The Rise of China and the Demise of the Capitalist World-Economy: Exploring Historical Possibilities in the 21st Century

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ABSTRACT: China's rising importance in the capitalist worldeconomy raises questions of world-historic significance. How is China's internal social structure likely to evolve as China assumes different positions in the existing world system? Will China's current regime of accumulation survive the potential pressures arising out of the transformation? How will other peripheral and semi-peripheral states be affected? Can the reemerging Chinacentered civilization provide solutions to the problems left behind by U. S. hegemony? If not, how will the rise of China affect the underlying dynamics of the existing world system? The existing world system may have entered into a structural crisis. Can the system survive the rise of China? In the age of transition, instead of expecting the same pattern of systemic dynamics with which we have become familiar, it may be more appropriate to expect bifurcation, chaos, transformations, and the "turns" and "tricks" of history.

1. The Rise of China?

HE RISE OF CHINA AS A MAJOR PLAYER in the capitalist world economy is likely to become one of the most significant developments in the first half of the 21st century. After more than two decades of consistently rapid economic growth, in terms of

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GDP calculated at purchasing power parity, China now accounts for 12% of world output and stands as the second largest economy in the world, behind the United States. In 2002, China accounted for 15% of world economic growth and 60% of the world's export growth. In terms of the world economy's financial conditions, China is now the world's largest saver and a major source of finance for the U. S. current account deficit (Kynge, 2003).

China's rising importance in the capitalist world-economy raises several questions that are of world-historic significance. First, there is the question how China's internal social structure is likely to evolve as China assumes different positions in the existing world system, and whether China's current regime of accumulation will be able to survive the potential pressures that may arise out of such a transformation.

Second, there is the question: if China is "rising," that is, if it is moving upwards within the hierarchy of the existing world system, how will other peripheral and semi-peripheral countries be affected? Given China's enormous size, the rise of China cannot but have enormous implications.

Third, there is the question whether China will become the next hegemonic power. If the 20th century was said to be the "American Century," will the 21st century turn out to be the "Chinese Century"? Giovanni Arrighi, among others, places much hope in the renaissance of Chinese civilization. Arrighi hopes that a reemerging China-centered civilization will provide system-level solutions to the system-level problems left behind by U. S. hegemony and lead the transformation of the modern world into a commonwealth of civilizations (AS, 1999, 286–9). Similarly, the *Financial Times* Special Reports on Asia begin with this formulation: "Why Europe was the past, the USA is the present and a China-dominated Asia the future of the global economy" (*Financial Times*, September 22, 2003). Will these hopes be realized?

Fourth, there is a more fundamental question. How will the rise of China, and for that matter, the rise of India as well, affect the underlying dynamics of the existing world system itself — the capitalist world-economy? Immanuel Wallerstein argues that the existing world system has entered into a structural crisis. The system has developed to the point at which several secular trends have now reached their respective asymptotes, exhausting the system's space of self-adjustment. We are now in an age of great transition, at the end of

which the existing historical system will be replaced by one or several other systems (Wallerstein, 1995; 1996; 1998; 2003).

In other words, we do not live in "normal" times. In the coming century, instead of expecting more "development," more "modernization," more upward mobility, more of the same pattern of systemic dynamics that we have observed and with which we have become familiar over the past five or six centuries, it may be more appropriate to expect more bifurcations, more chaos, more transformations and transitions — in sum, more "turns" and "tricks" of world history.

Therefore, first of all, it is important to place the rise of China within the current world-historical conjuncture — the age of transition.

2. The Age of Transition

In his debate with Robert Brenner, Giovanni Arrighi noted two crucial differences between the late 20th century and the late 19th century Kondratieff long waves (Arrighi, 2003). First, workers' struggles played an unprecedented role in precipitating the downturn in the late 20th century. "Whereas in the earlier period the intensification of labor–capital conflicts, and the most significant increase in real wages, *followed* the onset of the downturn, in the second half of the twentieth century they *preceded* it" (italics in the original). The second difference is the great southern "revolt against the west" in the later of the two periods.

During the post–World War II "golden age," the working classes in the core countries made unprecedented advances in living standards as well as in social and economic rights. The peripheral and semi-peripheral states made significant progress in national development, by pursuing import substitution, export substitution, or socialist industrialization. Governments became active and indispensable players in capitalist national economies. As the bargaining power of the working classes rose and different social groups raised their demands on state expenditures, wages and taxes rose more rapidly than output. By the mid-1960s, worldwide profit rates started to fall and the capitalist world-economy entered the downturn of the current Kontratieff long wave.

The system's ruling elites responded by pursuing a set of strategies known as neoliberalism. Typical neoliberal policies and institutions include "monetarist" macroeconomic policies (lowering inflation by imposing high unemployment), de-regulation, privatization, trade and financial liberalization, and attacks on the welfare state. The neoliberal strategy tries to resolve the profitability crisis by undermining the bargaining power of the global working classes and by pursuing reverse redistribution from the workers to the capitalists, and from the south to the north.

Under neoliberalism, global inequality has reached unprecedented levels. The income gap between the richest 20% of the world population and the poorest 20% rose from 30:1 in 1960, to 60:1 in 1990, 74:1 in 1999, and is projected to reach 100:1 in 2015 (United Nations, 2000). Real wages have fallen in many countries (including the United States), and about 50% of the global non-agricultural labor force is estimated to be either unemployed or under-employed (PV, 2001, 24).

As global inequality rises and the working classes in many parts of the world suffer from absolute pauperization, the purchasing power of the majority of the population in the world has tended to decline or stagnate, setting constraints on the growth of world consumption. High real interest rates and financial instability have led to slowdown in global investment (Felix, 2001). Governments have mostly pursued tight fiscal policies, in accordance with the interest of global financial capital. As a result, all major components of global effective demand — consumption, investment, and government spending — have tended to either stagnate, contract, or grow slowly (Crotty, 2000).

The global economy has been moving towards stagnation. The world economic growth rate declined from 4.9% in 1950–73, to 3.0% in 1973–92, and 2.7% in 1990–2001. During the 1990s, 52 countries suffered from falling real per capita GDP (United Nations, 2002).

