Political Economy of China: From Socialism to Capitalism, and to Eco-Socialism?

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According to the current definition given by *Wikipedia*, "An emerging market is a country that has some characteristics of a developed market, but does not meet standards to be a developed market" (Wikipedia 2016). According to French economist Julien Vercueil, an "emerging economy" should be defined by the following characteristics: intermediate income (with per capita income measured by purchasing power parity ranging from 10 to 75 percent of the European union average); rapid economic growth that has allowed the country to narrow the income gap with the "advanced economies" over the last decade; and commitment to neoliberal economic restructuring (the country has undertaken "profound" institutional transformations which contributed to integrate it more deeply into the global capitalist economy) (Vercueil 2012: 232).

In 2010, the term "emerging economies" was applied to more than 50 countries, representing more than 60 percent of the world population and about 45 percent of the world economic output (Vercueil 2012: 10). China is the largest "emerging market" or "emerging economy" by population and economic size.

From the world system perspective, most "emerging economies" are best understood as "semi-peripheral" countries within the capitalist world system. The countries in the capitalist world system are divided into three structural positions: core, semi-periphery, and periphery. Historically, the wealth of the capitalist world system was concentrated in the core but the great majority of world population lived in the periphery. As China "emerges" or advances from the periphery into the semi-periphery, the distribution of world wealth and geopolitical power has been fundamentally transformed. The transformation has profound implications regarding not only the operations of the capitalist world system but also whether the system can survive the 21st century.

The Capitalist World System

The modern capitalist world system emerged in the 16th century and became the first global system in the human history by the late 19th century. The capitalist world system is an unique historical system based on the pursuit of "endless accumulation of capital," with a strong and constant tendency to use a significant portion of the society's surplus product (the part of a society's economic output that is over and above what is required to replace the society's production inputs and meet the population's basic consumption) for "expanded reproduction" or economic growth (Immanuel Wallerstein, for example, defined "the essential feature of a capitalist world-economy" as "production for sale in a market in which the object is to realize the maximum profit," in which "production is constantly expanded as long as further production is profitable"; see Wallerstein 1974a).

The accumulation of capital within the capitalist world system is motivated by high profit rate or monopolistic "large profits" that historically have required the concentration of wealth in the "core countries" of the capitalist world system. The large profits concentrated in the core have allowed the core capitalist classes to use some economic resources to co-opt the domestic working classes and middle classes, accommodating their economic and political demands without undermining the basic requirements of capital accumulation.

The concentration of wealth in the core has been achieved through the transfer of economic surplus ("surplus value" in the Marxist sense or the surplus "socially necessary labor time) from the periphery to the core. The transfer of economic surplus has been accomplished through either direct use of force or "unequal exchange" (a trade mechanism that allows the core countries to exchange their own goods embodying comparatively less labor for goods produced in the periphery embodying comparatively more labor).

Figure 1 shows the historical distribution of population between various structural positions of the capitalist world system as well as the external areas (the geographical areas that were outside the capitalist world system) from 1600 to 2013. China was one of the external areas from 1600 to 1820. Since 1870, China has been a part of the periphery of the capitalist world system. From 1870 to 2013, the periphery had accounted for about two-thirds of the total

population of the capitalist world system and the core population had varied between one-seventh and one-sixth of the total population.

[Figure 1 is about here]

Figure 2 shows the historical distribution of economic output between various structural positions of the capitalist world system as well as the external areas from 1600 to 2013. From the 16th century to the 20th century, the western core capitalist countries had steadily widened their economic and geopolitical advantages relative to the rest of the world. By 1870, 35 percent of the world economic output was concentrated in the core. The core share of the world economic output increased to 52 percent in 1950 and peaked at 56 percent in 2000.

[Figure 2 is about here]

However, since 2000, the long-term historical trend towards the concentration of wealth in a few western core capitalist countries has been dramatically reversed, largely because of the rise of China as a new global economic power. By 2013, the core share of the world economic output was reduced to 41 percent. Does this reversal simply represent a redistribution of wealth and power within the capitalist world system? Or, does it signal a more fundamental turning point – that the basic laws of motion of the capitalist world system can no longer operate as it used to and, consequently, the system itself can no longer be sustained over the 21st century?

The Semi-Periphery

Within the capitalist world system, both the core and the periphery play clearly identified functions and their empirical definitions can be established with comparatively less difficultly. Historically, the periphery has included the great majority of the world population. This has been necessary as the periphery is the geographical zone that generates large economic surplus to

be extracted by the core. In addition, the periphery has served as a strategic reserve within the capitalist world system. Its large reserves of cheap labor and natural resources can potentially be mobilized to keep the system-wide costs of production low and profit rates high.

On the other hand, the concept of the semi-periphery has not been clearly defined in the world system theory and empirically it is more difficult to grasp. Despite the theoretical and empirical difficulties, the semi-periphery as a structural position has existed throughout the history of the capitalist world system. Empirically, since the late 19th century, the semi-periphery has included several regions where the per capita GDP has (or had) fluctuated around the world average. These include Russia (or the former Soviet Union), large Eastern European countries, large Latin American countries, Southern Europe (before the 1970s or perhaps in the 21st century again), Japan (before the 1970s), and the Middle East oil exporters.

In the world system theory, the semi-periphery plays an indispensable stabilizing role for the capitalist world system. Politically, a layer of semi-periphery (that is distinguished from the periphery) is necessary to prevent the combined rebellion of the great majority of the world population against the concentration of wealth in the core. To play this politically stabilizing function, the semi-periphery has an economically intermediate position, "exploiting" the periphery in international trade (that is, exchanging its own goods that embody comparatively less labor for goods produced by the periphery that embody comparatively more labor) but being "exploited" by the core.

For the capitalist world system, the semi-periphery also plays an economically indispensable role. From time to time, the core capitalist economies would suffer from decline of profit rates, leading to prolonged economic and political instabilities. The profit rate tends to fall because capitalist accumulation drives up costs of production and creates new competition that depresses the system-wide "effective demand". To overcome the accumulation crisis, the core capitalist countries need to search for new "leading industries" that can provide large monopolistic profits and relocate the old industries to places with lower costs of production. The

semi-periphery was the place where the core countries traditionally chose to relocate their industrial capital during time of crisis (Wallerstein 1974b).

During 1914-1945, the capitalist world system suffered from a major crisis that included the Great Depression and two world wars. During and immediately after the crisis, several semi-peripheral regions (the Soviet Union and large Latin American countries in the 1930s; Southern Europe and Japan in the 1950s and 1960s) were the main beneficiaries of the system-wide capital relocation. In fact, these were the "emerging economies" in the mid-20th century.

By the 1960s, the semi-periphery as a whole had succeeded in rapidly narrowing the gap with the core. However, with a few exceptions (notably Japan succeeded in advancing into the core), the semi-peripheral "success" proved to be short-lived.

China and the Capitalist World System

For about two thousand years before the modern time, China was one of the world's largest economies by population and total economic output. According to the historical data compiled by Angus Maddison, in 1500, China accounted for 25 percent of the world economic output. By 1820, China's share of world economic output increased to 33 percent.

During the second half of the 18th century, Britain conquered much of the Indian sub-continent. The British rule in India played a pivotal role for the emerging British hegemonic power. Without the massive tributes collected from India, Britain would not have had the economic resources to defeat Napoleon and establish monopoly in the world's capital goods industries. Without India acting as an "English barrack in the Oriental Seas," Britain would not be able to fight numerous wars in Asia and Africa throughout the 19th century.

