为何西方国家早于中国起飞，又为何中国自 1949 年开始追赶西方：对于“大分流”和 “大收敛”理论的另一种解释

摘要：本文的目的在于为“大分流”和“大收敛”理论提供一种非技术层面的解释，在对以往对此问题进行各种解释的文献加以回顾的基础上，本文提供了一个新的机制。西方国家在破除使得收入差距不断扩大、甚至使得生命预期下降的传统制度之后，摆脱了马尔萨斯陷阱，形成新的收入分配格局，消费减少，而储蓄与投资则不断提高。当部分殖民撒哈拉沙漠以南地区、拉美地区以及前苏联的发展中国家采取同样的模式时，传统制度被破坏，收入差距不断扩大，反而落入到不利于经济追赶的境地。相反的，东亚、南亚以及中部和北部非洲的发展中国家则受殖民者的影响相对较小，传统制度得以保留，在 20 世纪末期占到了经济追赶的有利位置，持续的发展使得它们也逃离出马尔萨斯陷阱，国民收入的增加使得投资占 GDP 比重的不断提高，而不需要以收入差距扩大或生命预期降低为代价。

当代中国在经济发展方面所取得的举世瞩目的成就根源于中华文明的持续性，作为世界上最为古老的文明之一，它很好的保持了其独特性，很少受到外界的干扰。可以说，保持制度连续性的国家，如东亚、印度以及中北部非洲国家的经济发展要比尝试简单以西方制度取代自身制度的国家，如拉美、前苏联以及撒哈拉以南非洲国家要更好。类似于俄国 1917 年的变革，作为对制度西方化失败的纠正，中国在 1949 年重新确立了集体主义制度；不同于俄国在 1991 年之后的变革，中国在 1979-2009 年间一直维持着集体利益高于个人利益的“亚洲价值”制度。然而，自 1985 年来出现的收入差距的快速增大应该视作集体主义制度弱化的表现，这也可能成为中国经济持续快速发展的最大阻碍。

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Why the West Became Rich before China and Why China Has Been Catching Up with the West since 1949

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Abstract: The goal of this paper is to offer a non-technical interpretation of the “Great Divergence” and “Great Convergence” stories. After reviewing existing explanations in the literature, I offer a different interpretation. Western countries exited the Malthusian trap by destroying traditional institutions, which was associated with an increase in income inequality and even a decrease in life expectancy, but allowed the redistribution of income in favor of savings and investment at the expense of consumption. When the same pattern was imposed on some developing countries (colonialism —Sub-Saharan Africa (SSA), Latin America (LA), and the Former Soviet Union (FSU)), it resulted in the destruction of traditional institutions, increase in income inequality, and worsening of starting positions for catch-up development. Other developing countries (East Asia (EA), South Asia (SA), and the Middle East and North Africa (MENA countries)) that were less affected by colonialism and managed to retain traditional institutions by the end of the twentieth century found themselves in a better starting position for modern economic growth. The slow-going technical progress finally allowed them to find another exit from the Malthusian trap—increased income that permitted the share of investment in GDP to rise without a major increase in income inequality or decrease in life expectancy.

The roots of the impressive long-term performance of China lie in the exceptional continuity of the Chinese civilization—the oldest in the world—that managed to preserve its uniqueness and traditions without major interruptions. It is argued that institutional continuity (East Asia, India, and MENA) is more conducive to growth than attempts to replace existing institutions by allegedly more advanced institutions imported from abroad (Latin America, FSU, and SSA). Like Russia in 1917, China re-established collectivist institutions in 1949 as a response to the failure of Westernization. Unlike Russia after 1991, China in 1979-2009 managed to preserve "Asian values" institutions—priority of community interests over the interests of the individual. However, the rapid increase in income inequality since 1985 could be a sign of weakening of collectivist institutions, which is the single most important threat to the continuation of fast economic growth.

Among many puzzles in economic history, the crucial and most intriguing is the "Great Divergence," the gap between Western and developing countries that started to emerge in the sixteenth century and widened until at least the mid twentieth century. The USSR in the 1930s-60s was the first major non-Western country to experience successful catch-up development and to narrow the gap with the West, although afterwards (1970-80s), the gap stopped narrowing and it later (1990s) widened. Japan, South Korea, Taiwan, Hong Kong, and Singapore in the 1950-80s were the only states that successfully caught up with the West and became developed countries. In recent decades, a similar process is underway in Southeast Asia and China. Together with the recent acceleration of growth of India and some other developing countries, it could mean that we have reached a tipping point in the Great Divergence and that from now on, the world will gradually experience global convergence in the level of income. The goal of this paper is to provide a non-technical interpretation of the "Great Divergence" and "Great Convergence" stories. After reviewing the existing explanations in the literature, I present a different interpretation. Western countries exited the Malthusian trap by dismantling traditional institutions, and this was associated with increased income inequality and even decreased life expectancy but allowed the redistribution of income in favor of savings and investment at the expense of consumption. When the same pattern was applied to developing countries (colonialism—Latin America, FSU, and SSA), it resulted in the destruction of traditional institutions, increase in income inequality, and worsening of starting positions for catch-up development. In other developing countries (East Asia, India, and MENA) less affected by colonialism that managed to retain their traditional institutions, the starting position for modern economic growth remained good. The slow technical progress finally allowed them to find another (and less painful) exit from the Malthusian trap—increased income that permitted the share of investment in GDP to rise without a major increase in income inequality or a decrease in life expectancy.

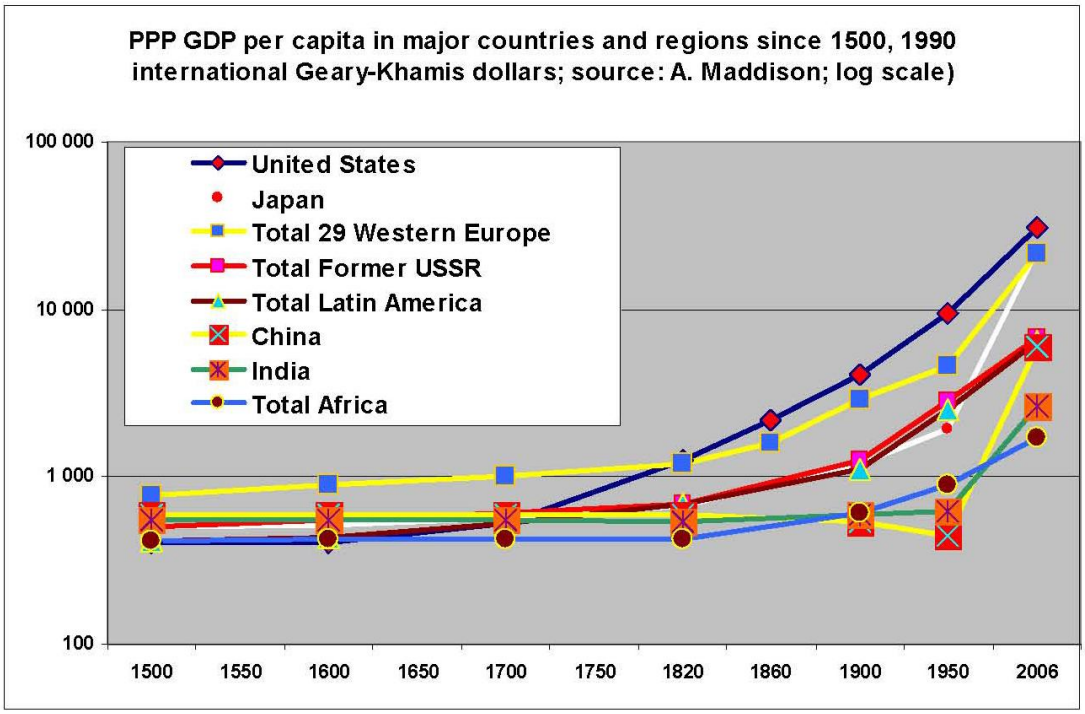
How the West became rich: literature review

Before 1500, all countries had roughly the same GDP per capita (about $500 in 1985

prices—Maddison, 1995), but by 1900, the gap between the groups of countries that are now called developed and developing increased to 6:1. In 2000, it was roughly at the same level although in the second half of the twentieth century, several developing countries (Japan, South Korea, Taiwan, Singapore, and Hong Kong) managed to join the "rich club," while others (Southeast

Asia, China, and more recently, India) succeeded in considerably bridging the gap with rich countries; other regions (Sub-Saharan Africa, Eastern Europe, and FSU) fell behind or failed to reduce the gap with the West (fig. 1, 2).

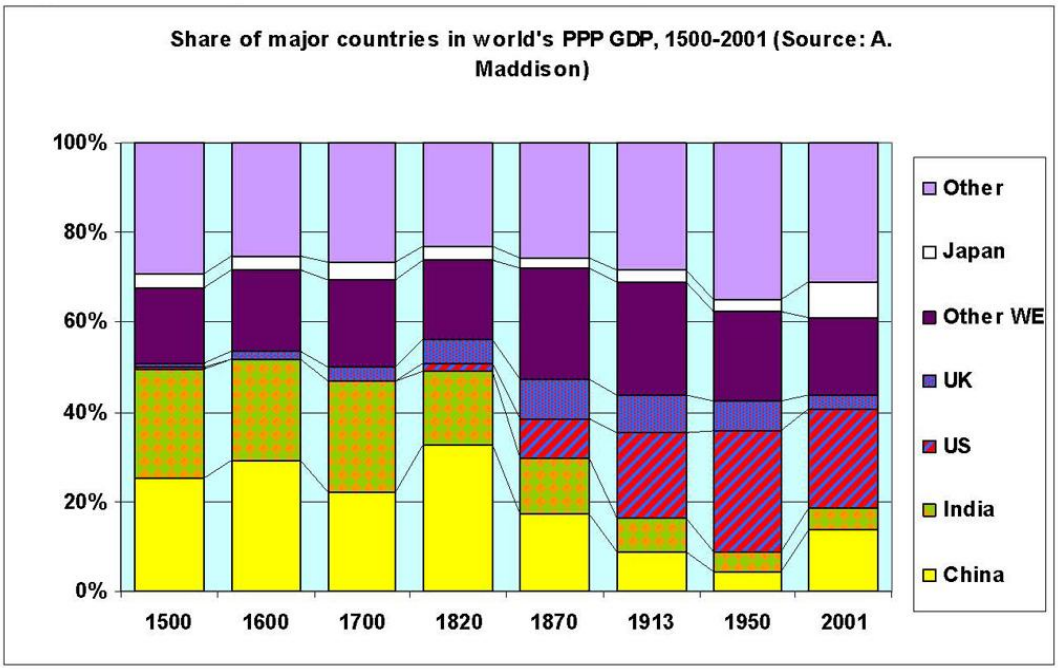
Fig. 1. PPP GDP per capita in major countries and regions since 1500, international Geary-Khamis dollars



Source: Maddison, 2008.

The oldest and most crucial question in economic history about the nature and causes of the wealth of nations—why particular countries are wealthier than others—remains largely controversial. There were and are at least two traditions in dealing with this question.[2] One emphasizes the evolutionary nature of historical progress and the logic of social development, whereas the other focuses primarily on the mere coincidence of events and play of fortune, attributing successes and failures of development to existing geographical conditions or historical accidents.

Fig. 2. Share of major countries in world's PPP GDP, 1500 -2001



Source: Maddison, 2008.

According to the first, evolutionary, school of thought (Landes, 1998; Mokyr, 2002—to name just a couple of contemporary authors), the growth of Western countries in 1500-1900 that allowed them to become the wealthiest in the world was the inevitable result of social changes introduced during this period. Many interlinked social changes are found to be crucial: abolition of serfdom and guarantees of human rights, the Reformation and the protestant ethic, the Magna Carta, and the European Enlightenment are said to have caused the openness and flow of ideas and technological innovations that finally led to the Industrial Revolution and acceleration of growth. "The conventional wisdom, endorsed by many economic historians, most notably by Douglass North, points to a connected set of legal, economic, and social institutions that are thought to be necessary for or at least specially conducive to sustained economic growth. The most important are the rule of law itself, secure property rights, relatively untrammeled markets, and a degree of social mobility. They function by reducing the uncertainty surrounding saving, investment, and entrepreneurial activity, and by sharpening the incentives for able people to devote themselves to economic activity instead of violence and prayer. The Industrial Revolution happened when it did because these background conditions were met as they had not been met before; and England is where they were met soonest and most fully" (Solow, 2007).