The global economy has been able to avoid a full-scale downward spiral only because the world's hegemonic power — the U. S. economy — has managed to maintain huge and rising current account deficits, pumping demand into the global economy. However, these deficits have led to growing indebtedness against the rest of the world. This raises a most interesting question. As U. S. foreign indebtedness explodes, how long can the United States keep creating "effective demand" simply by printing money without eventually undermining the dollar, as well as U. S. hegemony?

Whatever happens to the U. S. current account deficit and the dollar, a stagnating world economy with increasingly greater inequality

in income and wealth is hardly a recipe for a stable and sustainable world order. If the neoliberal regime does not fall apart for purely economic reasons, it is certainly conceivable that it will be torn apart by its own incessant drive towards polarization.¹

If the neoliberal regime turns out to be unsustainable, what could be the solution? For the world economy to resume sustained expansion at a more rapid pace, global effective demand needs to expand more rapidly in a more stable manner. For that to take place, it is likely that the revival of global mass consumption would be a necessary condition. A purely investment-led demand expansion is likely to be vulnerable to speculation, bubbles, and financial crises.

What institutional changes would be required for the revival of global mass consumption? One possibility is a return to social democratic Keynesianism. The state would again play an active role in regulating and managing the economy. State management and some egalitarian income re-distribution will help to generate conditions for relatively vigorous expansion of global mass consumption. Ruling elites may be under pressure to make new "new deals" with the working classes in the core and semi-peripheral states. These may involve revival of the welfare state, state control over international trade and capital flows, state regulation of labor and environmental standards, public investment programs, re-nationalization of "strategic industries" (for example, the telecommunication industries and public utilities), and democratization of central banks.

Would this mean another great "golden age"? Toward the end of the last expansion, the bargaining power of the global working classes and the popular demands on the state had already reached a point triggering a global crisis of profitability and accumulation. If another expansion takes place under social democratic and Keynesian institutions, it is reasonable to expect that the hopes and expectations of the working classes will not be exactly the same as they were in 1945. Instead, they may be at substantially higher levels. The working classes may soon be able to recover and consolidate all of their historical social and economic rights, and start to demand greatly expanding them. The surge in wage and taxation costs may soon run out of control.

¹ For detailed discussions on the unsustainability of the neoliberal global economy and the current global economic crisis, see Li, 2003.

If we look beyond the cyclical patterns of Kondratieff long waves, the tendency for real wages and taxation to increase may be seen as "secular trends" that have been present throughout the entire life span of capitalism (Wallerstein, 1998; 2003, 45–68). Development of the capitalist world-economy has led to urbanization and proletarianization, creating favorable conditions for workers to organize. As workers' political and economic organization grows, working classes have fought for gradual extension of political, economic, and social rights. In the long run, both the political strength and the bargaining power of the working classes have tended to grow.

As capitalism develops, all social groups have increased their demands on the state. In the short run, government spending on social welfare helps to tame the "dangerous classes" and maintain political stability. However, in the long run, the extension of social spending raises peoples' expectations, creating more pressures on the state, leading to either rising taxation costs or, as the state fails to meet rising popular demands, declining legitimacy.

Wallerstein argues that as the secular trends of rising wage, taxation, and environmental costs reach their respective asymptotes, capitalism reaches the point of "structural crisis" or "terminal crisis." The crisis can no longer be resolved within the system's own framework. Instead, it will lead to "bifurcation," and the system is to be replaced by one or several other systems (Wallerstein, 1995; 1996; 1998; 2003).

Historically, the capitalist world-economy has been able to postpone the structural crisis through geographic expansion. Geographic expansion allows access to new reserves of cheap labor and natural resources, preventing labor and environmental costs from rising to the point of effectively threatening accumulation. However, the capitalist world-economy has now encompassed the entire globe and reached the limit of geographic expansion. Any further expansion requires more intensive exploitation of existing reserves of labor and the environment.

In this context, populous countries with large stocks of cheap labor and "under-exploited" natural resources, and under some degree of effective government, such as China and India, may turn out to be the last and largest reserves for the capitalist world-economy. The "rise of China" and "the rise of India," in this sense, would represent the final exhaustion of the remaining reserves. The depletion of these final reserves is likely to drive up global labor and environmental costs drastically in the first half of the 21st century.

In the age of transition, can the existing world system survive the rise of China (and the rise of India)?

3. The End of Capitalist History?

In *The Long Twentieth Century*, Giovanni Arrighi argued that the expansion of the capitalist world-economy over the past 500 years has been based on continual recreation of two underlying conditions: inter-state competition, and formation of "political structures with ever-more extensive and complex organizational capabilities to control the social and political environment of capital accumulation on a world scale," that is, the leading or hegemonic capitalist states.

All four states — Venice, the United Provinces, the United Kingdom, and the United States — have been great powers of the successive epochs during which their ruling groups simultaneously played the role of leader in processes of state formation and of capital accumulation. Seen sequentially, however, the four states appear to have been great powers of a very different and increasing order. . . . The metropolitan domain of each state in this sequence encompass a larger territory and a greater variety of resources than those of its predecessor. More importantly, the networks of power and accumulation that enabled the states in question to reorganize and control the world system within which they operated grew in scale and scope as the sequence progresses. (Arrighi, 1994, 14.)

Historically, resolution of the systemic crisis of accumulation has involved a change in the leadership of the world-scale processes of capital accumulation, on larger and more comprehensive foundations. Arrighi suggests, however, that sooner or later the process must reach a stage at which the crisis of accumulation can no longer bring into existence a state powerful enough to bring about larger and more comprehensive organizational structures. It seems that we are approaching such a limit as the U. S. "systemic cycle of accumulation" is in decline (as manifested by the "financialization" of the U. S. economy since the 1970s), but there is no obvious candidate that can realistically hope to replace the United States as the next leadership of the capitalist world-economy (Arrighi, 1994, 325–6).