In the meantime, British imports of Chinese tea and silk had cost the East India Company massive amount of silver. Britain was on the gold standard. Exchange of British gold for silver to pay for the Chinese goods involved large exchange losses. Eventually, the East India Company found opium as the commodity that could make a significant entry into the Chinese market. The opium trade in effect became the mechanism through which Indian tributes could

be transferred to Britain without heavy exchange losses. (Arrighi, Hui, Hung, and Selden 2003: 287-293)

Opium trade led to massive outflows of silver from China, disrupting the Chinese economy (in addition to the harmful effects on the Chinese population's health). In 1839, the Chinese emperor sent Lin Zexu to Canton to ban the opium trade. This was followed by the notorious "Opium War". China's defeat resulted in the unequal Nanjing Treaty. China was forced to cede Hong Kong, open several ports to foreign trade, and pay a large war indemnity.

The Opium War and the Nanjing Treaty marked the beginning of China's incorporation into the capitalist world system. By the early 20th century, China was reduced to a "semi-colonial" peripheral member of the system that was unable to defend its own sovereignty and historical territories. China was confronted by an unprecedented national crisis. The nature of the national crisis had to do with whether China was able to respond to the challenge imposed by the forced incorporation into the capitalist world system by consolidating itself as an effective nation-state that was capable of mobilizing economic resources for rapid capital accumulation.

Various layers of the Chinese ruling elites attempted to respond to the crisis. From the 1860s to the 1890s, several provincial warlords led a limited program of military modernization known as the "Westernization Movement". The "Westernization Movement" failed miserably when China lost the 1894-1895 war to Japan, in which China's Beiyang naval fleet was completely annihilated.

The Nationalist Party led by Sun Zhongshan began as a political party that represented the interests and ambitions of China's indigenous capitalists (the "national bourgeoisie") and the overseas Chinese diaspora. By the 1930s, when the Nationalist Party ruled much of China under the dictator Jiang Jieshi, it had degenerated into a military-bureaucratic clique based on comprador capitalists in the big cities and the gentry-landlords in the rural areas.

According to Carl Riskin, the Chinese economy had a sizable actual and potential economic surplus which amounted to 27-37 percent of the national income in 1933. However, 94 percent of China's national income was absorbed by personal consumption expenditures and

the remaining 6 percent was mostly divided between military expenditures, government consumption, and payments of foreign debt and war indemnities. Productive investment was no more than 2 percent of China's national expenditures in 1933 (Riskin 1975).

Without a fundamental transformation of China's class structure, it was not possible to establish a functioning modern state that could mobilize economic resources for modern economic growth. Such a fundamental transformation could not happen without a massive social revolution that could mobilize the entire lower layers of the Chinese society.

The Chinese Socialism

In Marx's original conception, "communism" would be a post-capitalist classless society that would be made possible by the development of "material productive forces" under capitalism and would resolve the economic and social contradictions of capitalism. Lenin first made the distinction between "socialism" and "communism" and defined "socialism" as the "first phase of communist society" which would be "stamped with the birthmarks of the old society." Significant economic inequalities (in the form of "bourgeois law") would continue to exist under socialism (Lenin 1973[1918]).

After the Russian Revolution, faced with the reality of failure of revolutions in Western Europe, the Bolshevik Party was compelled to adopt the strategy of "socialism in one country". By the 1930s, the Soviet socialism had evolved into a strategy of rapid industrialization through state ownership of basic means of production and centralized economic planning. In Asia, the communist movement had become a radical variant of the national liberation movement.

According to the official theory of the Chinese Communist Party, the Chinese Revolution was a "New Democratic Revolution" that was to complete a bourgeois democratic revolution under the "proletarian leadership". In reality, the Chinese Revolution had succeeded in creating a new state structure by completely destroying the old ruling elites (the "three big mountains" of "imperialism, feudalism, and bureaucratic capitalism"). This was made possible by the massive

mobilization of the lower social classes (especially the peasants). The new People's Republic was able to mobilize economic surplus for rapid industrialization.

Given that the new state was the historical product of a massive popular revolution, it had to reflect some of the historical aspirations of ordinary peasants and workers. In effect, the socialist state entered into an implicit social contract with the urban working class and the rural peasants. The workers and peasants were expected to make material sacrifices and contribute to "socialist construction" at the national and the local levels. In return, the state and the rural collectives would meet the population's basic needs and provide basic social security (through the social safety net known as the "iron rice bowl"). Moreover, the Communist Party promised that the Party "cadres" (Communist Party officials) would share the material hardship with the "masses." In the long run, economic and social inequality would be gradually eliminated and the growth of "material productive forces" would bring about material prosperity which would lead to the transition to classless communism.

The socialist social contract was already undermined during the First Five Year Plan (1953-1957) when the material privileges of the Party officials and technocrats were consolidated. Social tensions and internal conflicts within the Communist Party leadership were greatly intensified by the failure of the Great Leap Forward and the following famine. By 1966, Mao Zedong attempted to revive the socialist revolution by directly appealing to workers and students. The "Great Proletarian Cultural Revolution" was met with fierce resistance from the Party and state bureaucracy, weakened by the numerous internal divisions among the student and worker "rebels," and finally brought to an end by the intervention of the army.

By the early 1970s, both the Chinese and the international revolution were in retreat. Mao Zedong and his comrades were confronted with a situation not dissimilar to what confronted the Bolsheviks in the 1920s. Mao decided that the best way forward was to pursue *rapprochement* with the western capitalist countries. As China re-accelerated industrialization using imported western technology, China began to be re-integrated into the capitalist international division of labor.

Global Capitalist Restructuring and the Rise of China

From 1914 to 1945, the capitalist world system suffered from a major system-wide crisis. The system barely survived two world wars and the Great Depression. Figure 3 compares the economy-wide profit rate (calculated as the ratio of total capitalist property income divided by the business sector capital stock) of the United Kingdom, the United States, and China from 1855 to 2014. The United Kingdom and the United States was the hegemonic power in the 19th century and the 20th century respectively. China has been the leading engine of global capitalist accumulation since about 2000.

[Figure 3 is about here]

As the United States emerged from the Second World War as the undisputed hegemonic power, it led the post-1945 global capitalist restructuring. Big government institutions and Keynesian macroeconomic policies were established to stabilize the capitalist economy. The demands of the western working classes were accommodated through welfare state institutions and "capital-labor accords" that promised the western workers steadily rising living standards in exchange for their cooperation in productivity growth. The United States pressured Britain and France to abandon their colonial empires. The newly independent Asian and African countries were promised economic assistance and the future of modernization. Through the Yalta Agreement, the Soviet Union was provided with a sphere of influence and effectively given a stake in the system. During the "Cold War," the Soviet Union and the United States respected each other's spheres of influence and focused on competition in economic growth. For about a quarter of a century after the Second World War, global capitalism enjoyed unprecedented boom.

However, the long economic boom depleted the remaining rural surplus labor force in the core and the semi-periphery. Proletarianized working classes and urban middle classes demand not only higher wages but also a wide range of economic and social rights. Their bargaining

power was further increased by the welfare state institutions (or the "socialist social contract" in the socialist states). By the 1960s, working class militancy grew throughout the core and the semi-periphery, leading to large and sustained declines of the profit rate and a global accumulation crisis.

Global capitalist classes responded with the neoliberal counter-offensive. In the core capitalist countries, monetarist policy was used to create high unemployment and a favorable environment for corporate attack on labor unions. In the semi-periphery, "structural adjustments" or "shock therapies" were imposed on highly-indebted Latin American and Eastern European countries, leading to de-industrialization and massive declines of living standards.

As a strategy to revive global capital accumulation, neoliberalism involved economic costs and political risks. It depressed global effective demand and threatened the global capitalist economy with frequent and destructive financial crises. Politically, it led to dramatic increase in global and national inequalities and seriously undermined the system's political legitimacy.