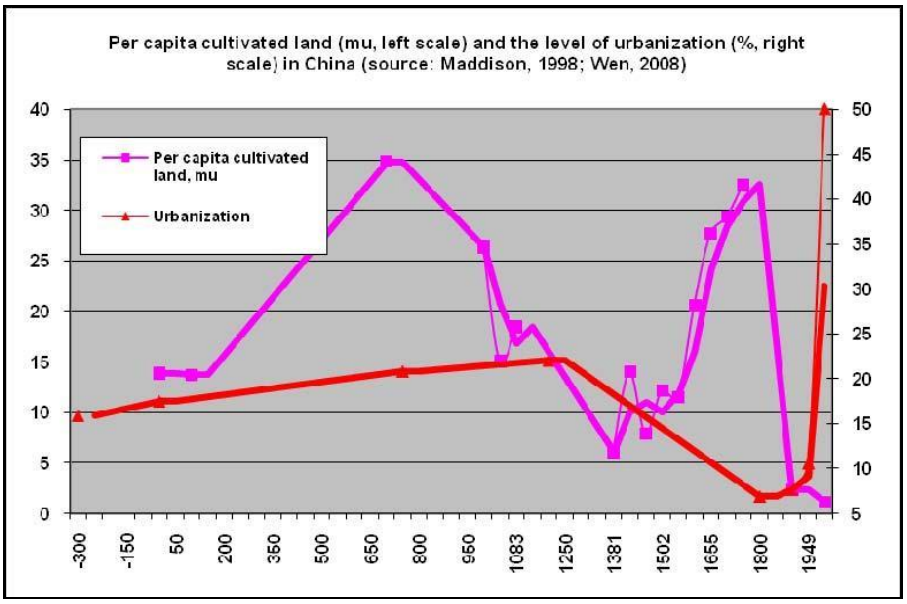
On the other hand, another school questions the logic of evolution triggered by social forces themselves (Dimond, 1997; Pomerantz, 2000; Wong, 1997—once again, just to give several contemporary examples) and pays special attention to seemingly minor historical events—fortunate and unfortunate, but mostly accidental—that pre-determined the development of countries and continents for centuries to come. Dimond (1997), for instance, argues that the lack of wild animals suited to domestication in Pre-Columbian America, Africa, and Australia and the abundance of these animals in Eurasia gave the latter a huge advantage. Or perhaps the origins

of comparative development can be traced to climatic and environmental conditions on the Eurasian continent that allowed sufficiently high agricultural productivity to support a high density of population—a necessary pre-condition for the spread of technological innovations and rapid economic growth.

Pomerantz (2000) argues that even in the eighteenth century, China was not inferior to Europe in terms of technology, social structures that could support technological innovation, large pools of accumulated capital, etc. According to him, the reason that Europe "succeeded" and China did not was largely determined by pure chance—a lack of large deposits of coal and iron ore close to each other and the absence of large outward migration (after Zheng He, the greatest world traveler before Columbus, discovered Madagascar, the African Horn, and Saudi Arabia in the early fifteenth century, the emperors of the Ming Dynasty prohibited the construction of big ships, and the Middle Kingdom experienced self-imposed isolation for four centuries). Pomeranz's argument is that mass emigration from Europe played a crucial role in the transition to the modern growth regime from a Malthusian regime.[3] When technological progress accelerated in the nineteenth century but the population growth rates still remained high and growing (0.6 percent in 1820-70) because the demographic transition had not yet occurred, mass migration to North America helped to alleviate pressure on a scarce resource, land, and to avoid diminishing returns.[4]

In a similar vein, land scarcity is seen as a factor that stimulates urbanization and industrialization. It is argued that "during the Song Dynasty, despite the fact that China lost a significant amount of arable land to invading nomads as its population peaked, China witnessed a higher urbanization level, more prosperous commerce and international trade, and an explosion of technical inventions and institutional innovations. However, after China significantly improved its man-to-land ratio in the period after the Song only to find itself induced deeper into the agrarian trap, resulting in reduced urbanization, withering foreign trade, a declining division of labor, and stagnation in technology" (Wen, 2008, fig. 3).

Fig. 3. Per capita cultivated land (mu, left scale) and the level of urbanization (%, right scale) in China

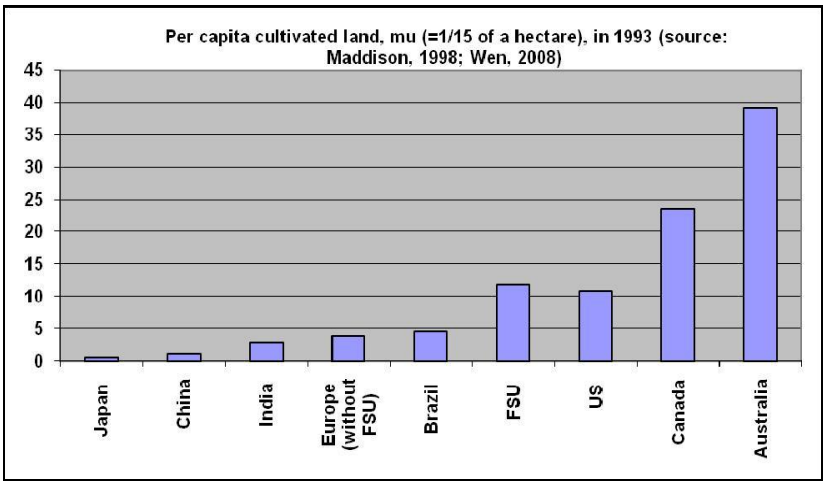


Source: Maddison, 1998; Wen, 2008.

It is more difficult, though, to apply this theory to international comparisons: arable land per capita was not that scarce in Europe, not to mention Australia and North America (fig. 4), where levels of urbanization surpassed those of Japan, China, and India at least several hundred years ago.

Several explanations concentrate on demographic developments. Gregory Clark (2007) claims that differential fertility (higher number of surviving children in rich families) was more pronounced in medieval England than elsewhere, so the educated classes spread their knowledge across society faster. Turchin (2005) presents a model of the rise and fall of empires that is based on expansion (and overexpansion) of the elite population.

Fig. 4. Per capita cultivated land, mu (1/15 of a hectare), in 1993



Source: Maddison, 1998; Wen, 2008.

New data that have appeared in recent years, especially indices of the quality of institutions, have triggered new debate not only among economic historians but also among general macro and growth economists. In an important paper (Acemoglu, Johnson, and Robinson, 2001) entitled

"Colonial Origins of Comparative Development," the authors used an astute indicator as an instrument for the institutions variable—the mortality rate among settlers in the colonies of major European states in the nineteenth century. Their argument was that, if these mortality rates were very high (Gambia, Mali, and Nigeria had mortality rates hundreds of times higher than Australia, Bahamas, Canada, Hong Kong, New Zealand, and US), the settlers did not bother to set good institutions in those countries. It was also claimed that the local population largely had immunity to diseases that were fatal to newcomers, so settlers' mortality rate did not affect economic growth directly, but only via its impact on institutions. That is why this indicator can be used to resolve the endogeneity problem (institutions => growth => institutions) and to properly estimate the impact of institutions on growth. The authors concluded that, after controlling for impact of institutions, the geographical location does not really have an impact on growth.

Other authors, however, have insisted that geography has not only indirect impact but also important direct impact on growth and development. In a series of papers, Sachs and Warner (1995, 1997a, b, 1999) and Sachs (1996) argued that resource abundance has an adverse effect on growth via different mechanisms—overvaluation of the real exchange rate (the "Dutch disease") and its corrupting impact on the quality of institutions. Sachs and Warner (2001) show that "there is little direct evidence that omitted geographical or climate variables explain the curse, or that there is a bias resulting from some other unobserved growth deterrent. Resource-abundant countries tended to be high-price economies and, perhaps as a consequence, these countries tended to miss out on export-led growth."

Sachs (2003) and Faye, McArthur, Sachs, and Snow (2004) also attribute many variations in performance to the direct impact of geographical location—through access to the sea (land- locked countries), transportation costs, climate, and diseases. Arguing with Acemoglu, Johnson, and Robinson (2001), Sachs (2003) points to the fact that high correlation between the mortality rates of British soldiers around 1820 in various parts of the world and GNP per capita levels in 1990 is explained by the direct pernicious effects of malaria in blocking long-term economic development. "Acemoglu, Johnson, and Robinson completely neglect the fact that disease dramatically lowers the returns on foreign investments and raises the transaction costs of international trade, migration, and tourism in malarial regions. This is like claiming that the effects of the recent SARS (severe acute respiratory syndrome) outbreak in Hong Kong SAR can be measured by the number of deaths so far attributable to the disease rather than by the severe disruption in travel to and from Asia" (Sachs, 2003).

He argues that during the last two decades, there have essentially been three groups of developing countries: (1) those where institutions, policies, and geography are all reasonably favorable (the coastal regions of east Asia — coastal China and essentially all of Korea, Taiwan Province of China, Hong Kong SAR, Singapore, Thailand, Malaysia, and Indonesia), (2) those that were relatively well endowed geographically but, for historical reasons, have had poor governance and institutions (central European states, whose proximity to Western Europe brought

them little benefit during the socialist regime), and (3) impoverished regions with unfavorable geography, such as most of sub-Saharan Africa, central Asia, large parts of the Andean region, and the highlands of Central America, that have experienced the severest economic failures in the recent past and that have all been characterized by initial low levels of income and small populations (and hence small internal markets) that live far from the coasts and are burdened by disease, especially AIDS, tuberculosis, and malaria. This latter group of countries, Sachs (2003) insists, has "essentially been trapped in poverty because of their inability to meet the market test for attracting private capital inflows."

An opposite view is advocated by Rodrik, Subramanian, and Trebbi (2002) in an article with the self-explanatory title "Institutions Rule." The authors examine the impact of three basic factors on growth —geography (proxied by the distance to the equator and regional dummies), trade openness (the share of trade in GDP), and institutions. The difficulty, of course, is that all three factors are interlinked and that institutions and trade openness not only influence growth but also depend on growth themselves. To properly estimate the contribution of each factor, they instrument institutions using the settlers' mortality rate, like Acemoglu, Johnson, and Robinson (2001), and instrument the share of trade in GDP with the predicted share of trade (from gravity models). Then, after giving a "fair chance" to geographical variables to compete with the instrumented variables of institutions and trade openness, they conclude that "institutions rule," that is, the impact of institutions is most crucial. Institutions are largely, but not totally, determined by geography, and in turn they determine trade openness and growth. The direct impact of geography on growth (apart from the impact through institutions) turns out to be insignificant.

The difference from the straightforward geographical determinism approach is thus obvious, but there is an important difference from the Acemoglu, Johnson, and Robinson (2001) approach as well. Rodrik, Subramanian, and Trebbi (2002) believe that geography, particularly settlers' mortality rates, is a good predictor of institutional quality, but not the major cause of it. The genesis of institutions is a complex process with many determinants, and finding an appropriate econometric instrument is not the same as finding the proper explanation. Rodrik (2004) explains the difference using the following example: the variation in GDP per capita in countries that were never colonies is no less substantial than among colonized countries — here, Ethiopia and Afghanistan are at the one end of the spectrum and Japan is at the other end with Turkey and Thailand lying somewhere in between. What accounts for the different quality of institutions in this non-colonized part of the world?

Asian values versus Western values (institutional continuity versus transplantation of foreign institutions)

A different interpretation of the genesis of institutions in colonized and non-colonized countries is the continuity perspective. All countries had traditional community structures in the

past; everywhere before the Reformation, under the Malthusian growth regime, the law of the land was what we now call "Asian values"— the superiority of the interests of the community over the interests of the individual. The Malthusian growth trap emerged due to the inability to mobilize savings from low-income populations. Lack of savings/investment did not allow the capital labor ratio (K/L = k) to increase because population growth rates were high and all investment went into creating jobs for new entrants into the labor force, and nothing was left to increase k. Moreover, population growth rates depended on y, productivity (output per employee), so when y increased due to technical progress, A, the population growth rate, n, grew as well, eating up all increases in y achieved due to increases in A.