Arrighi suggests three possible outcomes of the current crisis of accumulation. First, the incumbent hegemony — the United States — may use its state and war-making capabilities to form a truly global

world empire and terminate capitalist history. Second, the incumbent hegemony may not be able to stop capitalist history, in which case East Asian capital would rise to the commanding position. However, those who occupy this position would lack the necessary state and warmaking capabilities to appropriate the large, monopolistic, "capitalist" profits, and capitalist history would come to an end as the "underlying layer of the market economy" reverted to some kind of anarchic situation. Finally, humanity may burn up in the horrors of the escalating violence that accompanies the liquidation of the existing world order, and capitalist history would end by reverting permanently to systemic chaos (Arrighi, 1994, 355–6).

In *Chaos and Governance in the Modern World System*, Arrighi and Silver (AS, 1999, 289) place much hope on the renaissance of Chinese civilization and the possibility that a reemerging China-centered civilization might provide system-level solutions to the problems left behind by U. S. hegemony:

The most severe among these problems is the seemingly unbridgeable gulf of the life-chances of a small minority of world population (between 10 and 20 percent) and the vast majority. In order to provide a viable and sustainable solution to this problem, the "tracklaying vehicles" of East Asia must open up a new path of development for themselves and for the world that departs radically from the one that is now at a dead end.

In other words, in Arrighi's map of scenarios, unless the hope of the rise of China (or East Asia) is to materialize, humanity is doomed to the unpleasant choice between a global world empire and permanent systemic chaos. Can the existing world system (and humanity) survive without the rise of China?

The rest of this paper asks whether the rise of China is likely, and explores implications for the existing world system. Sections 4 and 5 discuss China's current position in the world system, as reflected by its status in global commodity chains and the global wage hierarchy, and its class structure in comparison to those of states occupying different structural positions in the world system. Section 6 discusses the prospect of the rise of China and how the global political economy may be transformed as a result. It explores several possible scenarios that may unfold in the coming decades.

A crucial aspect of the structural crisis of the existing world system is the deepening global environmental crisis. It is not at all clear that

the existing world system will be able to find solutions. The rise of China, with a corresponding expansion of material production and consumption, were it not to lead to a political–economic crisis of the system, may very well contribute to systemic chaos by accelerating the coming of environmental catastrophe. This possibility is discussed in Section 7.

Section 8 summarizes the alternative historical possibilities that confront humanity in the coming century. Will humanity end up living under a global world empire? Or global chaos? Or an environmentally sustainable world system that is able to meet the basic needs of everyone on earth? Ultimately, these questions have to be answered by real historical actions.

4. China in the Capitalist World-Economy

According to Wallerstein (1979; 1994), the capitalist worldeconomy is a world system with integrated division of labor and multiple political structures (states). It first emerged in Northwest Europe in the 16th century and has since then expanded to include the entire globe.

The division of labor within the capitalist world-economy results in flows of commodities, labor, and capital across different geographic areas through millions of chains of production and exchange, each starting with the initial producer and ending with the final user of a product. These chains are referred to as "global commodity chains."² Within each commodity chain, a certain amount of surplus (the difference between total output and the subsistence needs of the producers, appearing as a certain amount of market value) is generated. However, typically, the surplus generated is unevenly distributed among states. Depending on their different positions in sharing of the surplus, states are located in different structural positions in the world system (the core, the semi-periphery, and the periphery) in a hierarchical manner.

The surplus generated in commodity chains is unevenly distributed among states because of different degrees of relative monopolization at different stages of the commodity chains. Relative monopoly may be established if certain producers have technical, organizational, or political advantages over other producers (Wallerstein, 1994). Uneven distribution of the surplus implies unequal exchange. The

² For detailed discussions on global commodity chains, see Gereffi, 1994.

core states are those that generally benefit from unequal exchange and receive disproportionately greater portions of the world surplus. Production in the core zone is characterized by high profit, high wage, high technology, and diversified activities. The peripheral states are those that generally suffer from unequal exchange and receive disproportionately smaller portions of the world surplus. Production in the periphery is characterized by low profit, low wage, low technology, and less diversified activities (Wallerstein, 1979, 97).

The concept of semi-periphery is more difficult to define. However, Wallerstein believes that semi-peripheral states are indispensable for the political stability of the capitalist world-economy. Without the semi-peripheral states functioning as the "middle stratum" in the world system, the capitalist world-economy would become highly polarized, with a small high-income and high-status sector confronting a relatively homogeneous low-income and low-status sector including the overwhelming majority of the population. The system is likely to soon disintegrate as acute struggle takes place among highly self-conscious classes (Wallerstein, 1979, 23; 69–73). The semi-peripheral states therefore include those that can most effectively play the role of a politically stabilizing "middle stratum." These roughly correspond to the "upper middle-income countries" that appear in various conventional economic statistics.

What is China's current position in this hierarchy? Consider one example of a global commodity chain. Table 1 reports the worldwide distribution of value added in each stage of production and distribution of a model globe for use by children, made in China to be sold in the U. S. market. In this example, China, a peripheral state, receives 10.5% of the total value added. Hong Kong, which arguably has a semi-peripheral position in the world system, receives 26.3%. The United States receives 63.2% of the total value added. Similarly, Andy Xie, the Morgan Stanley chief economist on Asia, estimates that for each U. S. dollar in value of China's exports to the United States, businesses in Hong Kong or Taiwan take 20 cents, and U. S. brand owners and distributors receive the bulk of the benefits (Xie, 2003).

These examples are consistent with what is generally observed in global commodity chains.³ Generally, the core states receive the

³ For examples of value distribution in global commodity chains, see Chossudovsky, 1998, 75–100; Makhijani, 1992, 11–35.

TABLE 1
The Distribution of Value Added in the Global Commodity Chain of Model Globe for Children's Study

Stages of the commodity chain	Sale price at each stage (US \$)	Value added generated at each stage (US \$)	Share of the total value added in the commodity chain (%)
U.S. retail company	88	16	21.1
U.S. manufacturing company	72	32	42.1
Hong Kong trade company	40	20	26.3
Guangdong Foreign trade company	20	5	6.6
Jiangsu / Guangdong producers	15	3	3.9
Primary costs	12	/	/

Source. Speech by Ma Jiantang, Deputy General Secretary of China's State Economic and Trade Commission: "Strategic Forum of Transnational Corporations in China." *Shijie Ribao* (The World Journal), December 15, 2002, p. A9.

lion's share, and the peripheral and semi-peripheral states receive smaller shares of the market value generated.