To turn the global balance of power decisively to the favor of the global capitalist classes without incurring unacceptable economic and political costs, it was necessary for global capitalism to relocate some of the old industries to a large geographical area with low costs of production (especially cheap labor). The industries could no longer be relocated to the historical semi-peripheral countries, which were suffering from accumulation crisis themselves. The worker in the semi-peripheral countries demanded wages and other economic and social rights that had become too "expensive" for them to be profitably exploited given these economies' existing "comparative (dis)advantages" in the capitalist world system. The historical semi-peripheral countries were squeezed between their inability to compete with the core countries on the technology frontier and the political failures to meet the rising demands from the urban working and middle classes.

In this context, China's capitalist transition, by providing the capitalist world system with a large cheap labor force that was equipped with a relatively well developed industrial

infrastructure built during the socialist era, had played a pivotal role in the global capital relocation in the late 20th century.

After Mao's death in 1976, the "capitalist roaders" within the Party leadership took over the power. By the 1980s, it became apparent that it was not possible for the state owned industries to be competitive in the international markets while honoring the socialist social contract. To support China's growing demands for imported western technology and consumer goods, China needed to re-orient its domestic industries towards manufacturing exports based on exploitation of cheap labor.

During the 1990s, most state owned enterprises were privatized. More than a hundred million migrant workers provided the capitalist sweatshops with a massive cheap labor force. China was admitted into World Trade Organization in 2001. Since then, China has become the "workshop of the world" or the leading platform of manufacturing exports in the global capitalist economy.

China and Unequal Exchange

In the previous global capitalist restructurings, semi-peripheral countries were the main beneficiaries of capital relocation. By contrast, in the late 20th century, a large peripheral country (China) had to be mobilized to complete the global capitalist restructuring. However, as China advances towards the semi-peripheral status, the remaining strategic reserves (in terms of cheap labor force and ecological space available for effective exploitation) of the capitalist world system are being rapidly depleted, seriously undermining the system's capacity to restructure when it enters into the next major crisis.

China's economic rise contributed to the revival of global capital accumulation by providing the capitalist world system with a large cheap labor force. The exploitation of the Chinese cheap labor force has generated a large economic surplus, which is in turn transferred to the system's core.

In the capitalist world system, economic surplus is transferred from the periphery to the core through unequal exchange. Figure 4 shows China's labor terms of trade against different regions in the global capitalist economy from 1990 to 2014. See Appendix for the estimation of a country's labor term of trade.

[Figure 4 is about here]

In the early 1990s, China was unquestionably a peripheral country in the capitalist world system. China suffered from unequal exchange against every other region in the world. In 1990, one unit of Chinese labor traded for 0.02 unit of US labor, 0.03 unit of other High Income labor, 0.1 unit of Latin American labor, 0.3 unit of Sub-Saharan African labor, 0.6 unit of other East Asian labor, and 0.7 unit of South Asian labor. In 1990, in average, it took commodities embodying 16 Chinese worker-years to exchange for commodities embodying just one foreign worker-year.

By 2014, China had become an "exploiter" or beneficiary of unequal exchange in trade relations against several peripheral regions in the world. In 2014, one unit of Chinese labor traded for 4 units of South Asian labor, 2.5 units of Sub-Saharan African labor, and 1.8 units of other East Asian labor. China traded more or less on equal terms against Latin America, Eastern Europe and Central Asia, and Middle East "developing countries." Although it still took about 8 units of Chinese labor to trade for one unit of US labor and 4 units of Chinese labor to trade for one unit of other High Income labor ("High Income Countries" defined by the World Bank include not only core countries but also some semi-peripheral countries, such as the high income oil exporters). In average, in 2014, one unit of Chinese labor traded for 0.6 unit of international labor.

Figure 5 compares the total labor time that was transferred (that is, the Marxian "surplus value" that was transferred) into the United States from the rest of the world through unequal

exchange with the total labor time that was transferred from China to the rest of the world through unequal exchange.

[Figure 5 is about here]

A country's net gain or loss through unequal exchange is defined as follows:

Net Gain (Loss) from Unequal Exchange = A Country's Domestic Component of Merchandise Exports * (The Country's Labor Term of Trade – 1)

The above formula tells what a country gains or loses as a result of transfer of labor through unequal exchange if the country were to have balanced trade given the country's labor term of trade.

By this measure, the US gained 33 million worker-years through unequal exchange in 1990, 44 million worker-years in 1995, 59 million worker-years in 2000, and 63 million worker-years in 2006. Since then, the US gain from unequal exchange has declined. Nevertheless, in 2014, the US gain from unequal exchange stood at 53 million worker-years or the equivalent of 35 percent of the US total employment.

The practical implications are that if there had been no unequal exchange, for the US to maintain its existing material consumption levels, about 50 million US workers would have to be transferred from the non-essential services back to the goods production sectors (assuming that the American workers will have the same labor productivity to produce the currently imported goods as the foreign workers). Statistically, this would lead to a reduction of the US economic output by about one-third.

In fact, the US trade with the rest of the world has not been balanced. Since the 1990s, the United States has been running chronic trade deficits. The trade deficits have been covered by net foreign capital inflows, mostly in the form of accumulation of foreign exchange reserves

by the rest of the world. This has led to the perverse situation where instead of the rich countries lending to the poor countries to invest in raising living standards, relatively poor countries (such as China) have been lending to the wealthiest country in the world to consume. To the extent that China and other peripheral or semi-peripheral countries have been compelled to accumulate foreign exchange reserves to insure against the threat of capital flight and financial crises, their investment in the US treasuries may be interpreted as an implicit "tribute" to the American imperialism.

If one also counts the foreign labor embodied in the US trade deficits that have not been repaid by real commodities, then the US total gain from both the "pure" unequal exchange and the unpaid trade deficit surged to 93 million worker-years in 2000 and 119 million worker-years in 2005. However, by 2014, the total gain fell to 74 million worker-years.

China's net loss from unequal exchange was 55 million worker-years in 1990, 57 million worker-years in 1995, and 54 million worker-years in 2000. It surged to 70 million worker-years in 2005 and peaked at 76 million worker-years in 2007. Since then, China's net loss from "pure" unequal exchange has declined sharply, falling to 38 million worker-years in 2014.

Since 1994, China has consistently run trade surpluses. The Chinese labor embodied in the trade surpluses that have not been repaid by real foreign commodities may be seen as another form of transfer of labor from China to the rest of the world. China's total loss from both the "pure" unequal exchange and the unrealized trade surplus surged to 89 million worker-years in 2007 and stood at 51 million worker-years in 2014.

In the early 1990s, China's net losses from unequal exchange were larger than the US net gains from unequal exchange, allowing China to generate economic surplus not only to be transferred to the United States but also to other core countries and some semi-peripheral countries. From 1995 to 2010, China's net losses were roughly comparable to the US net gains. Since about 2010, China's net losses have become smaller than the US net gains, requiring the United States extract economic surplus from other peripheral economies.

In the coming years, as China consolidates its position as a semi-peripheral country and China's labor term of trade improves further, China's net loss from unequal exchange will continue to shrink. It took just nine years (from 2005 to 2014) for China's labor term of trade to improve from one unit of domestic labor for 0.32 unit of foreign labor to one unit of domestic labor for 0.63 unit of foreign labor. At this rate, within a decade, about 40-50 million worker-years of "surplus value" would be withdrawn from the global unequal exchange and would no longer be available for the transfer to the core. China itself may begin to compete with the core countries for the extraction of surplus value from the periphery.