In the Solow growth model, labor productivity can increase due to technical progress A and due to the increase in the capital/labor ratio, k=K/L:

$$y = A*k\alpha$$

The needed investment per employee (In) to create jobs for new entrants into the labor force and to replace retiring elements of capital stock (d – the share of capital stock that retires annually) is equal to:

$$In = k(n + d)$$

Actual investment per employee, Ia, is equal to the savings rate, s, multiplied by output per employee, y:

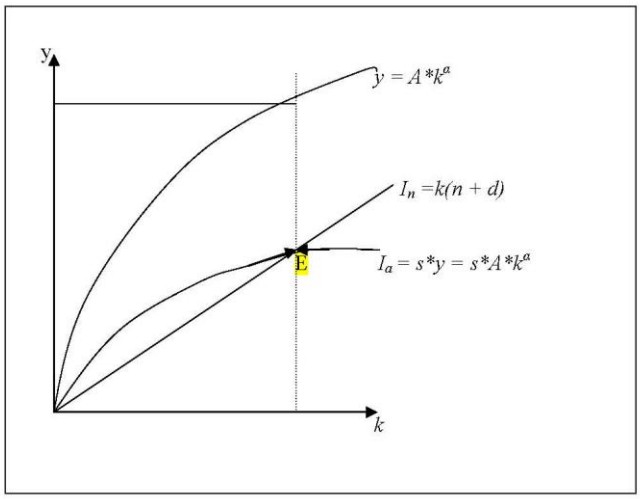
$$Ia = s*y = s*A*k\alpha$$

Equilibrium emerges at point E, where needed investment, In, is equal to actual investment, Ia (see scheme 1).

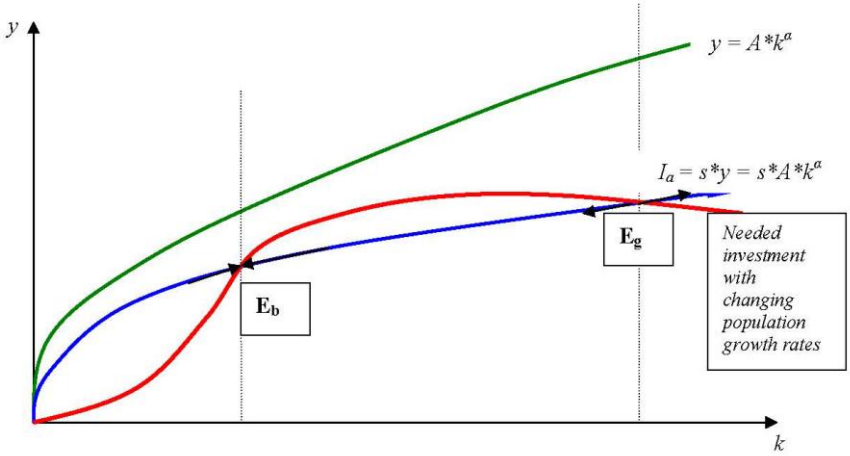
However, if population growth rates are not constant, but change with increases in productivity (and GDP per capita)—first rising with acceleration, then slowing down—we get two equilibriums: one stable at a low level of income (bad equilibrium, Eb, growth trap) and the other unstable at a high level of income (good equilibrium, Eg, scheme 2).

In a Malthusian growth regime, before the transition to modern industrial growth, all countries were in bad equilibrium, Eb, so that increases in productivity and per-capita GDP, wherever they came from, were quickly absorbed by rising population growth rates, and per-capita income declined. Countries had roughly the same productivity and competed on the basis of population: the might of a country was determined by the number of people within its borders and the number of soldiers that the country was able to mobilize in case of a war. Success in technical progress led to growth of the population (like in China before the Opium Wars), not to the growth of per-capita income.

Scheme 1. Equilibrium in the Solow model with fixed growth rates of the population

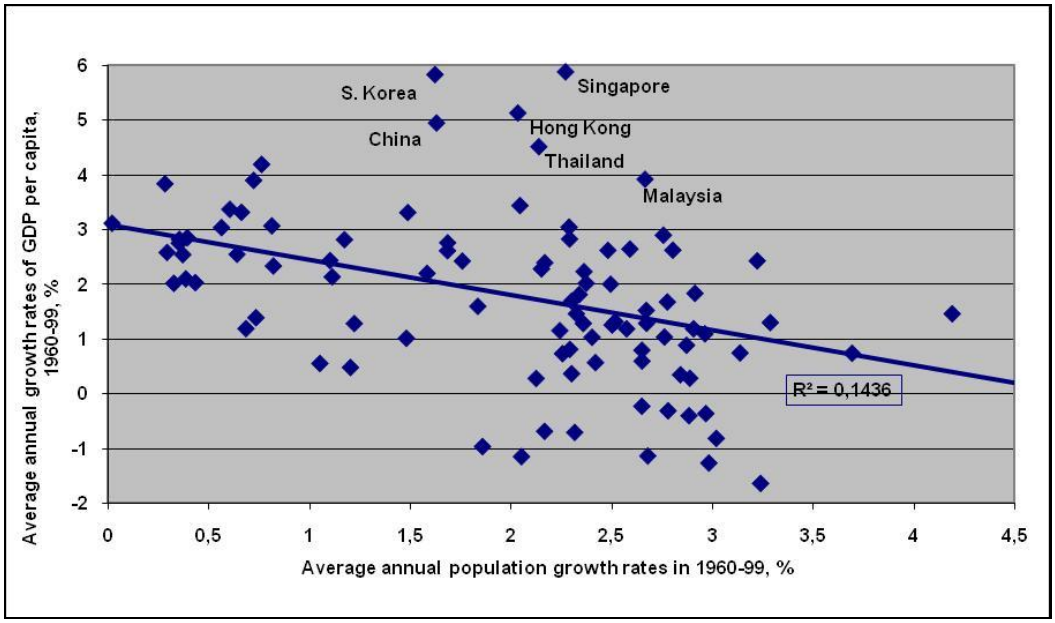


Scheme 2. Malthusian trap in the Solow model (with changing population growth rates)



There is a clear negative relationship between the growth of population and the growth of per- capita GDP (fig. 5); in fact, this is one of the most robust relationships revealed by empirical studies on economic growth. It is explained by the need to devote more savings/investment to creating jobs for new entrants into the labor force, which leaves less investment for the increase in K/L and hence suppresses productivity growth. There was also an inverse relationship—per-capita GDP dynamics influencing population growth rates—in the Malthusian growth regime, before the demographic transition that occurred with the Industrial Revolution. In the initial publication of his book, Malthus suggested that lower income leads to increased mortality, but in subsequent editions, he stressed the link between income and birth rate. Recent advances in the reconstruction of population dynamics in the pre-statistical period, particularly in Britain in the sixteenth to nineteenth centuries from parish registers, shed some new light on this relationship (see Saito, 1996, for a survey).[5]

Fig. 5. Annual average growth rates of population and GDP per capita in 1960-99, %



Source: WDI.

Attempts to break the Malthusian vicious circle were probably made more than once (Greece, Rome, and Byzantium), but all ended up in losing wars with foreign invaders. Countries that tried to eliminate collectivist institutions and to put the interests of the individual ahead of the interests of the community experienced growth in income and wealth inequality, which allowed an increase in savings and investment, but only at the cost of polarizing the society and undermining population growth, which was essential for maintaining the military might of the empires. When income levels were about $500 per capita (in 1985 dollars), increase in income inequality put too many people below the subsistence minimum and led to increased mortality. Such an experiment at low income levels could have been largely successful by chance—two to three centuries of dramatic social restructuring (growing income inequality) without backlash revolts of disadvantaged classes and foreign conquests. This chance was realized only in Northwestern Europe in the sixteenth to nineteenth centuries.

The West was the first to exit the Malthusian trap without being conquered by neighboring countries with collectivist institutions. Making individual rights and freedoms sacred resulted in growing income inequality and increase in mortality, but allowed an increase in savings and investment and the K/L ratio, overcoming the limits of the two-dimensional Malthusian world (greater population => higher GDP).[6] The statistics available on Britain tell the story of the huge costs of transition to modern industrial growth between the sixteenth and nineteenth centuries. Enclosure policy and the Industrial Revolution resulted in a dramatic increase in income inequality, a rise in mortality, and weakening of institutions.

Despite the acceleration of productivity growth in 1500-1800 in the UK (to about 0.2 percent a year, so that GDP per capita in the UK more than doubled over three centuries[7]), the living standards of workers did not improve. "The single most important fact is that there is no evidence of any significant rise in material living standards for average workers in any societies before

1830" (Goldstone, 2007). Real wages actually fell between 1500 and 1800 (Saito, 2009). This is consistent with the story of rising income inequality, accumulation of wealth in the hands of a few, and increasing savings and investment rates (the latter increased during the Industrial Revolution from a mere 6 percent in 1760 to 12 percent in 1831—Galor, 1998). This is also consistent with the fact that Chinese standards of living in the eighteenth century were comparable or even superior to those found in Europe: in public health and sanitation, medicine, caloric intake, life expectancy, and domestic consumption, China was at about the same level as Europe (Pomerantz, 2000).

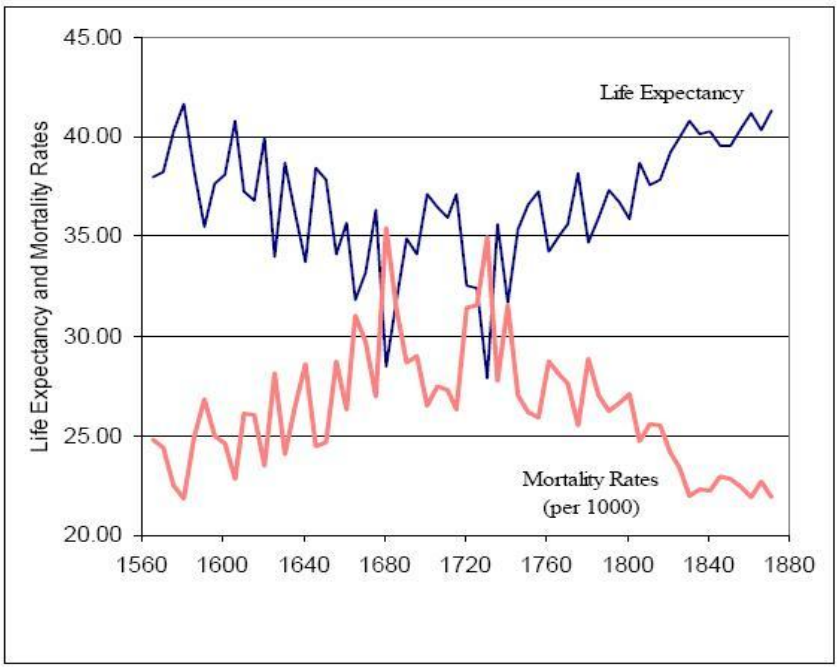
The divergent paths of Europe and China in 1500-1800 were not so much in the dynamics of consumption, but in the dynamics of income inequality, savings and accumulation (investment). In England by 1800, two thirds of the workforce was proletarian, in China—10 percent (Pomeranz, 2006). According to Brenner and Isett (2002, p. 614), in England, "Economic agents of the sort found in the Yangtze delta—both possessing peasants and lordly takers of rent by extra-economic means— though dominant during the medieval period, had largely been eliminated… The main economic agents throughout the economy — especially tenant farmers — although in possession of their means of production (tools, animals, and so on) were separated from their full means of economic reproduction, specifically the land."