The value added received by each state is divided between profits and wages. To the extent that peripheral and semi-peripheral states receive smaller shares of value added, the workers in these states have to receive lower wages.4 Therefore, different wage rates may be used to indicate the positions of different states in the world system, as an index of the degrees of unequal exchange. Table 2 reports wage rates in the manufacturing sectors in selected countries. At the top of the hierarchy are the core states, including the United States, Japan, and Western Europe, accounting for about 15% of the world population. Immediately below the core states are small states such as South Korea, Singapore, Hong Kong, and Israel, which function more or less as the core states' political, economic, or military bridgeheads in the periphery. Their wage rates are 40–75% of those of the core states. The "upper-middle-income" or semi-peripheral states in Latin America, Southeast Asia and Central Europe, accounting for about 10% of the world population, have wage rates 10-30% of those of the core states. At the bottom are the peripheral states that account for the majority of the world population. China and India are the two

⁴ Empirical evidence suggests that wage shares in value added are usually higher in core states than in peripheral or semi-peripheral states (Chossudovsky, 1998, 80).

TABLE 2 Manufacturing Workers' Wage Rates in Selected Countries (Average Monthly Wage, 1995, US\$)

Countries	Monthly Wage	As % of U. S. Wage
United States	2212.7	100.0
Japan	2964.1	134.0
South Korea	1704.6	77.0
Israel	1611.8	72.8
Singapore	1522.4	68.8
Hong Kong (China)	844.1	38.1
Argentina	756.3	34.2
Brazil	550.0	24.9
Chile	401.0	18.1
Malaysia	400.2	18.1
Hungary	314.7	14.2
Poland	278.4	12.6
Philippines	258.8	11.7
Czech Republic	257.6	11.6
Thailand	250.2	11.3
Peru	246.4	11.1
Mexico	$190.2^{\rm b}$	8.6
Russian Federation	144.1 ^c	6.5
Turkey	119.8^{a}	5.4
China	51.6	2.3
India	37.4	1.7

 $^{\rm a}1994.$ $^{\rm b}Before$ the peso depreciation, it was \$325.8 (1993). $^{\rm c}1997.$

Source. International Labor Organization, Yearbook of Labor Statistics 2000, Geneva, Switzerland. Wage rates are converted into U. S. dollars using the average exchange rates in 1995. Data for exchange rates are from Economic Intelligence Unit at London. If the wage rates are not stated as monthly wages, they are converted to monthly wages using the following formula: monthly wage = weekly wage \times 4.3 = daily wage/8 \times weekly working hours \times 4.3 = hourly wage \times weekly working hours \times 4.3.

largest of these. The wage gap between them and the core states is between 40:1 and 60:1. Russia used to be one of the most powerful semi-peripheral states. After more than a decade of "transition," it has made the successful transition to a fully peripheral state.

5. China's Class Structure in the Capitalist World Economy

Why are wage rates so different across different structural positions in the capitalist world-economy? The wage rate, or price of

labor power, just like the price of any commodity, is determined by "demand" and "supply." The question is, what are the social forces that act behind and regulate the "demand" and the "supply." On the side of "demand," the system of unequal exchange and the concentration of the world surplus in the core set the upper limits to the wage rates in different structural positions in the world system. On the side of "supply," the workers' biologically determined subsistence needs set the absolute lower limits. However, the real or social lower limits are set by class struggle, or the bargaining power of the working classes.

The workers' bargaining power varies under different forms of labor organization. Depending on how their labor is organized and thus their relative bargaining power, workers may be divided into several sectors: highly skilled "professionals, technicians, and managers," fully proletarianized wage workers, semi-proletarianized "migrant workers," and semi-proletarianized peasants (Wallerstein, 1979, 102–3).

Professionals, technicians, and managers have, to a certain degree, monopolistic control over the supply of their labor power and their labor is generally difficult to monitor. They perform economic and social functions that are of strategic importance. To secure their loyalty, capitalists have to pay these workers a "loyalty rent," so that their incomes are significantly higher than those of other workers. To the extent these workers live a relatively privileged material life, they constitute the "middle class" between the capitalist class and other working classes (Wright, 1997, 19–26).

The fully proletarianized wage workers are the skilled and semiskilled urban workers, who usually have full-time jobs in the "formal sector." Their money incomes derive almost entirely from wage labor.

Unskilled urban wage workers, who usually have part-time or insecure jobs and are frequently unemployed, belong to the semi-proletariat. Their wage incomes are not sufficient to meet essential needs and they have to engage in petty market transactions or petty commodity production, or work in the "informal sector" to supplement their incomes. In the periphery and the semi-periphery, many semi-proletarian workers are "migrant workers" who spend part of their time in the urban area and the rest in the rural area. A substantial part of their real incomes come from rural family production.

Agricultural petty commodity producers living in rural areas are known as "peasants." In the periphery and semi-periphery, peasants and semi-proletarian wage workers often belong to the same households. Many live as peasants during part of their lifetime, and *vice versa*. In the context of the periphery and semi-periphery, peasants may be seen as "semi-proletarians" to the extent they function as the rural reserve army of the urban unskilled wage workers.

If we rank different sectors of the working classes according to their bargaining power, reflected by their real incomes, then the professional and managerial workers (the middle class) are obviously at the top. Among the rest, the fully proletarianized wage workers (the proletariat) are better educated, more effectively organized, have stronger bargaining power, and receive higher real incomes. In comparison to the core states, peripheral and semi-peripheral states are characterized by a smaller professional sector, a smaller fully proletarianized sector, but a far larger semi-proletarianized sector (Wallerstein, 1979, 103, 277–8).

Using a variety of sociological studies, I have constructed class structures for the United States, Brazil, and China, as examples of the core, semi-periphery, and periphery, respectively. The class structures of these states are presented in Table 3. The detailed procedures followed in this calculation are described in the Appendix.