But can the smaller periphery (after China has been subtracted from the periphery) make up the 40-50 million worker-years of "surplus value" that has been lost because of the "rise of China" and on top of that, generate additional economic surplus to support China's bid for a position in the core of the capitalist world system? Or, perhaps, the basic laws of motion of the capitalist world system can no longer be sustained and the humanity has arrived at a historical turning point.

Profit Squeeze

Historically, the semi-periphery has played an indispensable stabilizing role for the capitalist world system by acting as the political "middle layer" and providing a geographical space of relatively low costs of production that is ready for capital relocation from the core.

For the semi-periphery to play the economic and political stabilizing roles, the semi-periphery needs to be of a significant size. In the 20th century, the semi-periphery generally accounted for between one-sixth and one-fifth of the world population and a similar share of the world economic output.

However, the semi-periphery cannot be too large relative to either the periphery or the core. If the semi-periphery is too large, it would reduce the world surplus value available for the core, making it impossible for the core to have monopolistic large profits or to have the necessary economic resources required to maintain internal social peace. It will also impose

potentially unbearable burden on the smaller periphery by extracting excessively large amounts of natural resources and economic surplus.

As China advances into the semi-periphery, the world semi-periphery is expanding from the traditional size of between one-sixth and one-fifth of the world economy to a much larger size of between one-third and two-fifths of the world economy. In the long run, this is likely to result in substantially higher labor and resources costs for the capitalist world system.

Figure 3 shows that in the 1990s and the early 2000s, China's average profit rates were at levels about twice high as the US profit rate. China's very high profit rates were made possible by the intense exploitation of a large cheap labor force, massive resources consumption, and rapid growth of exports that allowed China to claim an increasingly large share of the core capitalist markets. All these conditions have been undermined. Since the Great Recession of 2008-2009, China's exports growth has slowed down sharply. As China's various ecological systems approach collapse and mass protests against environmental damages grow, the Chinese capitalism now has to begin to pay for the rapidly escalating ecological costs.

Historical experience of other semi-peripheral countries has shown that at a certain stage of capitalist (or "socialist") development, as a country's social structure was transformed through industrialization and urbanization and the proletarianized working class began to account for the majority of the total labor force, the working class and the urban middle class (the social class of highly-skilled professional workers or the "petty bourgeoisie") would demand a widening range of economic, social, and political rights. The rising working class and middle class militancy often led to both an accumulation crisis and a political crisis. This was what happened in the Soviet Union, Eastern Europe, Latin America, South Korea, and Taiwan in the 1980s and 1990s.

After several decades of capitalist industrialization, China's social structure has been fundamentally transformed. China's non-agricultural employment was 40 percent of the total employment in 1990, 48 percent of the total employment in 1995, 50 percent of the total employment in 2000, 55 percent of the total employment in 2005, 63 percent of the total employment in 2010, and 70 percent of the total employment in 2014. Historical experience

from countries such as Poland, South Korea, and Brazil indicates that when a semi-peripheral country's non-agricultural employment exceeded 70 percent of the total employment, the country often experienced a surge of working class struggles and major political instabilities.

As China's rural surplus labor force begins to be depleted, the Chinese working class struggles have visibly increased. The Chinese workers' growing bargaining power has been reflected by the reversal of falling wage share in China's national income. By this author's estimate, China's total labor income (including the urban formal sector workers' wages, urban private sector workers' wages, the estimated informal sector workers' wages, the agricultural laborers' incomes, and the employers' social insurance contributions) as a share of China's GDP declined sharply from 46 percent in 1990 to 37 percent in 1995 and to 34 percent in 2000. From 2000 to 2010, it stabilized around 34 percent. However, by 2014, China's labor income as a share of GDP recovered to 40 percent. On the other hand, China's capitalist income as a share of GDP rose from 31 percent in 1990 to 43 percent in 1995. It fell to 39 percent in 2000 and stabilized at the high level of around 40 percent between 2000 and 2010. But by 2014, the capitalist income share fell back to 33 percent.

The growing strength of the Chinese working class is also reflected by the relative positions of the Chinese wages in the capitalist world system. The Chinese manufacture sector workers' average wage (calculated as the weighted average of the formal sector workers' wage and informal sector migrant workers' wage) was 1.8 percent of the US manufacturing sector average wage in 1990, 2.1 percent in 1995, 2.6 percent in 2000, 4.1 percent in 2005, 8.8 percent in 2010, and 16.6 percent in 2014.

Figure 6 compares the manufacturing sector's wage cost per dollar of value added in China and the United States from 1990 to 2014.

[Figure 6 is about here]

In the early 1990s, the Chinese industries were still dominated by state owned enterprises. China's wage cost was around 25 cents per dollar of value added, about three-quarters of the US wage cost per dollar (about 33 cents). For China's state industrial sector, the wage cost per dollar was between 31 and 35 cents. From the capitalist point of view, the Chinese state owned industries were not competitive enough in the global market.

In 1994, a large depreciation of the Chinese Yuan (*renminbi*) from 5.8 Yuan per dollar to 8.6 Yuan per dollar helped to open up a large gap between the Chinese wage cost and the US wage cost. By the late 1990s, China's wage cost per dollar was reduced to about one half of the US level, turning China into a major source of global surplus value.

From 2000 to about 2010, the gap between the Chinese wage cost and the US wage cost narrowed as the US manufacturing workers' wages stagnated despite rising productivity. In effect, the low Chinese wages helped to pull down the manufacturing workers' wages in the US and other core capitalist countries as the neoliberal "race to bottom" operated on a global scale.

However, the Chinese wage cost per dollar began to rise after 2005 and the rise accelerated after 2010. By 2014, the Chinese wage cost per dollar exceeded the US level. As the Chinese workers claim a bigger share of the value of output, the Chinese capitalist industries are losing "competitiveness" in the global capitalist market.

Indeed, China's economy-wide profit rate has fallen sharply since 2007 (see Figure 3). From 2007 to 2014, China's profit rate fell from about 30 percent to about 19 percent. At this rate, in just a few years, China's profit rate could fall into levels that were historically associated with major crises of American capitalism (between 10 and 15 percent).

China and the Global Climate Catastrophes

One of the most important world-historical consequences of the "rise of China" as a major semi-peripheral economic power has to do with the dramatic acceleration of global ecological crisis, especially the rapid rise of global carbon dioxide emissions. From 2000 to 2014, world carbon dioxide emissions from fossil fuels burning rose from 25.5 billion tons to

35.5 billion tons. China's emissions grew from 3.5 billion tons to 9.8 billion tons, accounting for 62 percent of the world emissions growth during the fourteen years (BP 2015).

The year 2015 proved to be the hottest year since the modern records of global surface temperature began. The global average surface temperature is now about one degree Celsius higher than the pre-industrial time. According to James Hansen, one of the world's leading climate scientists, if global warming exceeds two degrees Celsius, sea level will rise by 5-9 meters in the next 50-200 years (largely because of the collapse of the West Antarctica ice sheets). "It is unlikely that coastal cities or low-lying areas such as Bangladesh, European lowlands, and large portions of the United States eastern coast and northeast China plains could be protected against such large sea level rise" (Hansen et al. 2015). Many of the world's major cities, such as Tokyo, Shanghai, Hong Kong, Mumbai, Kolkata, Karachi, Buenos Aires, St. Petersburg, New York, Miami, and London, will be at risk of flooding (Spratt and Sutton 2008).

If global warming rises above three degrees Celsius, sea level is likely to rise by 25 meters, Amazon rainforest may collapse, water flows into Asia's great rivers (the Indus, Ganges, Brahmaputra, Mekong, Yangzi, and Yellow rivers) will fall by up to 90 percent, drought and famine may turn large terrestrial areas uninhabitable, billions of environmental refugees may be forced to move from the sub-tropics to mid-latitudes (Spratt and Sutton 2008).