Dramatic redistribution of property (land) is documented by the changing average size of farms: in Britain, it increased from 14 acres in the thirteenth century to around 75 acres in 1600-1700 and to 151 acres in 1800, whereas in China, it decreased from 4 acres in 1400 to 3.4 acres in 1650 and to 2.5 in 1800 (in the big Yangtze delta — from 4 in 1400 to 2 in 1600-1700 and to 1 in 1800). In China, growing populations in the countryside were given land at the expense of existing owners; in England, farmers were deprived of land and turned proletariat (Brenner and Isett, 2002, table 1). The share of urban population in England increased from 6 percent in 1600 to 13 percent in 1700 and to 24 percent in 1800, whereas in China, it fell from over 20 percent in the thirteenth century to as low as 5 percent in early 1800s (fig. 3; Brenner and Isett, 2002, table 4).

To put it differently, the escape from the Malthusian trap and the transition to the modern growth regime in Britain and later in other Western countries became possible not so much due to the acceleration of technological progress or the increase in productivity growth rates. A necessary component of the transition was the elimination of collectivist institutions and the resulting increase in inequality that allowed increased savings and investment to the point that accumulation of physical capital started to exceed the growth of population, so that the capital/labor ratio started to rise. The costs of this transition were extremely high — rising income inequality and weakening of institutional capacity (high murder rate) leading, among other factors, to a decline in life expectancy from about thirty-five to forty years to about thirty to thirty-five years in 1560-1730 (fig. 6). Annual average population growth rates in Britain fell from 0.7 percent in 1000-1500 to 0.4 percent in the sixteenth century and to 0.3 percent in the seventeenth before increasing to 0.9

percent and 0.8 percent in the eighteenth and nineteenth centuries. The respective figures for twenty-nine West European countries were: 0.8 percent, 0.3 percent, 0.1 percent, 0.5 percent, and 0.7 percent (Maddison, 2008).

Fig. 6. Mortality Rates and Life Expectancy (at birth) in the Course of Early Urbanization: England 1540-1870



Source: Galor and Moav, 2005, citing Wrigley and Schofield, 1981.

Other regions of the world, including the most advanced regions, like China, stayed on a different trajectory of development — preservation of "Asian values" and slow, hand-in-hand growth of GDP and population. We can only speculate now what the outcome of this other trajectory, where the population size was the major determinant of competitiveness, could have been. The colonial expansion of the West interrupted logical development along the second trajectory.

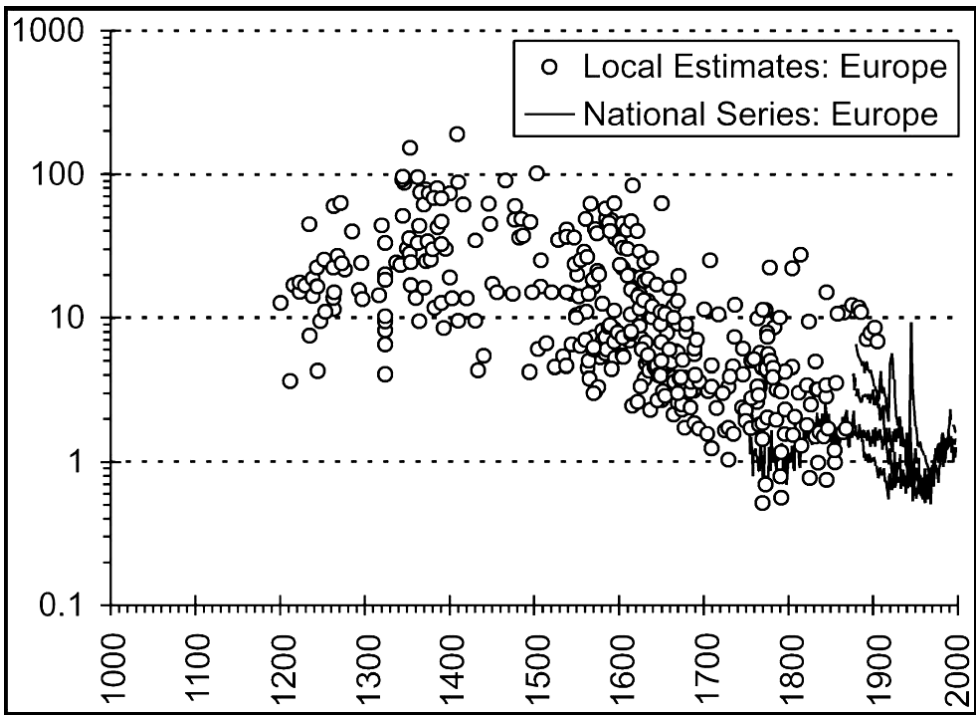
Colonization of Sub-Saharan Africa, South America, and to a lesser extent, South Asia led to complete or near complete destruction of traditional (community) structures that were only partially replaced by new Western-style institutions. Among large geographical regions, only East Asia, MENA, and to an extent South Asia managed to retain traditional community institutions despite colonialism. It could be hypothesized that those countries and regions that preserved traditional institutions in difficult times of colonialism and imposition of Western values retained a better chance of catch-up development than the less fortunate regions of the world periphery, where continuity of traditional structures was interrupted. Transplantation of institutions is a tricky business that works well only when tailored to local traditions, so that it does not interrupt institutional continuity (Polterovich, 2001). Otherwise, it leads either to complete elimination of

local structures (US, Canada, and Australia) or to a non-viable mixture of old and new institutions that is not very conducive to growth (SSA and LA).

If the institutional capacity of the state is defined as the ability of the government to enforce rules and regulations, a natural measurement indicator is the murder rate. Crimes are registered differently in different countries—higher crime rates in developed countries seem to be the result of better registration of crimes. But grave crimes, like murder, appear to be registered pretty accurately even in developing countries, so international comparison of murder rates is well warranted.

It took Western countries five hundred years to bring the murder rate from about a hundred to just several (1 to 3) per 100,000 inhabitants (fig. 7). Even in the seventeenth century, the murder rates in Western Europe generally exceeded 10 per 100,000 inhabitants—more than in many developing countries with a similar level of GDP per capita today. In fact, among developing countries today, we find two major patterns—a low murder rate (1-3 per 100,000 inhabitants) in Eastern Europe, China, and MENA countries (fig. 8), and a high murder rate (15-75 murders per 100,000 inhabitants) in FSU, Latin America, and Sub-Saharan Africa (fig. 9). India (5.5 murders) and Southeast Asian countries (about 10 murders, with the exception of the Philippines, where the rate is 21) fall in between the two groups. The argument is that countries that preserved collectivist institutions (East Asia, MENA countries, and India) were able to retain institutional capacity of the state, whereas countries that eliminated these institutions while only partly replacing them with individual responsibility systems (FSU, Latin America, and Sub-Saharan Africa) paid a high price in terms of diminished institutional capacity. Eastern Europe (with the exception of FSU states) could be the exception that proves the rule: it went through the period of low institutional capacity—high murder rates in the fifteenth to seventeenth centuries, like Western Europe (although direct evidence here is lacking— all observations for fig. 7 are from Western Europe— England, Belgium, Netherlands, Scandinavia, and Italy).[8]

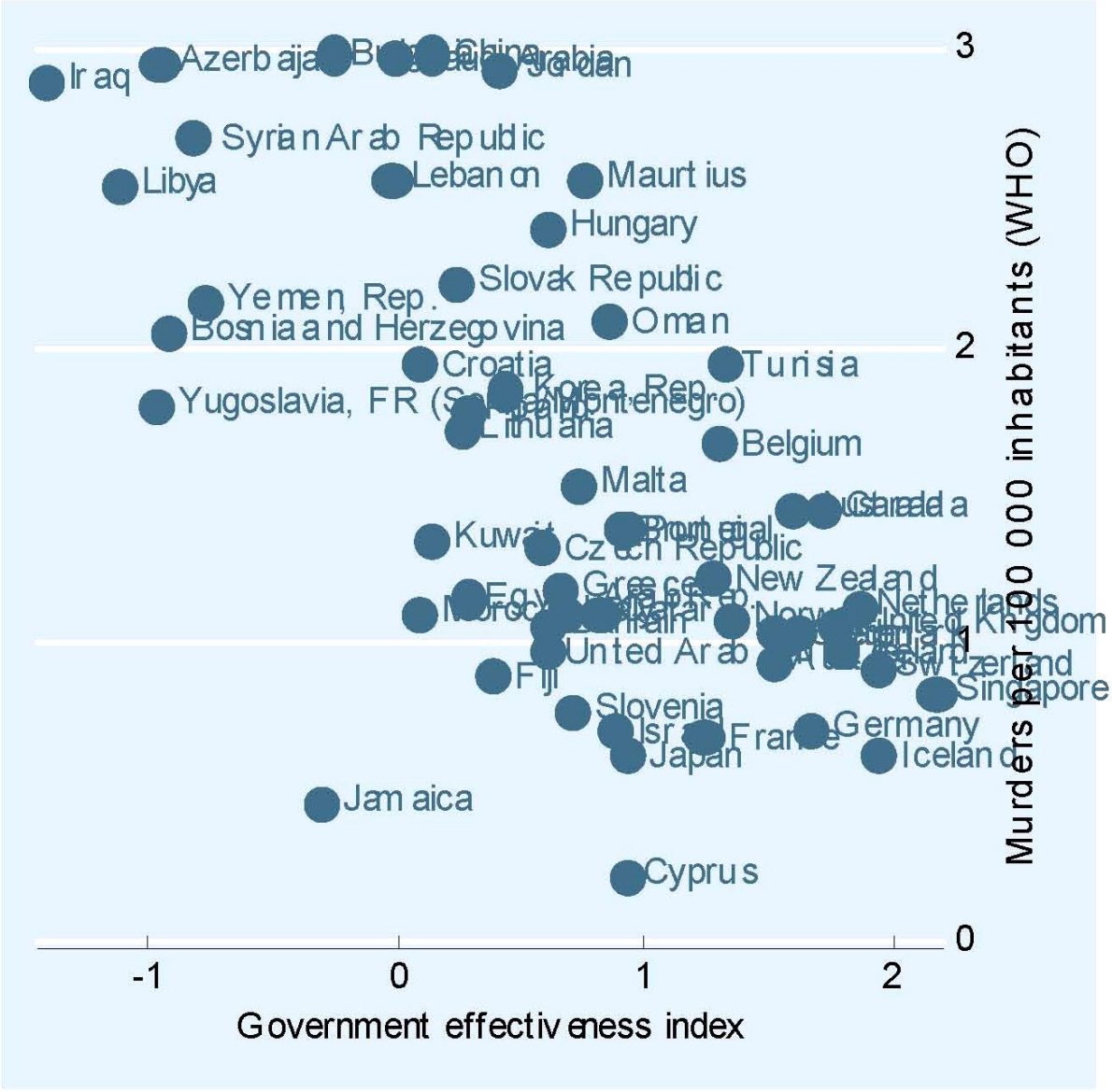
Fig. 7. Long term homicide rates in Europe per 100,000 inhabitants



Source: Eisner, 2003.[9]