From Table 3, it is clear that as a state moves up in the hierarchy of the world system, the degree of proletarianization tends to rise. In the United States, full-time proletarian workers account for near half of the total population and all types of wage workers account for about

TABLE 3 Class Structures in the Core, the Semi-Periphery, and the Periphery

Classes	Core (U. S., 1990)	Semi-Periphery (Brazil, 1990)	Periphery (China, 1999)
Bourgeoisie / Elite	5	2	3
Middle Class	20	10	9
Petty Bourgeoisie	5	9	4
Proletariat	45	18	12
Semi-Proletariat	25	47	28
Peasants	/	12	44

Source: See Appendix.

90%. The semi-peripheral states tend to have a middle degree of proletarianization. In the case of Brazil, the proletariat accounts for nearly 20% of the population, and all wage workers about two-thirds. Peripheral states have the lowest level of proletarianization. In China, the proletariat accounts for about one-tenth of the total population and all wage workers about half. A special feature of the Chinese class structure is a large peasant class, constituting an enormous reserve of cheap labor.

To the extent peripheral states have lower levels of proletarianization, workers tend to be less educated, less effectively organized, and under constant pressure to compete against a large rural reserve army. They therefore tend to have much less bargaining power and receive significantly lower wages. This in turn makes it possible for the world surplus to be concentrated in the core.

Historically, incorporation of new geographic areas with large rural labor forces has played a major role in keeping down global labor costs. However, in the long run, development of the capitalist world-economy has been associated with the urbanization (or deruralization) of the labor force. After some initial disorientation, urbanized workers have invariably struggled for higher degrees of organization and extension of economic, social, and political rights. Their struggles have led to growing proletarianization within the capitalist world-economy (Wallerstein, 1983; 1998, 41–2).

6. The Rise of China and the Transformation of the Global Political Economy: Alternative Scenarios

The world economy is now in the B-phase, or the downward stage of the Kondratieff long wave that started in 1945 and peaked during 1967–1973. During the downturn, profit rates in the leading economic sectors decline. For profit rates to recover, it is necessary for the core states to establish new leading sectors (new monopolies). For capital to be shifted from the declining sectors into the rising ones, the declining sectors need to be re-located from the core to the periphery or semi-periphery. Some peripheral or semi-peripheral countries benefit from this re-location. Historically, such historical moments provide opportunities for upward mobility within the system (Wallerstein, 1979, 69–73).

China has been the primary beneficiary of the latest round of capital re-location. Since 1993, China has consistently been the largest receiver of foreign direct investment among the "developing countries." In 2002, China overtook the United States to become the world's largest receiver of foreign direct investment. While in terms of market value, China only accounts for 4% of world GDP and 5% of the world's manufacturing exports, it accounted for 15% of world GDP growth and 29% of the growth of world manufacturing exports in 2002. Many believe that China is set to become "the workshop of the world" in the 21st century.

When China started the project of "reform and openness" to deepen its incorporation into the capitalist world-economy, it had basically a class structure and a level of wages that were those of a peripheral state. On the other hand, for historical reasons (Maoist self-reliance and socialist industrialization), China's economic structure resembled that of a semi-peripheral state. It had the comprehensive technological capability to produce a wide variety of products, ranging from low to high value added. Therefore, as soon as China was "opened," it started to engage in full-scale competition against the established semi-peripheral states (Lu, 1999). Because of China's low wages and low costs, it has been in a favorable position in the competition and has become the major receiver of the capital relocated out of the core states.

What will likely follow from this? As China becomes the center of world manufacturing exports, Chinese society is likely to experience rapid industrialization and urbanization. Its class structure will be fundamentally transformed. The share of proletarian and semi-proletarian wage workers in the population will increase substantially, and the share of peasants will fall. Within one or two generations, China's degree of proletarianization will reach the current levels in Latin American and Southeast Asian semi-peripheral states. As a result, Chinese workers will demand semi-peripheral levels of wages and the corresponding political and social rights. The wage gap between the core states and China may be reduced from the present ratio of 40:1 to around 10:1.

⁵ Shijie Ribao (The World Journal), December 21, 2002, p. A9; The Economist, February 20,

The demands and increased bargaining power of workers will impose great pressures on China's regime of capital accumulation. To survive these pressures, China must establish itself as a stable and secure semi-peripheral state. Given the basic laws of motion of the capitalist world-economy and the current conjuncture, is this likely to happen? One can imagine four possible scenarios.

First, China may fail. Its drive toward "development" may turn out in the end to be no more than a great bubble. As China sinks back into the periphery, its existing regime of accumulation will collapse, unable to withstand the exploding social pressures the very process of accumulation has generated.

This scenario, however, may be the least devastating of the four possible ones for the capitalist world-economy, for which the problem of China lies with its huge size. China has a labor force larger than the total labor force in all of the core states, or in the entire semi-periphery. Should China become a fully established semi-peripheral state, competing with the existing semi-peripheral states in all commodity chains, the competition eventually must lead to convergence between China and the existing semi-peripheral states in profit rates and wage rates. This convergence may take place in an upward manner or a downward manner.

Under downward convergence (scenario 2), China's competition will completely undermine the relative monopoly of the existing semi-peripheral states in certain commodity chains. The value added will be squeezed, forcing the traditional semi-peripheral states to accept lower wage rates close to the Chinese rates.⁶

In effect, the second scenario is peripheralization of the semiperiphery. This has dangerous implications for the capitalist worldeconomy. The semi-periphery plays the indispensable role of the "middle stratum" in the world system. A layer of the semi-periphery offers hope of "modernization," "development," and ultimately, up-

⁶ For the effects of China's competition on Southeast Asian semi-peripheral states, see Xie (2002) and Yam and Xie (YX, 2002). Yam and Xie argue that "China is likely to become an international player for an increasing range of products and to move up the value chain.... The bottom line is that China's surplus labor is three times the labor force in the manufacturing sector of OECD countries, meaning that it can absorb the world's manufacturing sector without causing much wage inflation. In our view, China's prices are becoming global prices, while other Asian producers have to accept prices." Xie maintained that "other East Asian economies can't maintain the same living standard without deflation. Deflation in this context isn't about productivity gains; it's about depleting wealth to pay for an unsustainable living standard."

ward mobility for the great majority living in the peripheral states. Should this layer disappear and be reduced to no more than a part of the periphery, the world system is likely to become politically highly unstable.