It is obvious that to preserve the civilization as we know it, the humanity should strive to limit global warming to no more than two degrees and should prevent global warming of more than three degrees at all cost.

According to the Fifth Assessment Report of the United Nations Intergovernmental Panel on Climate Change, to prevent the atmospheric concentration of carbon dioxide equivalent from rising above 450 parts per million by the end of the 21st century (a level of greenhouse gases that roughly corresponds to long-term global warming of two degrees), the cumulative world carbon dioxide emissions from 2011 to 2100 need to be no more than about one trillion tons (IPCC 2014). From 2011 to 2015, the world had already emitted about 175 billion tons from fossil fuels burning. The remaining 825 billion tons of "emissions budget," to be used up over the last

85 years of the century, implies average annual emissions of 9.7 billion tons. This is about the same as China's annual emissions today. As the world population is projected to rise to about 9 billion by the mid-21st century, world average per capita carbon dioxide emissions need to fall from the current level of about 4.9 tons to about 1.1 tons (an emissions level that is lower than today's per capita emissions in Georgia, Namibia, Vietnam, and India). For all practical purposes, it is no longer possible for the world to limit the long-term global warming to no more than two degrees Celsius.

According to IPCC's Fifth Assessment Report, to prevent the atmospheric concentration of carbon dioxide equivalent from rising above 550 parts per million by the end of the 21st century (a level of greenhouse gases that roughly corresponds to long-term global warming of three degrees), the cumulative world carbon dioxide emissions from 2011 to 2100 need to be no more than about two trillion tons (IPCC 2014). Subtracting the 175 billion tons that had been emitted between 2011 and 2015, the remaining "emissions budget" is 1.83 trillion tons. Averaged over 85 years, the implied average annual emissions are calculated to be about 21 billion tons or approximately 2.4 tons per person for a future world with a population of 9 billion.

In 2014, China's per capita energy consumption reached 2.2 tons of oil equivalent and per capita carbon dioxide emissions reached 7.2 tons (BP 2015). To bring China's per carbon dioxide emissions down to a level that is consistent with the per capita emissions required for limiting global warming to no more than three degrees, China's per capita emissions will have to fall by about 67 percent.

Using China's energy balance tables, it can be calculated that in 2012, 43 percent of China's carbon dioxide emissions were produced in various industrial production processes, 41 percent were produced in electric power generation, 7 percent were produced in the transportation sector, and 9 percent were generated in the rest of the economy (including agriculture, construction, services, and the residential sector) (National Bureau of Statistics 2016)

Although the renewable energies have made rapid advances, both the renewable energies (such as hydro, wind, and solar) and the nuclear energy are currently best used for electricity

generation. Renewable and nuclear energies cannot substitute for fossil fuels in various high-temperature industrial processes, cement production, and primary steel production. They cannot be chemical raw materials or replace oil as liquid fuels in the transportation sector (Heinberg 2015). Assuming that in the future, 100 percent of electricity generation can be de-carbonized (a very optimistic assumption as wind and solar electricity is intermittent and currently needs coal-fired or gas-fired electricity to provide back-up) and 50 percent of the transportation sector can be electrified (essentially assuming that all road passenger transportation can be electrified), this would only reduce China's emission intensity of energy consumption by about 45 percent.

In 2014, China's emission intensity of energy consumption was about 3.3 tons per ton of oil equivalent. A 65 percent reduction of China's emission intensity of energy consumption (much more ambitious than the 45 percent reduction that seems to represent the maximum extent of possible technological progress in the short- and the medium-term) would bring China's emission intensity down to about 1.2 tons per ton of oil equivalent. Assuming that this can be accomplished, China's per capita energy consumption still needs to be lowered to and then stabilized at about 2 tons of oil equivalent in order to keep the per capita carbon dioxide emissions at no more than 2.4 tons.

Towards Eco-Socialist Dictatorship?

The capitalist world system is based on the highly unequal distribution of wealth across the three structural positions of core, semi-periphery, and periphery and the pursuit of endless accumulation of capital. Historically, the operations of the system have been made possible by the concentration of wealth in the core that has allowed the core to function as the center of the system-wide capital accumulation.

When rising costs of production and growing competition reduced the profit rates in the core capitalist countries, the semi-periphery was traditionally the geographic zone where industrial capital from the core could be relocated. Global capital relocation helped to restore the profit rates in the core and re-create favorable conditions of capital accumulation.

By the late 20th century, the historical semi-periphery had become too "expensive" for capital relocation and a large peripheral country (China) was mobilized to actively participate in global capital accumulation. However, as the Chinese working class and urban middle class begin to demand a growing range of economic, social, and political rights, the Chinese capitalist profit rate has fallen sharply. Potentially, the Chinese working class may push up not only China's but also the global labor cost, undermining the global capital accumulation.

As China advances into the semi-periphery, the size of the periphery is substantially reduced both in population and economic output. This may seriously reduce the economic surplus that can be generated by the periphery to be transferred to the core. If the massive amount of surplus value that is currently generated by China and transferred to the core is completely withdrawn from the global unequal exchange without compensation, the foundation upon which the capitalist world system has been built so far may begin to fall apart.

After centuries of relentless capital accumulation, the continuing existence of the capitalist world system is no longer compatible with the basic requirements of global ecological sustainability. The previous section makes it clear that to prevent global warming from rising above three degrees Celsius, it is necessary to limit per capita carbon dioxide emissions to no more than 2.4 tons and per capita energy consumption to no more than 2 tons of oil equivalent. 2 tons of oil equivalent roughly corresponds to the energy content of 460 gallons of gasoline, or the annual fuel consumption of a regular passenger car in the United States. Clearly, without highly egalitarian distribution of energy and other material resources, it will be impossible to meet the population's basic needs that are consistent with a decent living and simultaneously meet the requirements of climate stabilization.

Figure 7 compares per capital carbon dioxide emissions and human development indices for 135 countries in the world. Currently, only Cuba, a country that has maintained some essential socialist characteristics, has succeeded in achieving "very high human development" (based on the United Nations definition of having a human development index greater than 0.8)

while keeping per capita carbon dioxide emissions very close to 2.4 tons (Cuba's per capita emissions in 2013 was 2.6 tons). (See Figure 7)

[Figure 7 is about here]

To keep per capita energy consumption at no more than 2 tons of oil equivalent while providing every citizen with a decent living, it is necessary for the society as whole to exercise democratic control over all the energy resources, democratically decide the social priorities of energy uses (food production, basic residential heating and lightening, essential public transportation, health care, education, and certain basic industries), minimize and possibly eliminate various luxury and unessential consumption (such as the fuel consumption of private passenger cars and personal air travel).

To the extent that ecological sustainability requires egalitarian distribution of material resources and social control over the basic means of production, it can only be achieved through some form of "socialism". Moreover, in the sense that the future socialism will have to "dictate" the population's material consumption levels in accordance with social equity and ecological sustainability, decide the social priority of various consumption purposes, and greatly reduce the material privileges of the wealthier sections of the population, it may be said to be based on "eco-socialist dictatorship".

In the coming decades, we will find out whether China can play a leading role in the global transition towards eco-socialist dictatorship.

Appendix: Estimating Labor Term of Trade

A country's labor term of trade is defined as the ratio of the labor embodied per million-dollar of *the domestic component of* merchandise exports over the labor embodied per million-dollar of *domestically used* merchandise imports. The domestic component of merchandise exports is the merchandise exports less the estimated imported component of exports. The domestically used merchandise imports are the merchandise imports less the estimated imported component of exports.