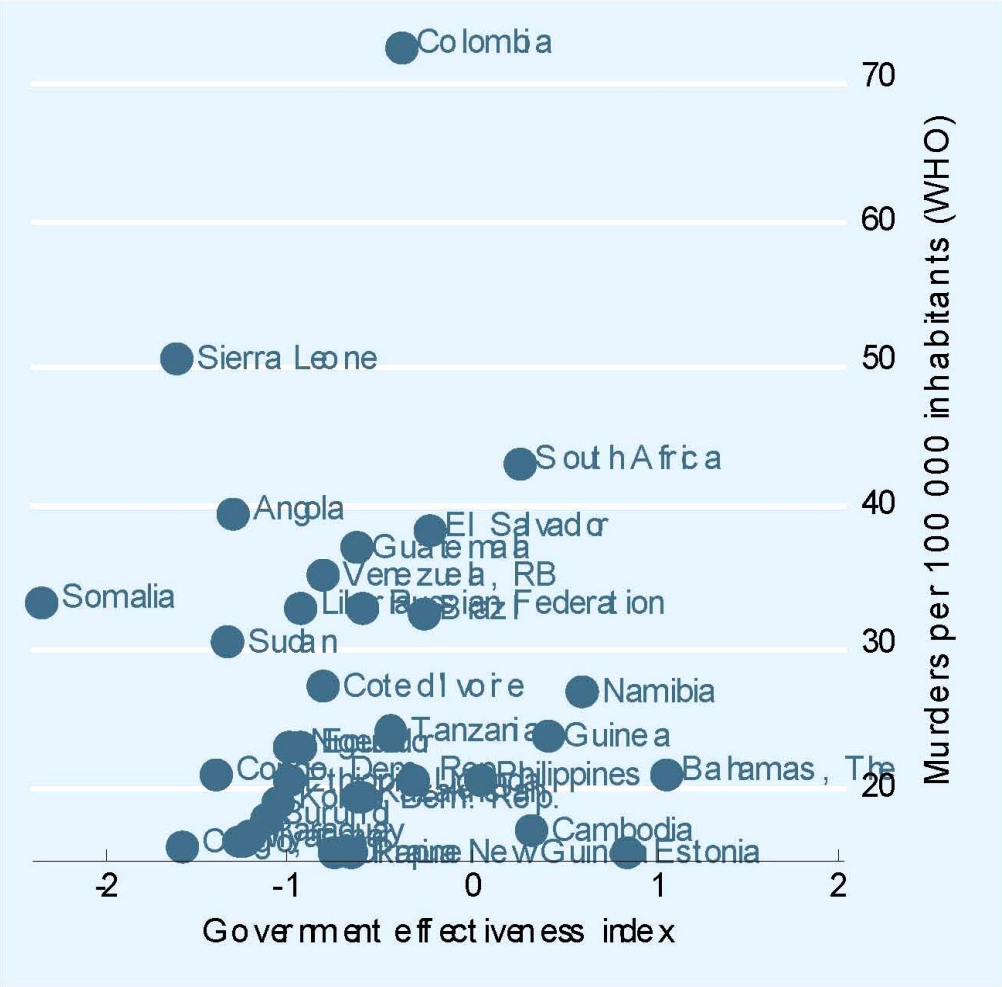
Another piece of evidence of the cost of breakdown in institutional continuity comes from data on income inequality in pre-modern societies. The destruction of communal, collectivist institutions that was first carried out in Western countries in the sixteenth to nineteenth centuries was accompanied by an increase in income inequality. The available data (Milanovic, Lidert, and Williamson, 2008) suggest that in England, Holland, and Spain in the eighteenth century, the Gini coefficient of income distribution was at a level of 50 and even 60 percent (fig. 10a)[10] -an extremely high level according to today's standards and,most probably,according to the standards of the distant (about 40 percent in Ronme in the first centnry and in Byzantium in the eleventh century-fig.10a)[11]

Fig.8.Nurders per 100,000 of inhabitants and government effectiveness index in 2002-countries with 1 to 3 murders per 100,000 inhabitnts



Source: World Bank; WHO.

Fig. 9. Murders per 100, 000 of inhabitants and government effectiveness index in 2002 – countries with 15 to 75 murders per 100,000 inhabitants



Source: World Bank; WHO.

The income inequality story for developing countries is quite consistent with the dynamics of institutional capacity: in SSA, LA, and FSU, where institutional continuity was interrupted and institutional capacity weakend, inequality increased and remains high today. Regressions, linking pre-statistical Gini coefficients of income distribution to per-capita GDP, population density, urbanization, and colonial status (plus some variables to control for different quality of data) suggest that colonialism increased inequality greatly: colonies had Gini coeedfiects nearly 13 p.p. higher than non-colonies (Williamson, 2009). In LA as a whole, inequality increased from 22.5 percent 1491 to over 60 percent in 1929 (fig. 10b). On the other hand, India, China, and Japan in the eighteenth and nineteenth centuries had a more balanced income distribution (fig. 10b, Pomerantz, 2000; Saito, 2009)[12]. In MENA, EE, India, and East Asia (especially until the 1990s), inequality was noticeably lower (fig. 10c). Income inequality, of course, goes together with weak institutional capacity, as measured by the murder rate (fig. 11).

Fig. 10a. Gini coefficient in developed countries, 1550-2000

Source: Milanovic, Lindert, Williamson, 2008.

Fig. 10b. Predicted inequality in Latin America 1491-1929[13]

Source: Williamson, 2009.

To summarize, there are two ways to escape the Malthusian trap: (1) eliminating collectivist institutions and allowing for the costly increase in income inequality and savings/investment rate at the very early stage of development at the expense of the consumption of the masses; and (2) maintaining collectivist institutions and keeping income inequality relatively low until slow technological progress and rise in productivity allow capital to be accumulated at a pace surpassing population growth rates. The first way was taken by countries that are now called Western and was associated with dramatic social costs in the sixteenth to eighteenth centuries. Moreover, it was imposed on part of the developing world in the nineteenth to twentieth centuries during the era of colonialism. In the developing world, this Westernization attempt created an institutional vacuum—traditional, collectivist structures were destroyed, whereas the new modern institutions did not take root, which led to even greater costs than several centuries before in the West.

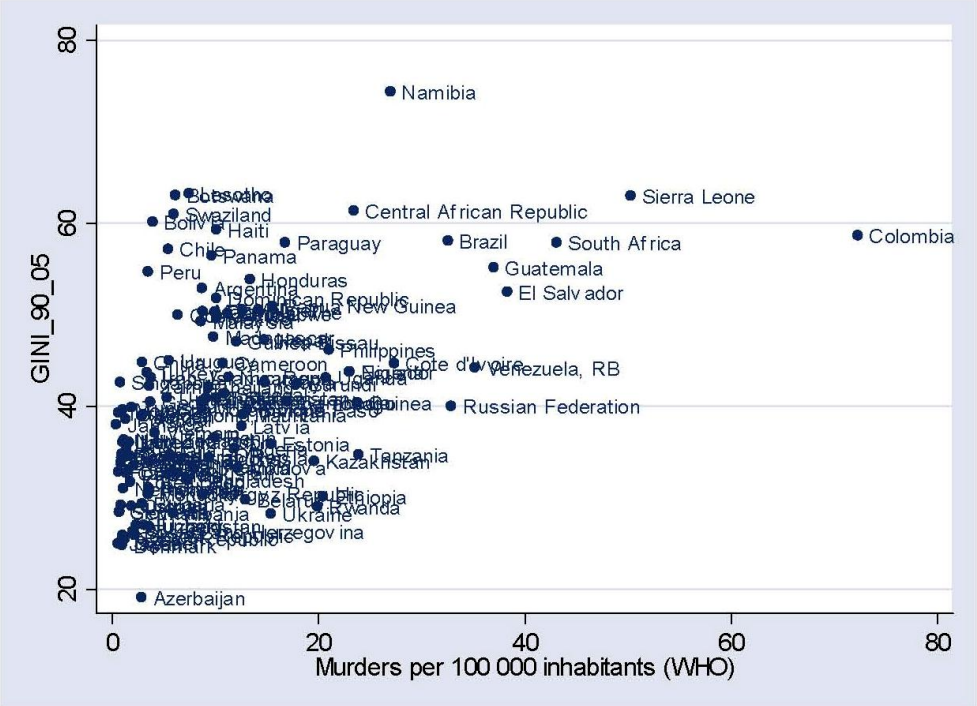
Fig. 10c. Gini coefficient in developing countries, 1800-2000

Source: Milanovic, Lindert, Williamson, 2008.

On the other hand, those developing countries that managed to resist Westernization of their institutions and to preserve institutional continuity as well as relatively low inequality (East Asia, MENA countries, and India) did not gain much in terms of economic growth before the mid 1900s, but were better positioned to take advantage of growth opportunities as soon as natural increases in productivity allowed the Malthusian trap to be escaped from. Other countries that destroyed their egalitarian institutions prematurely (replicating the Western path) experienced tremendous declines in institutional capacity and rise in inequality. In India, China, and SSA, this path was associated with periodic mass famines, which did not happen before colonialism due to even distribution of limited food resources by the community institutions.[14]

In more developed LA countries, the growth rates in the twentieth century did not allow narrowing of the gap with the West (Argentina, a developed country in between the two world wars, even fell out of the club after the Second World War).

Fig. 11. Murder rate in 2002 and income inequalities in 1990-2005



Source: WHO, WDI.

In short, premature dismantling of collectivist institutions, even when allowing overcoming of the Malthusian trap, did not allow for healthy growth. "The frequent claim that inequality promotes accumulation and growth does not get much support from history. On the contrary, great economic inequality has always been correlated with extreme concentration of political power, and that power has always been used to widen the income gaps through rent-seeking and

rent-keeping, forces that demonstrably retard economic growth" (Milanovic, Lidert, and Williamson, 2008).

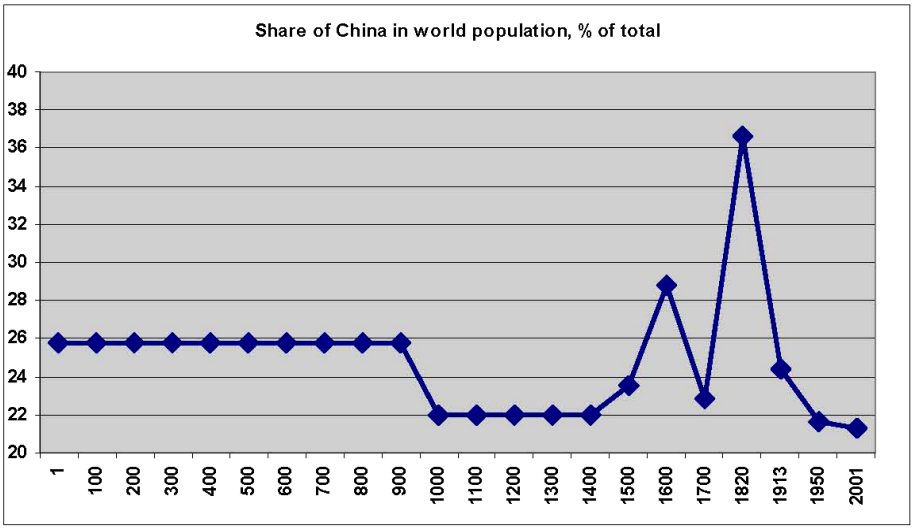
Institutional continuity in China

Formally, China was a non-colonized country, although after losing the Opium Wars in the middle of the nineteenth century, it became a semi-colony of the West for nearly a century. The fact is, however, that at the beginning of the nineteenth century, China was definitely the most successful country in the framework of the Malthusian growth regime — when increases in productivity due to technological advances were all "eaten up" by the increased growth of the population, so that technical progress did not lead to higher GDP per capita, but to larger population. The share of China in the total population of the world increased in the eighteenth century from a long-term average of 22-26 percent to 37 percent (fig. 11)—a truly remarkable achievement by the standards of the pre-industrial world.

To put it differently, China was extremely successful within the Malthusian growth regime: its population had previously risen several times to a ceiling of 100-150 million only to fall back, whereas by 1800, it rose to nearly 400 million. "This was clearly a world demographic landmark"—notes Sugihara—"and its impact on world GDP far outweighed that of post-Industrial Revolution Britain, whose share of world GDP in 1820 was less than 6 percent." (Arrighi, 2007). The world was probably heading towards a population balance of one Chinese per one non-Chinese. The comparison with Western Europe is very telling: between 0 and 1500, the Chinese population was two times larger than that of Western Europe and by 1820, it became three times larger (fig. 12).

In the early nineteenth century, even though productivity was already two times lower than in the West, China still accounted for over a third of the population and about a third of the GDP and industrial output. It clearly recognized itself as the self-sufficient center of the world and was not interested in developing contacts with the "barbarians" from the outer world. "Tremblingly obey and show no negligence"— this is how the Chinese emperor Qianlong ruling for the major part of the eighteenth century (1736-96) ended his famous response to the letter of the British king George III in 1792 with the proposal of trade cooperation.