Peripheralization of the semi-periphery would deprive the capitalist world-economy of a major source of effective demand. Moreover, the peripheralized semi-peripheral states will inevitably face highly explosive political situations at home. The relatively more proletarianized working classes will demand semi-peripheral levels of wages and political and social rights. However, the peripheralized semi-peripheral states will not be able to simultaneously offer the relatively high wages and survive the competition against other peripheral or peripheralized semi-peripheral states in the world market. The entire semi-periphery will be threatened with revolution and political turmoil.

The third scenario envisions upward convergence. China may succeed in its pursuit of "modernization" and become a secure, established semi-peripheral state. In the meantime, the traditional semi-peripheral states may succeed in maintaining their relative monopoly in certain commodity chains. As a result, Chinese wage rates converge upward toward semi-peripheral levels. Unfortunately, this scenario is as dangerous for the capitalist world-economy as the second. The problem, again, lies with China's huge size. Should Chinese workers generally receive semi-peripheral levels of wages, the total surplus distributed to the working classes in the entire semi-periphery would have to more than double. This will greatly reduce the share of the surplus available for the rest of the world.

The full implications of the third scenario may be better understood after the fourth scenario is examined. If the scenario of upward convergence turns out to be too expensive for the capitalist world-economy, what if China's upward mobility takes place at the expense of the traditional semi-periphery? In other words, imagine a rise of China (and India) that successfully displaces the traditional semi-periphery.

In *The Age of Transition*, Immanuel Wallerstein predicted that in the coming world economic expansion the "north" will continue to receive the bulk of the global capital flows, and in the "south" China and Russia are likely to become priority areas for investment. He asked the question: after all of the investment is distributed, how much will

be left for the other half of the globe? (Wallerstein, 1996, 232). To be more consistent with the currently observed pattern of global capital flows, one only needs to replace Russia with India and ask essentially the same question.

Some simple numerical exercises help to illustrate the grave implications. Alternative numerical projections of the impact of the "rise of China" are reported in Tables 4 and 5.

Assume that between 2005 and 2025, the world economy grows at an average annual rate of 3.5%. If during the same period China manages to grow at a rate of 7.5%, then in 20 years China will be able to more than double its share of world output. If in 2005–2025 China's share in world GDP (in term of purchasing power parity) rises from 14% to 30%, that means the share of the rest of the world has to fall by 16%.

If this decline is shared equally by the rest of the world, then the rest of the world has to be content with a sluggish annual growth rate of 2.4%. Since the low-income countries, with 40% of world popula-

TABLE 4 Numerical Projections of the Rise of China, 2005–2025 (I)

Countries	Average annual growth rate of GDP	Share of world GDP in 2025	
1. World GDP annual growth rate = 3.5%,	China's 2005 share = 4	1.5%, market	
value measure			
China	7.5%	9.6%	
Rest of world	3.2%	90.4%	
Implied growth rate of per capita GDP, low income countries: 1.2%			
2. World GDP annual growth rate = 3.5%,	China's 2005 share = 1	14%, purchasing	
power parity (PPP) measure			
China	7.5%	29.9%	
Rest of world	2.4%	70.1%	
Implied growth rate of per capita GDP, low income countries: 0.4%			
3. World GDP annual growth rate = 4%, C power parity (PPP) measure	China's 2005 share = 14	%, purchasing	
China	7.5%	27.1%	
Rest of world	3.1%	72.9%	
Implied growth rate of per capita GDP, low income countries: 1.1%			

Note: The calculations assume that all countries in the "rest of the world" grow at the same rate.

TABLE 5 Numerical Projections of the Rise of China, 2005-2025 (II)

Countries	Average annual growth rate of GDP	Share of world GDP in 2025	
1. World GDP annual growth rate = 3.5%, China's 2005 share = 4.5%, high			
income countries' share = 80%, market value measure			
China	7.5%	9.6%	
Rest of world (excluding high income)	1.5%	10.4%	
Implied growth rate of per capita GDP, low income countries: 0.5%			
2. World GDP annual growth rate = 3.5%, China's 2005 share = 14%, high			
income countries' share = 55%, purchasing power parity measure			
China	7.5%	29.9%	
Rest of world (excluding high income)	-0.2%	15.1%	
Implied growth rate of per capita GDP, low income countries: -2.1%			
3. World GDP annual growth rate = 4%, China's 2005 share = 14%, high income			
countries' share = 55%, purchasing power parity measure			
China	7.5%	29.9%	
Rest of world (excluding high income)	1.2%	17.9%	
Implied growth rate of per capita GDP, low income countries: -0.8%			

Note: These calculations assume the high income countries maintain their share in world GDP throughout the period.

tion (China not included), have an annual population growth rate of about 2%, this implies that the growth rate of per capita GDP for the low income countries would be a negligible 0.4%. Further, for the poorer majority of the people in these countries, their real incomes most likely would fall as income inequalities within these countries continue to rise.

More realistically, one may assume that worldwide between-country inequality continues to rise and the burden imposed by the "rise of China" will be shared unequally. Suppose the core states manage to maintain their current share in world output. That is, collectively, they will manage to grow at the same rate as the world economy, 3.5%. If China's share increases from 14% to 30% and the share of all lowand middle-income countries stays at 45%, then the share of the rest of the periphery and the semi-periphery declines from 31% to 15%. This implies that their aggregate output would fall at an annual rate of 0.2%, and their per capita GDP would decline at an annual rate of 2.1%. Considering that the entire population in some sub-Saharan

African countries is being decimated, such a devastating outcome may not be entirely inconceivable.⁷

7. Towards Global Environmental Catastrophes?

It is widely agreed that the capitalist world-economy, with its current pattern of development, is environmentally unsustainable in the sense that it imposes increasingly severe burdens on the biosphere and is likely to result in catastrophic consequences in the not-so-distant future. For example, the 2002 Environmental Sustainability Index concludes that "no country can be said to be on a sustainable environmental path." Wackenragel, et al. (1999) show that in 1997, while the world's biocapacity was 2.1 hectares per capita, the world's "ecological footprint" (the land and water area required to sustain actual production, waste, and pollution) was 2.8 hectares per capita, implying unsustainable global depletion of natural resources.