The imported component of exports is estimated by assuming that the imported component as a share of the exports is the same as the imported component of domestic expenditures as a share of domestic expenditures:

Imported Component of Exports / Exports = Imports / (GDP + Imports) = Imports / (Household Consumption + Government Consumption + Gross Capital Formation + Exports)

Total labor embodied in the domestic content of merchandise exports is the sum of the labor embodied in agricultural raw material exports and the labor embodied in the domestic content of industrial exports. Labor embodied in agricultural raw material exports is estimated as the dollar value of agricultural raw material exports divided by the agricultural value added per worker. Labor embodied in the domestic content of the industrial exports is estimated as the dollar value of the domestic content of industrial exports divided by the industrial value added per worker. Labor embodied per million-dollar of the domestic content of merchandise exports is then calculated using the total labor embodied in the domestic content of merchandise exports divided by the dollar value of the domestic content of merchandise exports.

Total labor embodied in domestically used merchandise imports is the sum of the labor embodied in the domestically used merchandise imports from each of the following regions: East Asia and Pacific (developing countries), Europe and Central Asia (developing countries), Latin America and Caribbean (developing countries), Middle East and North Africa (developing

countries), South Asia, Sub-Saharan Africa (developing countries), the United States, and other High Income Countries. For each region, labor embodied per million-dollar of its domestic content of merchandise exports is calculated, which is then multiplied by the dollar value of a country's domestically used merchandise imports from that region to derive the labor embodied in the domestically used merchandise imports from that region.

A country's labor embodied per million-dollar of domestically used merchandise imports is then calculated using the total labor embodied in domestically used merchandise imports divided by the dollar value of the domestically used merchandise imports.

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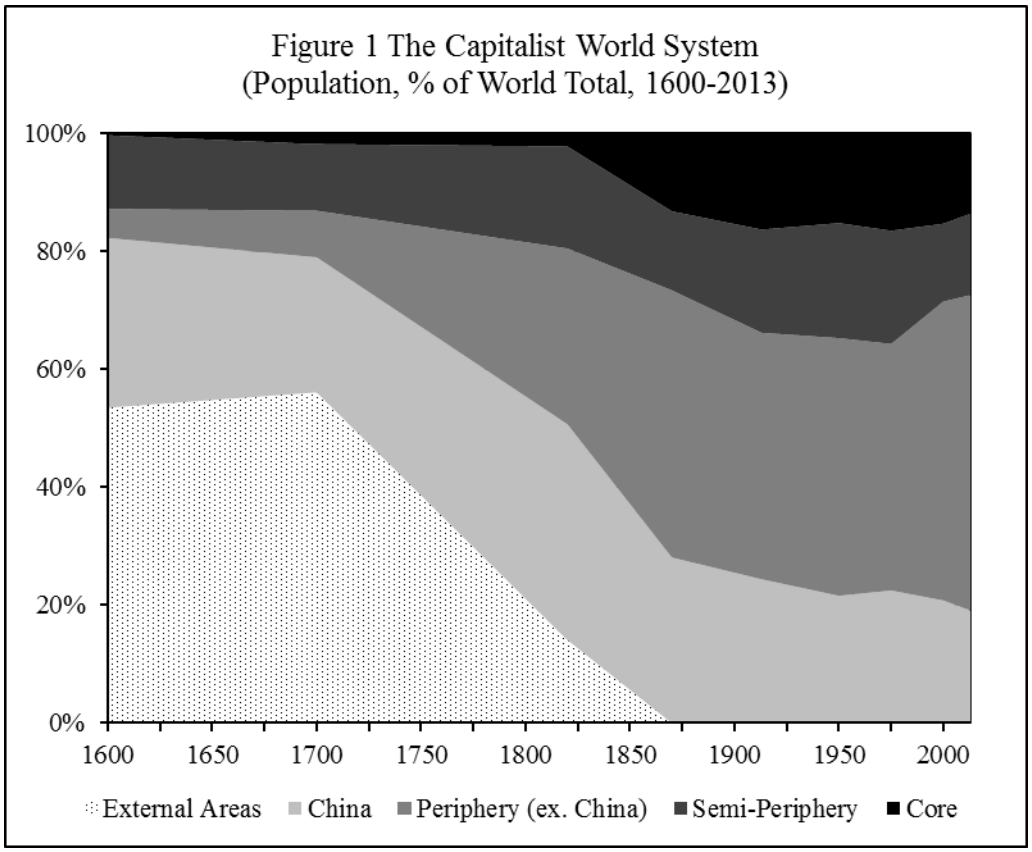
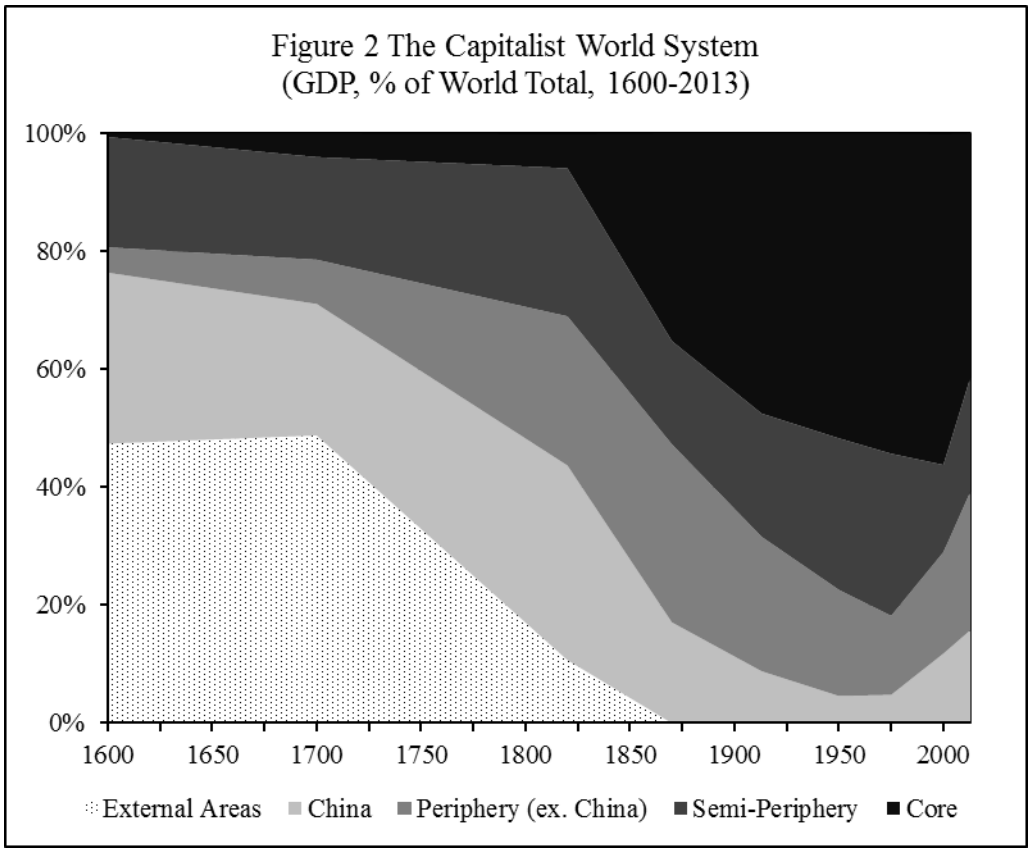
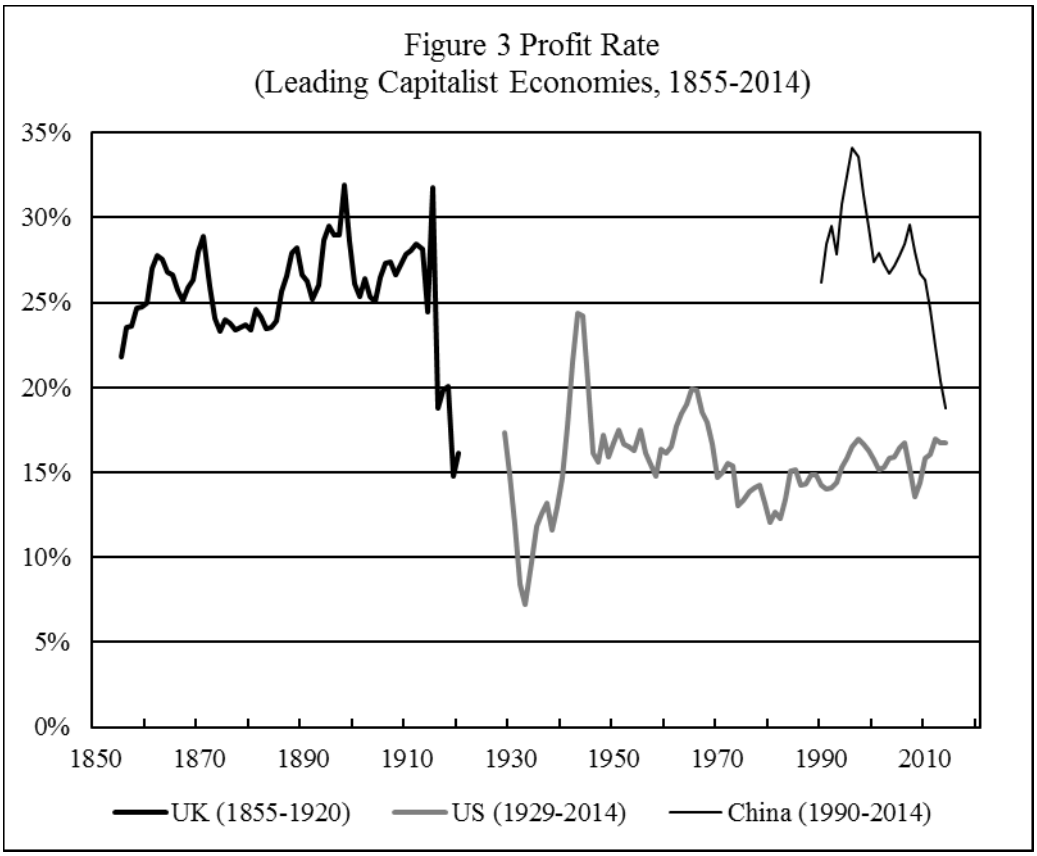