Fig. 12. Share of China in world population, % of total

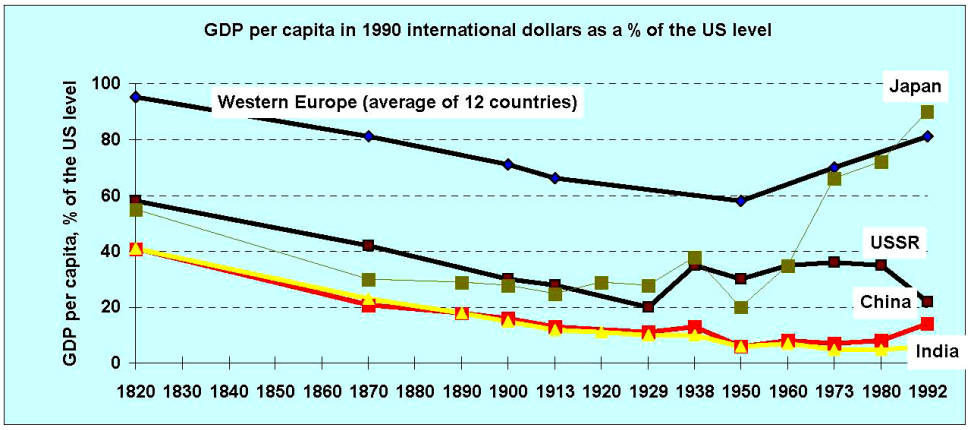


Source: Maddison, 2008.

The problem, however, was that the rules of the game in the world economy had changed: the productivity growth rates in the West increased and the Malthusian growth regime came to an end. Military strength was now more determined by technology than by the size of the population, so that the outcome of military confrontation with the West was pre-determined: China experienced a humiliating defeat in the Opium Wars (1840-42 and 1856-60) and had to accept globalization on Western terms. Chinese GDP per capita fell from about half of the US level in the early nineteenth century to a meager 5 percent in 1950 (fig. 13); the ratio of Chinese GDP to that of Western Europe fell from 2:1 to 1:5 in the same period (fig. 14).

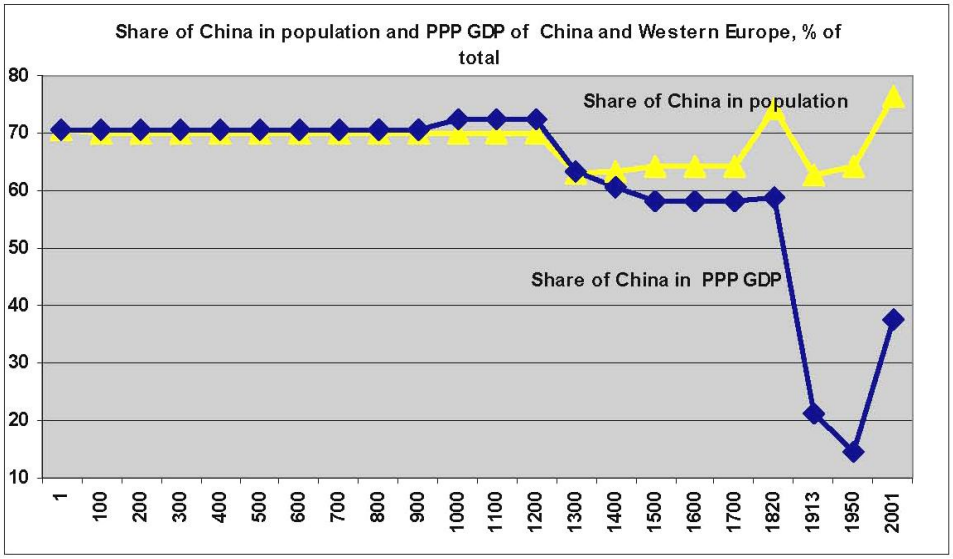
However, subsequent Chinese development differed from that of other colonies and semi-colonies. Being the largest and most powerful country of the pre-industrial age, China was better able to preserve the continuity of its traditional institutions. In a sense, Britain is called the country of traditions by mistake. It is China that managed to preserve the continuity of traditional values more than any other nation of the world.[15] The Liberation of 1949 has thus led to a breakthrough: temporary protection from foreign influence imposed by the CCP (1949-79) allowed traditional institutions to strengthen and development to continue along the lines of the millennium-old trajectory.

Fig. 13. GDP per capita in 1990 international dollars as a % of the US level



Source: Maddison, 1995.

Fig. 14. Share of China in population and PPP GDP of China and Western Europe, % of total



Source: Maddison, 2005.

This development is not without precedent: earlier, five countries based largely on the Chinese tradition (Japan, Korea, Taiwan, Singapore, and Hong Kong) succeeded in catching up with the West without sacrificing their traditional values. But there is no doubt that the Chinese successful catch-up would have a far greater impact on the world. This is firstly because the previous cases of catch-up were generally supported by the West and were sometimes even called "development by invitation," whereas the rise of China did not happen "by invitation" by any stretch of the imagination. And it is secondly because the successful catch-up of China cannot be interpreted as extraordinary and exceptional due to the sheer size of the country. If successful, Chinese catch-up would really be the ultimate and most persuasive evidence of the advantages of institutional continuity.

Chinese versus Russian growth in the twentieth century

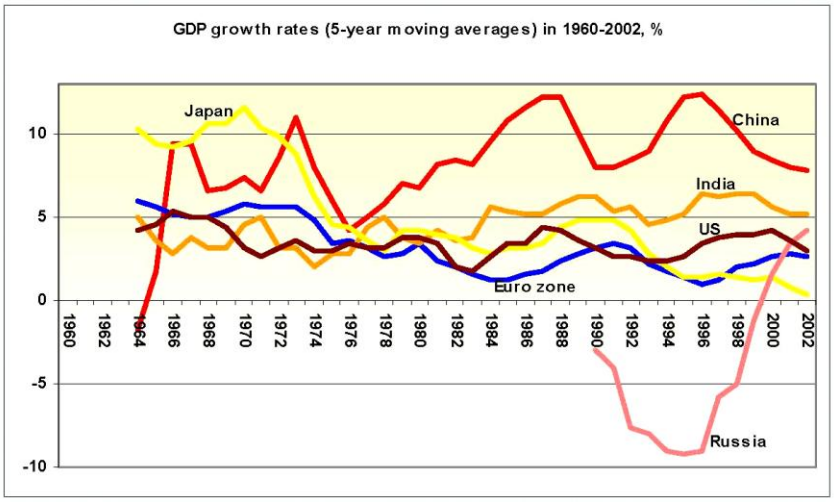
The catch-up development of China since 1949 looks extremely impressive: not only were the growth rates in China higher than elsewhere after the reforms (1979 onward), but even before the reforms (1949-79), despite temporary declines during the Great Leap Forward and the Cultural Revolution, Chinese development was quite successful. According to Maddison (2008), Chinese per-capita GDP was about 70 percent of India's in 1950, rose to about 100 percent by 1958-59, fell during the Great Leap Forward, rose again to 100 percent of the Indian level by 1966, fell during the first years of the Cultural Revolution, and rose again to 100 percent by 1978. By 2006, it was more than two times higher than the Indian per-capita GDP.

World Bank estimates (WDI, 2005), however, suggest that since 1960, Chinese growth rates (five-year moving averages) were always higher than Indian growth rates (fig. 15) and that in the late 1970s, right before the reforms, Chinese per-capita GDP was only half of India's, whereas today it is nearly two times higher (fig. 16). Life expectancy in China in 1950 was only thirty-five years but by the end of the 1970s rose to sixty-five years—thirteen years higher than in India (fig. 17); today, it is seventy-three years—seven years higher than in Russia and India.

Thus, by all counts, Chinese development was extremely successful not only during the reform period (1979 onwards), but also since Liberation (1949 onwards) despite the drawbacks of the Great Leap Forward and the Cultural Revolution.

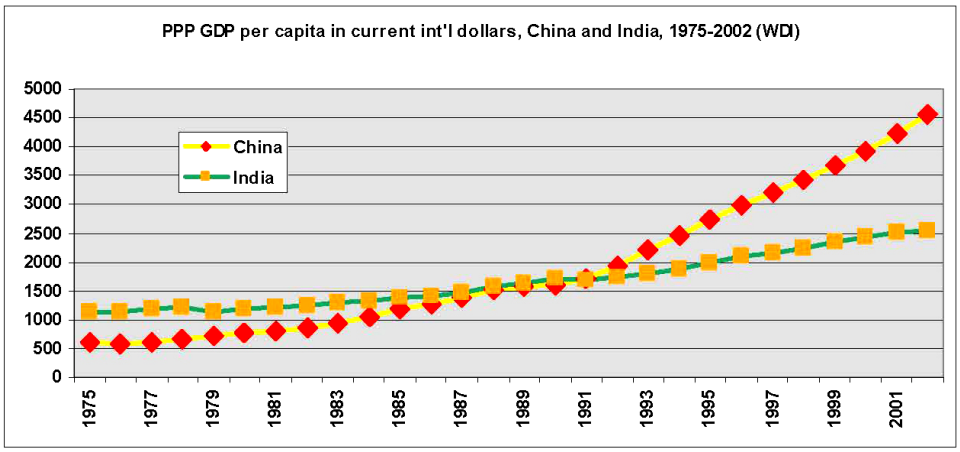
Soviet catch-up development also looked impressive until the 1970s. In fact, in the 1930s to 1960s, the USSR and Japan were the only two major developing countries that successfully bridged the gap with the West (fig.13, 18).

Fig. 15. GDP growth rates of major countries and regions (5-year moving average) in 1960-2002, %



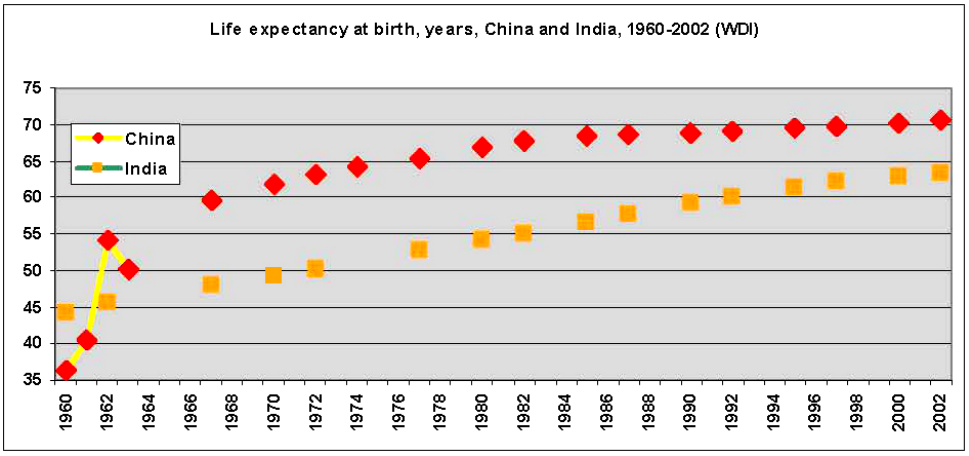
Source: WDI.

Fig. 16. PPP GDP per capita in current international dollars, China and India, 1975-2002



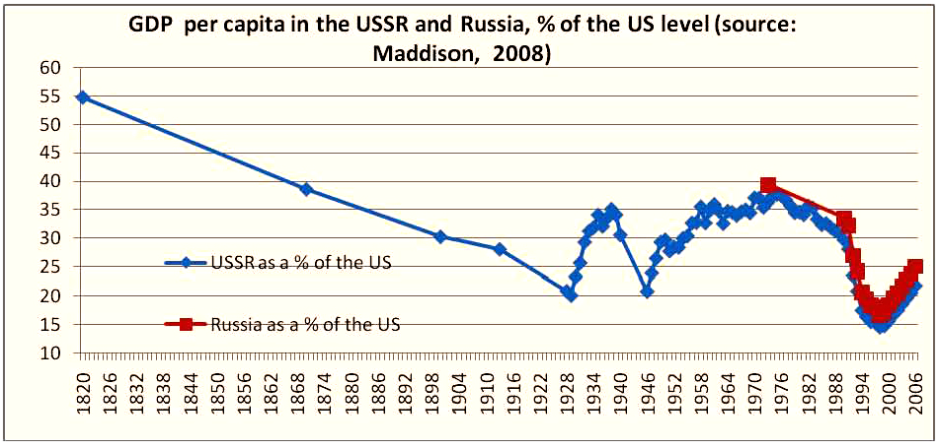
Source: WDI.

Fig. 17. Life expectancy at birth, years, China and India, 1960-2002



Source: WDI.