The global environmental crisis finds expression in a great variety of urgent problems such as global warming, destruction of the ozone layer, removal of tropical forests, elimination of coral reefs, overfishing, extinction of species, loss of genetic diversity, desertification, shrinking water supplies, increasing toxicity of our environment and food, and radioactive contamination (Foster, 2002, 12).

What is the likelihood for the global environmental crisis to be resolved within the existing world system? Any attempt to improve environmental sustainability, whether it is pollution control, waste reduction, development of renewable resources, more economic use of non-renewable resources, or R&D associated with more sustainable technologies, necessarily involves additional costs for the system, so long as it requires some investment or the use of some technology that otherwise would not have been undertaken or developed. The costs may be directly imposed on the capitalists as a result of state regulation or indirectly imposed on the capitalists as a result of higher

^{7 29} million HIV-positive people now live in sub-Saharan Africa. Botswana and Zimbabwe are predicted to lose half of their adult population in a decade (Brown, 2003, 82–86). Numerical projections taking into account the impact of both the "rise of China" and the "rise of India" lead to more disastrous results.

^{8 &}quot;An Initiative of Global Leaders of Tomorrow," Environment Task Force, World Economic Forum, Annual Meeting 2002, 2002 Environmental Sustainability Index, "Executive Summary."

taxes required to finance government spending on "environmental investment."

The existing world system is a world economy with multiple political structures (states). As a result, the system as a whole faces a classical "common property problem" or "prisoners' dilemma." Any individual state that undertakes environmental adjustments suffers from rising costs and places itself in a disadvantageous position against other states in world capital accumulation. On the other hand, "international cooperation" is not enforceable and is not likely to succeed. To the extent the core states have certain monopoly power in the world markets, they may be able to undertake some adjustments and shift at least part of the costs onto the peripheral and semiperipheral states through unequal exchange. But this option does not exist for the peripheral and semi-peripheral states and therefore does not help address global environmental sustainability.

The capitalist world-economy is heavily dependent on fossil fuels that are the primary source of 87% of the world's energy. Fossil fuels are not renewable and eventually will be depleted. The world oil supply is likely to peak in the period 2005–2015 and production may be down to half of its peak level by 2025 (Trainer, 2001).

The use of fossil fuels results in carbon dioxide and other greenhouse gas emissions that contribute to global warming. Even if the world succeeds in keeping carbon dioxide emissions at 1990 levels, the carbon dioxide concentration in the atmosphere would double its pre-industrial level by the end of this century, causing world average temperature to rise by 1°C to 3.5°C, and to continue to rise for another century before stabilizing (SDIS, 1999a). It would take Nature many millions of years to bring about temperature change of such a magnitude. With the projected temperature increase, the earth's environment will be radically transformed, with cataclysmic results such as increased desertification, heavier rainfall and floods in certain areas, serious damage to crops in the tropics and eventually in the temperate areas as well, rising sea levels, and loss of species and genetic diversity (Foster, 2002, 13–22; Brown, 2003, 59–79). To eventually stabilize carbon dioxide concentrations at double their pre-industrial levels, the global carbon dioxide emissions need to be

⁹ For the failure of the Kyoto Protocol, the international agreement to control greenhouse gas emissions, and the limits of environmental reforms within capitalism, see Foster, 2002.

reduced by 60% from the 1990 levels (SDIS, 1999b; Foster, 2002, 20). More drastic cuts in emissions would be required if the goal is to stabilize carbon dioxide concentrations at close to pre-industrial levels.

In fact, world energy consumption and carbon dioxide emissions have been growing. Energy consumption is growing at an annual rate of 2% and is expected to double by 2050 and quadruple by 2100 (Palfreman, 2000). By 2010, global carbon dioxide emissions are projected to have risen by 50% from 1990 levels (SDIS, 1999a).

To avoid global ecological disasters and in anticipation of depletion of fossil fuels, the world economy has to shift from one based on fossil fuels to one based on renewable energy sources in the not-sodistant future. However, there is no known renewable source that is capable of producing the massive and growing amounts of energy that the capitalist world-economy demands. Wind and solar energy sources are intermittent and very small amounts of energy from these sources can be gathered per hectare of land. Relying on biomass for the world's energy would use up all the land currently used in agriculture. If nuclear energy is to be relied upon as the only source, the current known amounts of Uranium-235 would sustain the world only for 10 years (Palfreman, 2000; Reuveny, 2002). As for the concept of "hydrogen economy," it is not commonly understood that hydrogen is not a source of energy but a carrier of energy, a form into which energy can be converted. Converting renewable energy sources into hydrogen and storing and transporting it involve formidable difficulties, energy losses, infrastructure requirements, and costs (Trainer, 2003). Trainer estimates that renewable energy may be able to provide no more than one-third of the electricity and one-quarter of the liquid fuel energy currently used in Australia.

A human civilization based entirely on renewable energy sources is certainly possible. To prevent global warming and environmental catastrophes, instead of hoping in vain for some form of magical technological change, the most straightforward and safest solution is to immediately stop and reverse the worldwide processes of capital accumulation. If world income and wealth distribution are radically equalized, there should be no technical difficulty in meeting the basic needs of everyone on earth, even if world consumption and production are drastically reduced to stabilize at environmentally sustainable levels. But there is simply no way for such a solution to arise out of the laws of motion of the existing world system.

The "rise of China," in the sense of China increasingly becoming the center of world capitalist industrial production, is likely to place increasingly greater pressures on the global environment. According to Lester R. Brown, Director of the Earth Policy Institute, "China is exceeding the carrying capacity of its ecosystems — overplowing its land, overgrazing its rangelands, overcutting its forests, overpumping its aquifers" (Brown, 2003, 11). Desert expansion in China has been accelerating, now reaching 150 miles of Beijing. As water shortage and soil erosion become increasingly serious, China's grain production has stagnated and will decline. Brown predicts that after China depletes its once huge stock of grain reserves, it will have to turn to the world grain markets and drive up world food prices.