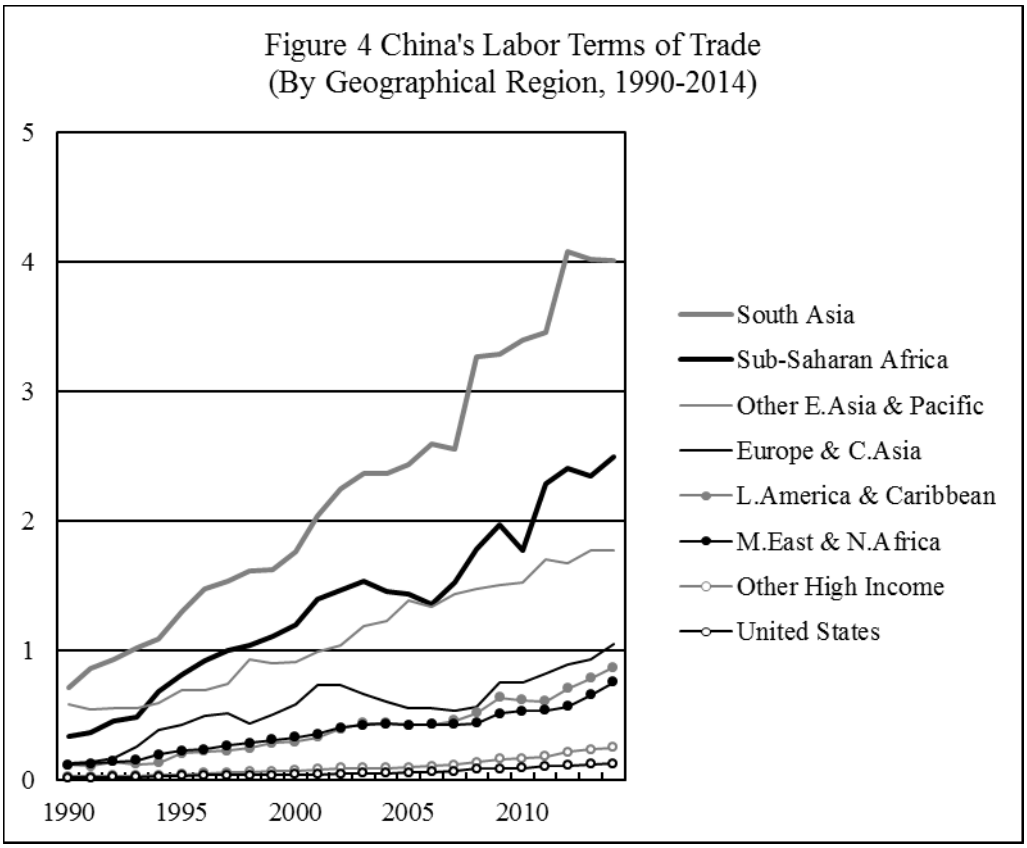
Sources: See Li (2015), Table 4.1 through Table 4.9.



Sources: See Li (2015), Table 4.1 through Table 4.9.



Sources: See Li (2015: 193-196; 202-203). The US and the Chinese profit rates are updated to 2014 using data from the US Bureau of Economic Analysis and China's National Bureau of Statistics.



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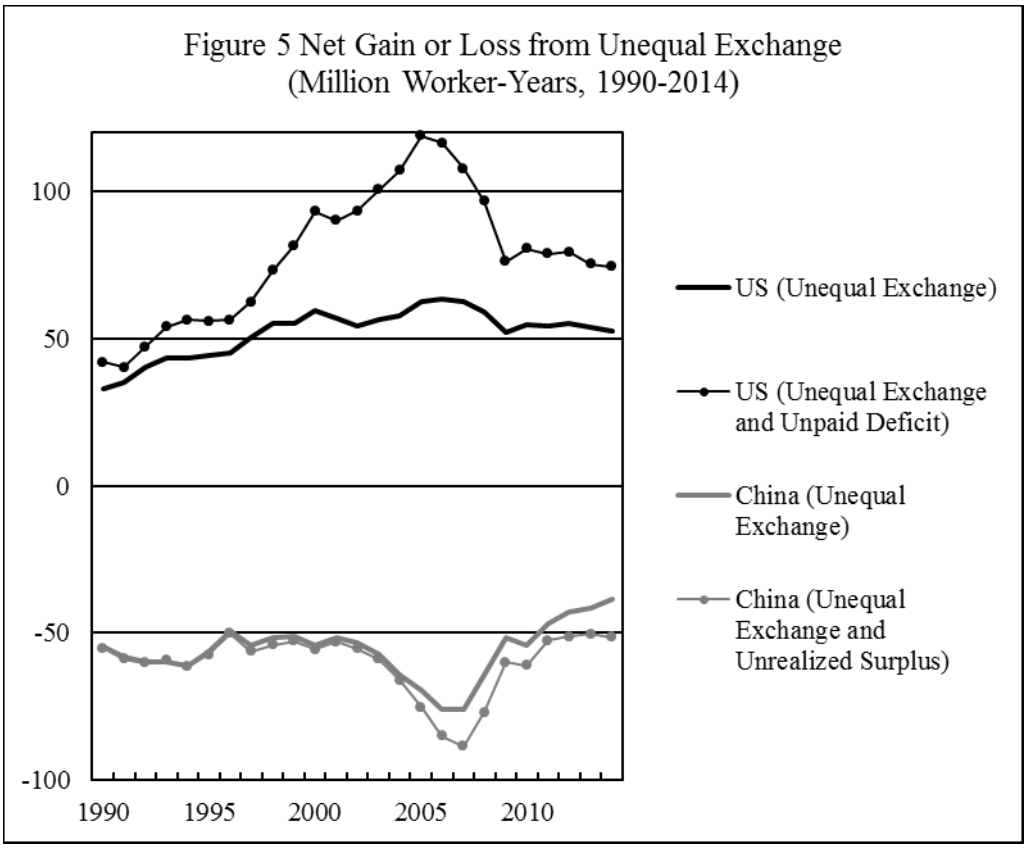