Fig. 18. PPP GDP per capita in the USSR and Russia, % of the US level

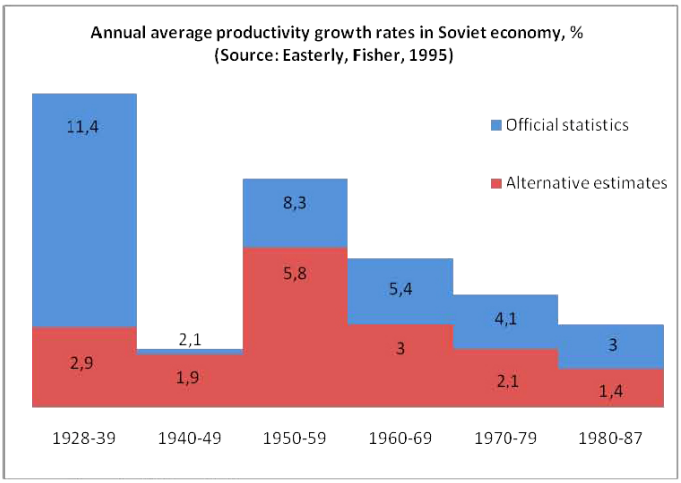


Source: Maddison, 2008.

The highest rates of growth of labor productivity in the Soviet Union were observed not in the 1930s (3 percent annually), but in the 1950s (6 percent). The TFP growth rates over decades increased from 0.6 percent annually in the 1930s to 2.8 percent in the 1950s and then fell

monotonously becoming negative in the 1980s (table 1). The decade of the 1950s was thus the "golden period" of Soviet economic growth (fig. 19). The patterns of Soviet growth of the 1950s in terms of growth accounting were very similar to the Japanese growth of the 1950s-70s and Korean and Taiwanese growth in the 1960-80s—fast increases in labor productivity counterweighted the decline in capital productivity, so that the TFP increased markedly (table 1). However, high Soviet economic growth lasted only for a decade, whereas in East Asia, it continued for three to four decades, propelling Japan, South Korea, and Taiwan into the rank of a developed country.

Fig. 19. Annual average productivity growth rates in Soviet economy, %



Source: Easterly, Fisher, 1995.

Table 1. Growth in the USSR and Asian economies, Western data, 1928-87 (average annual, %)

Period/ country	Output per worker	Capital per worker	Capital/ output ratio	TPF growth (unit elasticity of substitution)	TPF growth assuming 0.4 elasticity of substitution
USSR (1928-39)	2.9	5.7	2.8	0.6	
USSR (1940-49)	1.9	1.5	-0.4	1.3	
USSR (1950-59)	5.8	7.4	1.6	2.8	1.1
USSR (1960-69)	3.0	5.4	2.4	0.8	1.1
USSR (1970-79)	2.1	5.0	2.9	0.1	1.2
USSR (1980-87)	1.4	4.0	2.6	-0.2	1.1
Japan(1950/57/65/-85/88/90)			2.3 - 3.2	1.7 - 2.5	
Korea (1950/60/65-85/88/90)			2.8 – 3.7	1.7 - 2.8	
Taiwan (1950/53/65-85/88/90)			2.6 – 3.1	1.9-2.4	

Source: Easterly, Fisher, 1995.

Among many reasons for the decline in growth rate in the USSR in the 1960s-1980s, the inability of a centrally planned economy to ensure adequate flow of investment into replacement of retired fixed capital stock appears to be most crucial (Popov, 2007c). The task of renovating physical capital contradicted the short-term goal of fulfilling planned targets, and Soviet planners

therefore preferred to invest in new capacities instead of upgrading old ones. Hence, after the massive investment of the 1930s in the USSR (the "big push"), the highest productivity was achieved after the period equal to the service life of capital stock (about twenty years) before there emerged a need for massive investment into replacing retired stock. Afterwards, capital stock started to age rapidly, sharply reducing capital productivity and lowering labor productivity and the TFP growth rate.

If this explanation is correct, a centrally planned economy is doomed to experience a growth slowdown after three decades of high growth following a "big push." In this respect, the relatively short Chinese experience with the CPE (1949/59-79) looks superior to the Soviet excessively long experience (1929-91). This is one of the reasons to believe that transition to the market economy in the Soviet Union would have been more successful if it had started in the 1960s.

However, to make a transition to the market economy at the right time is a necessary, but not a sufficient, condition for successful catch-up development. Manufacturing growth is like cooking a good dish—all the necessary ingredients should be in the right proportion; if only one is under- or overrepresented, the "chemistry of growth" will not happen. Fast economic growth can materialize in practice only if several necessary conditions are met simultaneously. In particular, rapid growth requires a number of crucial inputs — infrastructure, human capital, even land distribution in agrarian countries, strong state institutions, and economic stimuli among other things. Once one of the essential ingredients is missing, growth just does not take off. Rodrik, Hausmann, and Velasco (2005) talk about "binding constraints" that hold back economic growth; finding these constraints is a task in "growth diagnostics." In some cases, these constraints are associated with a lack of market liberalization, in others, with a lack of state capacity or human capital or infrastructure.

Why did economic liberalization work in Central Europe but not in SSA and LA? The answer, according to the outlined approach, would be that in Central Europe, the missing ingredient was economic liberalization, whereas in SSA and LA, there was a lack of state capacity, not a lack of market liberalization. Why did liberalization work in China and Central Europe but not work in CIS? It is because in CIS, it was carried out in such a way as to undermine state capacity— the precious heritage of the socialist past — whereas in Central Europe and even more so in China, state capacity did not decline substantially during transition.

Let us take a closer look at the Chinese case. It is important to realize that the rapid catch-up development of the post-reform period is due not only to and even not so much to economic liberalization and market-oriented reforms. The pre-conditions for the Chinese success of the last thirty years were created mostly in the preceding period of 1949-76. In fact, it would be no exaggeration at all to claim that without the achievements of Mao's regime, the market-type reforms of 1979 and beyond would never have produced the impressive results that they actually did. In this sense, economic liberalization in 1979 and beyond was only the last straw that broke the camel's back. The other ingredients, most importantly strong institutions and human capital, had already been provided by the previous regime. Without these other ingredients, liberalization

alone in different periods and different countries was never successful and sometimes counterproductive, like in Sub-Saharan Africa in the 1980s.

Market-type reforms in China in 1979 and beyond brought about the acceleration of economic growth because China already had an efficient government that was created by CCP after the Liberation and that the country did not have in centuries[16] (Lu, 1999). Through the party cells in every village, the communist government in Beijing was able to enforce its rules and regulations all over the country more efficiently than Qing Shi Huang Di or any emperor since then, not to mention the Kuomintang regime (1912-49). While in the late nineteenth century, the central government had revenues equivalent to only 3 percent of GDP (against 12 percent in Japan right after the Meiji Restoration) and under the Kuomintang government, they increased to only 5 percent of GDP, Mao's government left the state coffers to Deng's reform team with revenues equivalent to 20 percent of GDP. The Chinese crime rate in the 1970s was among the lowest in the world, a Chinese shadow economy was virtually non-existent, and corruption was estimated by Transparency International even in 1985 to be the lowest in the developing world. In the same period, during "clearly the greatest experiment in the mass education in the history of the world" (UNESCO-sponsored 1984 report), literacy rates in China increased from 28 percent in 1949 to 65 percent by the end of the 1970s (41 percent in India).

The Great Leap Forward (1958-62) and the Cultural Revolution (1966-76) are said to be the major failures of Chinese development. True, output in China declined three times in the whole post-Liberation period: in 1960-62, by over 30 percent, in 1967-68, by 10 percent, and in 1976, by 2 percent (WDI, 2005). The Great Leap Forward produced a famine and a reduction in the population. But if these major setbacks could have been avoided, Chinese development in 1949-79 would look even more impressive. Most researchers would probably agree that the Great Leap Forward that inflicted the most significant damage could have been avoided in the sense that it did not follow logically from the intrinsic features of the Chinese socialist model. There is less certainty about whether the Cultural Revolution can be excluded from the "package" of subsequent policies — this mass movement was very much in line with socialist developmental goals and most probably prevented the inevitable bureaucratization of the government apparatus that occurred in other communist countries.[17] But the point to make here is that even without excluding these periods, Chinese development in 1949-79 was much better than that of most countries in the world and that this development laid the foundations of the truly exceptional success of the post-reform period.

To put it differently, by the end of the 1970s, China had virtually everything that was needed for growth except some liberalization of markets — a much easier ingredient to introduce than human capital or institutional capacity. But even this seemingly simple task of economic liberalization required careful management. The USSR was in a similar position in the late 1980s. True, the Soviet system lost its economic and social dynamism, growth rates in the 1960s-80s were falling, life expectancy was not rising, and crime rates were slowly growing, but institutions were generally strong and human capital was large, which provided good starting conditions for

reform. Nevertheless, economic liberalization in China (since 1979) and in the USSR and later, Russia (since 1989) produced markedly different outcomes (Popov, 2000, 2007a).

Unlike Russia after 1991, it so far seems as if China in 1979-2009 managed to better preserve its strong state institutions—the murder rate in China is still below 3 per 100,000 inhabitants compared to about 30 in Russia in 2002 and about 20 in 2008 (Popov, 2007d). True, in the 1970s, under the Maoist regime, the murder rate in Shandong Province was less than 1 (Shandong, 2005), and in 1987, it was estimated to be 1.5 for the whole of China (WHO, 1994). The threefold increase in the murder rate during the market reforms is comparable with the Russian increase, although Chinese levels are nowhere near the Russian levels.

Why did China manage to preserve relatively strong institutions during economic liberalization, whereas in Russia, state institutions collapsed? Part of the answer is the impact of democratization on the quality of institutions: as argued in previous papers (Polterovich and Popov, 2007; Polterovich, Popov, and Tonis, 2007, 2008; Zakaria, 1997), democratization carried out in a poor rule of law environment (weak state institutions) is associated with further weakening of institutions and worsening of macroeconomic policy, which has a negative impact on growth and does not allow the creation of a stable democratic regime, especially in resource-rich countries.

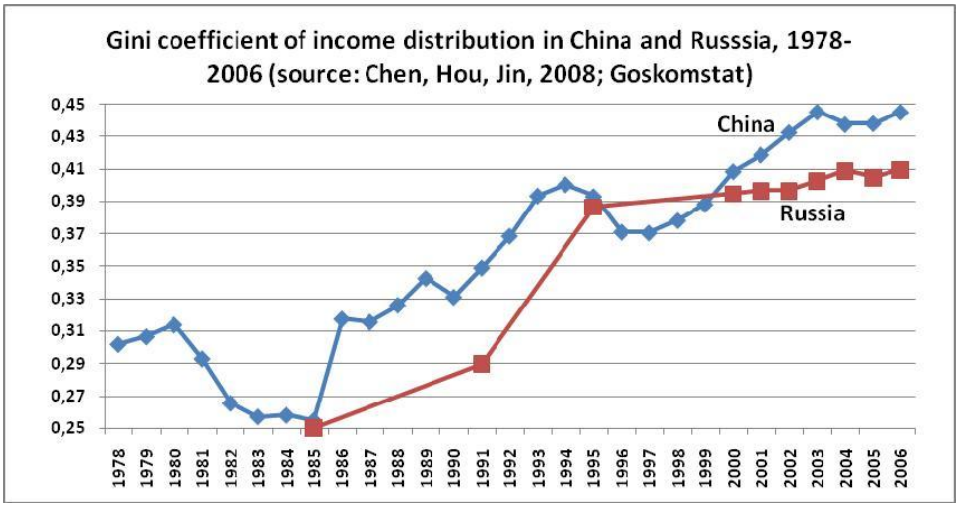
This is only part of the answer, however, because there are few examples of fast catch-up development under democratic regimes (Japan after the Second World War and Botswana and Mauritius after gaining independence in the 1960s). Besides, differences in the quality of state institutions among authoritarian regimes are huge—less than 1 murder per 100,000 inhabitants in pre-reform China and over 20 in SSA. Another and most important explanation is probably the long-term development trajectory of institutions in China and Russia. The Chinese 1949 Liberation was similar to the Russian 1917 Revolution not only because communists came to power in both countries, but because traditional collectivist institutions, ruined by preceding Westernization, were re-established and strengthened. However, in Russia, the 1917-91 communist regime just interrupted the process of transplantation of Western institutions that had been going on since at least the seventeenth century, whereas in China, the Liberation of 1949 just returned the country to the long-term institutional trajectory that was briefly (and only partly) interrupted after the Opium Wars.