During the 1990s, China turned from a net exporter of oil into a net importer. At the current rate, China is expected to import over half of its oil consumption by 2020 and over 80% by 2050 (Shao, 2001). This is likely to have serious implications for not only the global environment but also global geopolitics. In 1996, China's carbon dioxide emissions stood at 63% of the U. S. level. As the Chinese economy keeps expanding rapidly, it may soon overtake the United States as the world's largest producer of carbon dioxide emissions and the leading contributor to global warming.

8. Historical Possibilities in the 21st Century or the End of History?

As Arrighi and Silver discuss the possibility of a "China-centered civilization" leading the transformation of the existing world system, they also point out that

since the mid-1980s, China has been the key site of industrial expansion and new working-class formation. Given past experience, we should expect a vigorous workers' movement to emerge in China as well. And given the size and centrality of China — in the East Asian region and globally — the trajectory of this movement will have a tremendous impact on the trajectory of the transition as a whole. (AS, 1999, 286.)

If the prediction turns out to be correct, what exactly will be the nature of this "vigorous workers' movement"? It is very likely that the movement will force a substantial redistribution of income and wealth within China. Further, given the arguments presented in the previous sections, it is unlikely that, from the point of view of capital and

the elites, the redistribution can be compensated for by upward mobility within the world system. In this case, what now appears to many as the least likely outcome — a socialist-oriented workers' revolution — may emerge as the only viable solution.

What will happen next? One possibility is that the revolution will turn inwards and try to build socialism in one country. The historical experience of the 20th century suggests that, under persistent military and economic competition from more powerful capitalist states, and excluded from the possibility of upward mobility, such an approach is a recipe for eventual defeat.

The other possibility is that the revolution will lead to transformation of the world system.

By the mid-21st century, not only most of the production of energy and raw materials, but also most of the manufacturing industries, may be located in the periphery and the semi-periphery. The concentration of the bulk of the material production facilities and the organized working classes in the south may provide these countries with unprecedented bargaining leverage against the north. Will working-class revolutions in the south manage to effectively use this leverage, imposing a massive global redistribution and leading the transformation of the world system from a capitalist one based on unequal exchange and large, monopolistic profits into a socialist world market economy based on production for use and a more egalitarian exchange system?

Will the socialist world market economy succeed in providing system-level solutions to the problems left by capitalism? Will the world market economy allow its member communities to be sufficiently freed from the drive towards endless accumulation to deal successfully with the global environmental crisis? Or, if it fails, will the resolution of the global environmental crisis eventually require the development of a world socialist government?

Will the world's incumbent hegemonic power — U. S. imperialism — accommodate these developments? If it tries to resist with all of its weapons of mass destruction, will humanity prevail in its struggle against the most powerful, most destructive imperialism the world has ever seen? Or will the struggle end with the mutual destruction of both sides? Will humanity, expecting the impossibility of defeating U. S. imperialism, choose to give in, and pave the way for the American world empire?

Will the end of capitalist history turn out to be the end of all history? Or, as Marx put it in the Preface to *A Contribution to the Critique of Political Economy*, will it only bring to a close the "prehistory of human society"? (Marx, 1978, 5). All of these questions will have to be answered by real historical actions.

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APPENDIX: CLASS STRUCTURES IN THE USA, LATIN AMERICA, AND CHINA

To construct the class structure in the United States, I rely on the study by Gilbert and Kahl (1992, 305–324) and Wright (1997, 91–113). About the working poor and the underclass, Gilbert and Kahl (1992, 315–316) make the following comments: "They oscillate in income from just above to below the poverty line, they are threatened with periodic unemployment, or they have no chance to work at all." Among them, "those who are seldom employed and are poor most of the time form the underclass in our society." I consider the sum of the working poor and the underclass as the semi-proletariat in U. S. society.

The proletariat, if narrowly defined, includes skilled workers and semi-skilled workers, or about 30% of the population. A broad definition should include all of those whose money incomes derive entirely or almost entirely from wage incomes and have relatively strong bargaining power (with the exception of highly skilled professional workers occupying strategic positions). A broad definition of the proletariat may include not only skilled and semi-skilled workers, but also supervisory workers, lower managers, and semi-professional workers. This definition includes about 60% percent of the U. S. population. I adopt a middle approach, considering the supervisory workers to be a part of the proletariat. The proletariat therefore accounts for 45% of the U. S. population.

The Economic Commission for Latin America and the Caribbean (ECLAC, 1994) provides statistics regarding class and occupational structures in Latin American countries. In Latin America there is a large so-called "low productivity" sector. Workers in this sector include workers in micro-enterprises (with

fewer than five employees), household employment, and own-account and unpaid family workers. In most cases, the income of a "low productivity" worker is not sufficient to keep a family of four above the poverty line (ECLAC, 1994, 25). If the semi-proletariat includes micro-enterprise workers, household workers, the urban unemployed, rural workers, and workers in enterprises with more than five employees and own-account and unpaid family workers who receive a wage lower than the poverty line, then in Argentina, Brazil, and Chile, the semi-proletariat accounts for 32, 47, and 43% of the population, respectively. Assume the managerial workers amount to about one-third of the professional and technical workers; then the middle class accounts for 14, 10, and 15% of the population of Argentina, Brazil, and Chile, respectively. The proletariat accounts for 28, 18, and 23%; the peasants account for 7, 12, and 15%; the petty bourgeoisie accounts for 17, 9, and 13%; and the capitalist class accounts for 4, 5, and 2%, respectively.

In 1999–2001, a special research group of the Chinese Academy of Social Sciences conducted research on "The Evolution of the Contemporary Social Structure." The research group divides contemporary Chinese society into ten major social strata, according to their different access to "organizational, economic, and cultural resources" (CASS, 2002). The study provides information that can be used to construct China's class structure.

The capitalist class includes the bureaucratic and private capitalists ("state and social managers" and "private entrepreneurs"). The middle class includes managers, professional and technical workers, and half of the clerical workers. "Agricultural laborers" are considered to be the peasants, and the petty bourgeoisie includes the self-employed.

Total formal employment includes urban formal employment (the sum of the state, collective, and other employment in the urban sector) and estimated rural non-peasant wage employment. Subtracting from this the capitalists and the middle class, what remains is considered to be the proletariat. The size of the semi-proletariat is derived by subtracting proletarian wage workers from total wage workers (including "industrial workers" and "salespersons and service workers").

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