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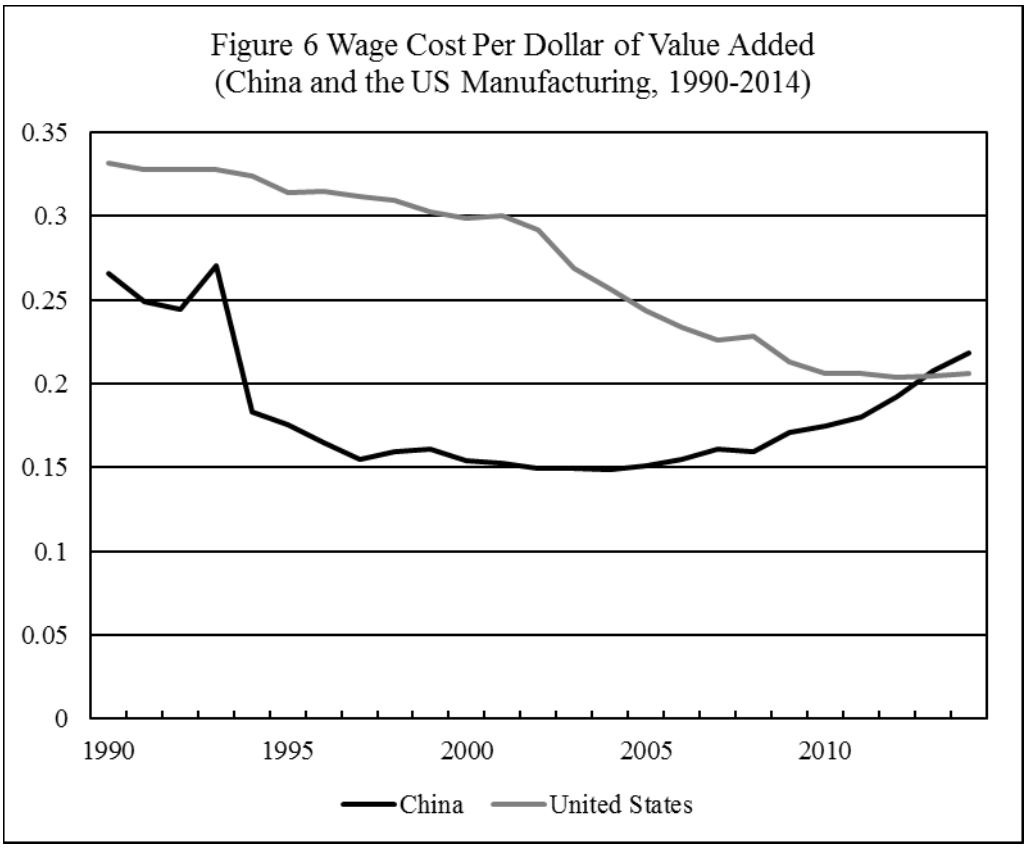
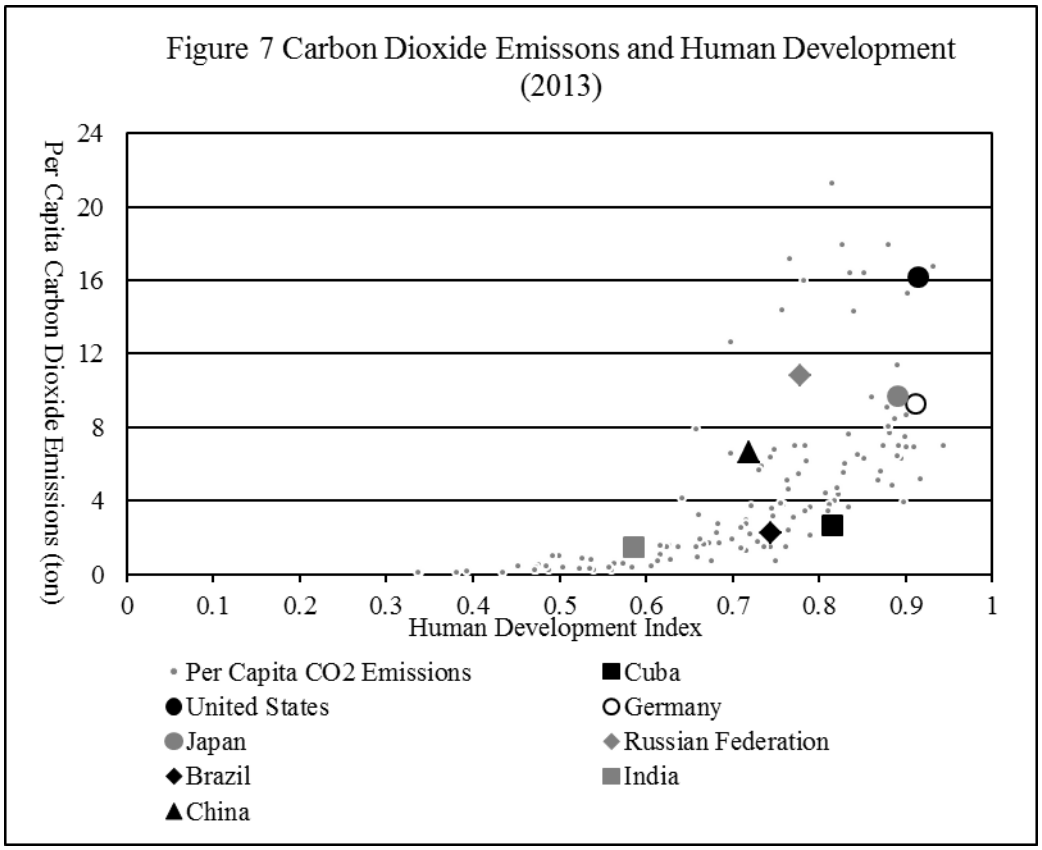


Sources: the Chinese manufacturing workers' wages are from China's National Bureau of Statistics (National Bureau of Statistics 2016). The Chinese manufacture sector's average wage is calculated as the average of the formal sector (the "urban units") workers' wage and the migrant workers' wage weighted by their employment in the manufacturing sector. The US manufacturing workers' wages are from ERP (2015), Table B-15, "Hours and Earnings in Private Non-Agricultural Industries, 1970-2014". The US workers are assumed to work 45 weeks a year. China's manufacturing employment is estimated using data from National Bureau of Statistics (2016). The US manufacturing employment is from BEA (2016), Table 6.5. China's and the US manufacturing value added are from World Bank (2016).



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