be no move towards 'democracy' or control of even local legal systems and decisions by the people. On the contrary, the leadership has set up even more repressive state security services to monitor and control the population and curb any dissidence (Xinhua 2013).

This trade and technology trade war that is intensifying with the US will set the parameters for China's development over the next decades. China's development over the last 40 years through state-directed and controlled planning and enterprises, combined with an expansion of the private sector, has been unique in its formation. The next stage is one where the development model must be directed towards productivity growth in an environment where the falling profitability of capital could be a serious obstacle to investment. And now there is the added risk of growing economic and political confrontation with the hegemonic power of the US, which seeks to clip the wings of the Chinese crane – the symbol of happiness and prosperity.

- 1 “Because in the US and Europe, of course, it is held that the colour of the cat matters very much. Only the private sector coloured cat is good, the state sector coloured cat is bad. Therefore, even if the private sector cat is catching insufficient mice, that is the economy is in severe recession, the state sector cat must not be used to catch them. In China, both cats have been let loose – and therefore far more mice are caught” (Ross 2014).
- 2 For a discussion of the different views, see Long et al. (2018).
- 3 Marx’s law of value argues that, under capitalism, production is not to meet consumer needs alone but primarily to obtain profit. Value can only be created by the exertion of human labour, and surplus value (or profit) thus emerges when capitalist producers sell goods and services on a market for commodities for a price that is higher than the costs of production. That is possible because the value created by labour power is more than the value paid to labour power. Human labour is exploited in this way. For more on Marx’s law of value, see Roberts (2018a).
- 4 Joseph Stiglitz, Nobel Prize winner in economics, concluded, reviewing the history of financial crises: “I believe that capital account liberalization *was the single most important factor leading to the crisis*. I have come to this conclusion not just by carefully looking at what happened in the [Asian] region, but by looking at what happened in the almost one hundred other economic crises of the last quarter century. [...] It has also become increasingly clear that all too often capital account liberalization represents risk without a reward” (Stiglitz 2017: 20).
- 5 Again, the employment share depends on what you consider is the private sector in China. The usual typical statistics reckon that the state sector has accounts for only one-third of the urban workforce. However, breaking down the private sector into companies that have state minority stakes and depend on state funding shows that ‘state sector’ employment is higher.
- 6 As quoted in the Financial Times, 23 September, 2019, <https://www.ft.com/content/055a1864-ddd3-11e9-b112-9624ec9edc59>, 24.2.2020.
- 7 Two prominent and recent narratives along these lines are by Nicholas Lardy (2019) and George Magnus (2018).
- 8 “Belt” refers to the overland routes for road and rail transportation, called the “Silk Road Economic Belt”, whereas “road” refers to the sea routes, or the “21st Century Maritime Silk Road”.
- 9 Author’s calculation from World Bank Development Indicators 1995-2018.
- 10 China National Statistical Bureau

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