To put it differently, Russia had already been westernized before 1917, and collectivist institutions that were introduced in Russia by the 1917 Revolution had already been largely alien to previous long-term institutional development. On the other hand, China aborted the unsuccessful Westernization attempt (1840s-1949) and returned to collectivist (Asian values) institutions.[18] What was a passing episode and deviation from the trend in Russia was a return to mainstream development and the restoration of a long-term trend in China. Hence, economic liberalization from 1979 onwards in China, even though accompanied by growing income inequality and crime and murder rates, did not result at least until today in institutional collapse.

There is, however, a major threat to China's seemingly flawless development path—growing

inequality in income distribution (fig. 20). Unlike in the initial years of economic reforms (1979-85), inequality has been growing since the mid 1980s, exceeding the level of Japan and South Korea and even the level of Russia, and approaching Latin American and African levels.

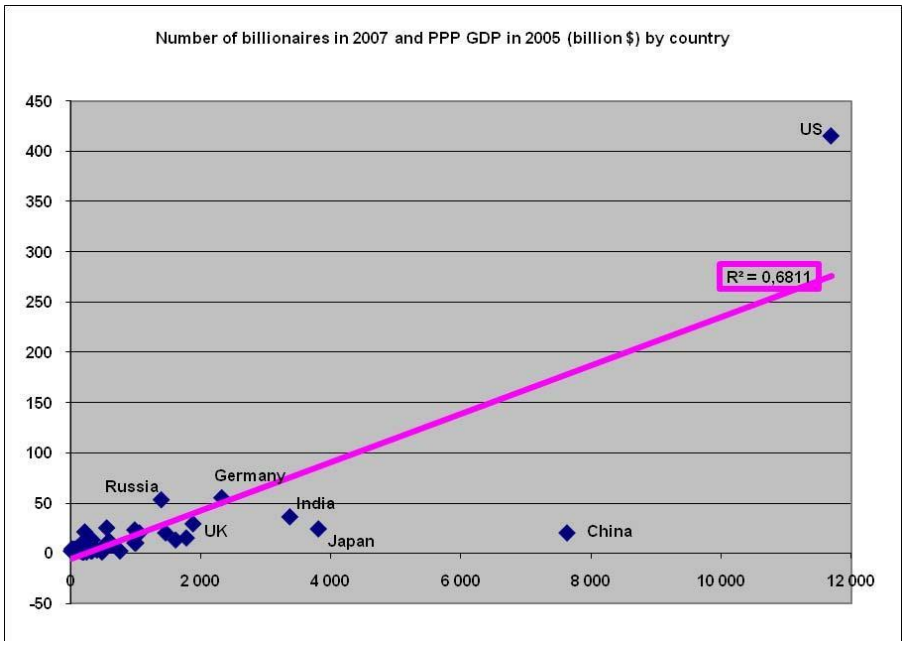
Fig. 20. Gini coefficient of income distribution in China and Russia, 1978-2006



Source: Chen, Hou, Jin, 2008; Goskomstat.

The number of billionaires in China was also growing fast: before the 2008-09 recession, in April 2007, according to Forbes' list, China had twenty billionaires (fig. 21); in April 2008, before the collapse of stock prices, this number doubled reaching forty. This was still below the Russian number (fifty-three in 2007 and eighty-seven in 2008), but if the trend continues, China may replicate Russia in the "privatization of the state" pattern.

Fig. 21. Number of billionaires in 2007 and PPP GDP in 2005 (billion $) by country



Source: Forbes billionaire list (www.Forbes.com).

Conclusions

From a longer-term, millennium perspective, the extraordinary success of China before the Opium Wars (mid nineteenth century) and after the Liberation (of 1949) is due to institutional continuity—the ability to proceed along the evolutionary path without breaking up traditional collectivist structures ("Asian values"). In a sense, Deng's famous "feeling for the stones while crossing the river" reform strategy is deeply rooted in the millennium-old Chinese tradition and represents this institutional continuity.

The millennium-perspective success of China is not limited to the recent (1949 onwards) impressive catch-up in terms of GDP per capita. The other measure of success is the ability to become the most populous nation on the planet and to retain this status even when the country was falling behind the West in terms of GDP per capita (1500-1950). By the integral criteria (total GDP), China today is the most successful developing country and potentially, and within a decade or so, the most successful country of the world.

In a sense, China found another and more painless exit from the Malthusian trap. Western countries broke traditional collectivist institutions at a low level of development (sixteenth to eighteenth century) and experienced a painful redistribution of income in favor of the rich (rising income and wealth inequality); this allowed the share of savings and investment in income, K/L ratio, and productivity to rise, but only at the price of high income inequality associated with deteriorating quality of institutions and increased mortality under low income levels. China retained traditional institutions and low income inequality for nearly five hundred years more than the West, until technical progress allowed productivity and the share of investment in income to increase without causing mass deprivation of the population.

Why did economic liberalization work in China (1979 onwards) but fail in other countries (Sub- Saharan Africa, Latin America, and the Former Soviet Union)? It is argued in this and other papers that there are several explanations. First, Chinese reforms were very different from the Washington consensus package (gradual rather than instant deregulation of prices, no mass privatization, strong industrial policy, and undervaluation of the exchange rate via accumulation of reserves—see Polterovich and Popov, 2004, 2005, 2006). Second, the recent Chinese success (1979 onwards) is based on the achievements of the Mao period (1949-76): strong state institutions and efficient government, improved infrastructure, and an increased pool of human capital (Popov, 2007a). Third, unlike in the Former Soviet Union, these achievements were not squandered in China due to gradual rather than shock-therapy-type economic liberalization and democratization (Popov, 2007b; Polterovich and Popov, 2007). Fourth and finally, and probably most importantly, until today, China has never really departed from the collectivist institutions that allowed low income and wealth inequality to be maintained; the short-lived Westernization attempt (1840s-1949) was aborted. On the other hand, countries that willingly and unwillingly (colonialism) transplanted Western institutions (LA, FSU, and SSA) have chosen to replicate the Western exit from the Malthusian trap and ended up with high income inequality and an apparent

lack of institutional capacity.

It follows that the successful catch-up development of China, if it continues, would become a turning point for the world economy not only due to the size of the country, but also because for the first time in history, successful economic development on a major scale is based on an indigenous, not a Western-type, economic model. If this interpretation is correct, the next large regions of successful catch-up development would be MENA Islamic countries (Turkey, Iran, Egypt, etc.) and South Asia (India), whereas Latin America, Sub-Saharan Africa, and Russia would fall behind.

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[2] The debate is summarized with appropriate references in Bryant, 2006.

[3] The latter was characterized by the growth of population that was "eating up" all the potential increases in income per capita resulting from technological change (Galor and Weil, 2000).

[4] The other, more traditional evolutionary explanation of the economic success of the West (criticized in Pomeranz, 2000) also assigns a non-trivial role to emigration: early elimination of serfdom in Europe

made free labor more expensive, which in turn stimulated the development of labor-saving technologies. Without mass emigration to America and other offshoots, labor in the Old World could have remained less expensive.

[5] The decrease in population growth in economically difficult times is due not to increased mortality (a so-called positive check), but to lower fertility (a preventive check). It has been demonstrated that there is no link between mortality and the dynamics of real wages but that there is a correlation between real wages and birth rate, and this correlation is due to variations in the marriage age (Saito, 1996, referring to Wringley and Schofield, 1981): when times are bad economically, celibacy and marriage age increase lead to fewer births. It has also been shown that fertility decreases during famines due to a variety of mechanisms. "It is not so much that famines, both historic and contemporary, killed a vast number of people, but chiefly that the immediate effect of a famine was to reduce the number of conceptions, regardless of how deadly it was" (Saito 2006).

[6] The Solow model is a model with exogenous technical progress (*A* is not explained, but just assumed). In endogenous growth models, *A* depends on the rate of capital accumulation (investment in R&D and innovations spur technical progress), so a higher investment rate leads to faster growth not only because the capital labor ratio, *K/L,* rises, but also due to an increase in the technical level, *A*.

[7] GDP per capita in the UK increased in constant 1990 international Geary-Khamis dollars from $714 in 1500 to $974 in 1600, to $1250 in 1700, and to $1706 in 1820 (Maddison, 2008).

[8] Another anecdotal piece of evidence of the strength of the collective institutions in East Asia, South Asia, and MENA countries is the virtual absence of urban slums (Pomeranz, 2006) and homeless children, which are found in abundance in LA, SSA, and FSU.

[9] Overall trend in homicide rates, all pre-modern local estimates and four national series. Note: All 398 local estimates from the History of Homicide Database; national series for Sweden, England and Wales, Switzerland, and Italy.

[10] In England and Wales, the Gini coefficient increased from 46 percent in 1688 to 53 percent in the 1860s (Saito, 2009).

[11] Very high income inequality in low-income countries means that many people find themselves in extreme poverty, below the subsistence level, which leads to high mortality.

[12] In Japan, the Gini coefficient allegedly increased from 34 percent in 1860 to 56 percent in 1940, but then fell to 30-40 percent in the 1960-90s (Saito, 2009).

[13] These are not the actual Ginis, but predicted Ginis reconstructed using regression equation mentioned above.

[14] "Even before the onset of the Victorian famines, warning signals were in place: C. Walford showed in 1878 that the number of famines in the first century of British rule had already exceeded the total recorded cases in the previous two thousand years. But the grim reality behind claims to 'good governance' truly came to light in the very decades that Ferguson trumpets. According to the most reliable estimates, the deaths from the 1876–1878 famine were in the range of six to eight million, and in the double-barreled famine of 1896–1897 and 1899–1900, they probably totaled somewhere in the range of 17 to 20 million. So in the quarter century that marks the pinnacle of colonial good governance, famine deaths average at least a million per year" (Chibber, 2005). In China, famines claimed 8,000 lives a year in 1644-1795, 57,000 in 1796-1871, 325,000 in 1871-1911, and 583,000 in 1911-1947, during the Republic. The 1876-79 famine alone took at least 10 million lives, twice as many as all famines since 1644 (Xia Mingfang calculations cited in Pomerantz, 2006).

[15] Only twice was China conquered by outsiders—by Mongols in the twelfth century (who later established the Yuan Dynasty—1279-1368) and by the Manchu (who established the Last Qing Dynasty—1644-1911), but in both cases, the conquerors were quickly "China-ized" and assimilated by the more powerful Chinese culture. Sinologists agree that the continuity of the Chinese civilization makes it truly unique: many nations started with pictograms (characters), but only larger China (Japan and Korea included) preserved characters throughout all their history; the number of ancient manuscripts and the amount of factual information on its ancient history is at least in the order of magnitude greater than in any other nation of the world; respect is given to ancestors and Confucian values prevail; etc.

[16] To a lesser extent, this is true for India: market-type reforms in the 1990s produced good results because they were based on previous achievements of the import substitution period (Nayyar, 2006).

[17] On June 15, 1976, when Mao's illness became more severe, he called Hua Guofeng and some others in and said to them: "I am over eighty now, and when people get old, they like to think about post-mortal things … In my whole life, I have accomplished two things. One is the fight against Jiang Jieshi [Chiang Kai-shek] for several decades and kicking him out onto a few islands and fighting an eight-year resistance war against the Japanese invasion that forced the Japanese to return to their home. There

has been less disagreement on this matter… The other thing is what you all know, that is, launching the "Cultural Revolution." Not very many people support it, and quite a number of people are against it. These two things are not finished, and the legacy will be passed onto the next generation. How to pass it on? If not peacefully, then in turbulence, and, if not managed well, there will be foul wind and rain of blood. What are you going to do? Only heaven knows" (People's Web, 2003).

[18] The continuity and restoration of "Asian values" could also be seen in the "revolution's promise that every man, no matter how poor, could become a household head and carry on his family line" (Pomeranz, 2006).