Mixed Fortunes: Economic History of China, Russia and the West

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MIXED FORTUNES
AN ECONOMIC HISTORY
OF CHINA, RUSSIA, AND THE WEST

VLADIMIR POPOV
Millennium perspective: How the West got rich?

PPP GDP per capita in major countries and regions since 1500, 1990 international Geary-Khamis dollars; source: A. Maddison; log scale)
Before 1820 China and India accounted for about half of the world GDP.
PPP GDP per capita in the USSR and Russia, % of Western European level
PPP GDP per capita in the USSR and Russia, % of US level

GDP per capita in the USSR and Russia, % US level

- USSR as a % of the US
- Russia as a % of the US


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

GDP per capita in the USSR and Russia, % of the US level

- USSR as a % of the US
- Russia as a % of the US
Annual average productivity growth rates in Soviet economy, %
(Source: Easterly, Fisher, 1995)

- 1928-39: 11.4%
- 1940-49: 2.9%
- 1950-59: 5.8%
- 1960-69: 5.4%
- 1970-79: 4.1%
- 1980-87: 3.0%
Growth in the USSR and Asian economies, Western data, 1928-87 (average annual, %) – Easterly, Fisher, 1995

<table>
<thead>
<tr>
<th>Period/ country</th>
<th>Output per worker</th>
<th>Capital per worker</th>
<th>Capital/output ratio</th>
<th>TPF growth (unit elasticity of substitution)</th>
<th>TPF growth assuming 0.4 elasticity of substitution</th>
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<td>GDP</td>
<td>Labour (# of workers)</td>
<td>Human capital (labour quality)</td>
<td>Physical capital</td>
<td>TFP (Total factor productivity)<em>/</em></td>
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<td>1.17</td>
<td>0.63</td>
<td>4.62</td>
<td>0.60 – 1.27</td>
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*/* The lower estimate is obtained after adjustment for labour quality, the highest – without such adjustment.

China since 1949

Not only recent (post reform, 1979 – onwards) Chinese performance is impressive, after Deng Xiaoping started market type reforms, but, what is less known – since 1949, when the CPC took power and CPR was established
GDP growth rates of major countries and regions in 1960-2008, %

GDP per capita growth rates in developed and developing countries, 5-year moving averages, %
PPP GDP per capita in current international dollars, China and India, 1980-2010 (WDI)
Life expectancy at birth, years, China and India, 1960-2010 (WDI)
PPP GDP per capita (in 1990 International Geary-Khamis dollars) as a % of the US level

Japan
Western Europe
Russia
FSU countries
Latin America
China
India
Africa

PPP GDP per capita (in 1990 International Geary-Khamis dollars) as a % of the US level
PPP GDP per capita in Argentina as a % of the US in 1800-2010
PPP GDP per capita in Brazil as a % of the US in 1800-2010

PPP GDP per capita in countries that took off after the Second World War (Japan, Taiwan, Hong Kong, Singapore, S. Korea)
PPP GDP per capita in countries that took off in the 1960s and later (SEA and China)
PPP GDP per capita in some countries outside East Asia that took off in the 1960s and later (India, Tunisia, Botswana)
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<td>4.38</td>
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<td>Thailand</td>
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<td>Japan</td>
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<td>Burma (Myanmar)</td>
<td>3.80</td>
<td>3.84</td>
<td>2.77 (1960-2004)</td>
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<tr>
<td>Montenegro</td>
<td>3.18 (1952-2010)</td>
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<td>Lesotho (Maddison data – until 2008)</td>
<td>2.88</td>
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</tr>
<tr>
<td>Sri Lanka</td>
<td>2.45</td>
<td>2.88</td>
<td>3.42</td>
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Three stylized facts

• The West got rich first
• USSR/Russia was catching up with the West in 1920s-1960s, but then fell behind
• China is catching up with the West since 1950
Millennium perspective: How the West got rich?

• Evolutionary school (Landes, 1998; Mokyr, 2002) - growth of Western countries in 1500-1900 that allowed them to become the wealthiest in the world was the inevitable result of social changes:
  – abolition of serfdom and guarantees of human rights,
  – Reformation and Protestant ethic,
  – *Magna Carta*,
  – Universities,
  – European enlightenment,
  – openness and free flow of ideas made possible technological innovations.
How the West got rich?

• Another school (Diamond, 1997; Pomerantz, 2000) pays special attention to seemingly minor historical events – fortunate and misfortunate, but mostly accidental – that pre-determined the development of countries and continents for centuries to come.
  – Pomerantz (2000) argues that even in the 18th century China was not inferior to Europe in terms of technology, social structures that could support technological innovation, large pools of accumulated capital, etc.
  – The reason that Europe “succeeded” and China did not was largely determined by a pure chances – the 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, African Horn and Saudi Arabia in early 15th century, the emperors of the Ming dynasty prohibited the construction of big ships and the Middle Kingdom experienced self-imposed isolation for more than three 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 by raising the price of labor
How the West got rich?

• (Acemoglu, Johnson and Robinson, 2001) -“Colonial Origins of Comparative Development”

• Instrumentation of the institutions variable – mortality rate among settlers in the colonies of major European states in the 19th century.

• The argument was that, if these mortality rates were very high (Gambia, Mali, Nigeria had mortality rates hundreds times higher than Australia, Bahamas, Canada, Hong Kong, New Zealand, US), the settlers did not bother to set good institutions in those countries.

• The authors concluded that, after controlling for the impact of institutions, the geographical location does not really have an impact on growth.
How the West got rich?

- Sachs (2003) and Faye, McArthur, Sachs, and Snow (2004) attribute a lot of variations in performance to the direct impact of geographical location – through the access to the sea (land-locked countries), transportation costs, climate and diseases.

- Arguing with Acemoglu, Johnson, and Robinson (2001), Sachs (2003) writes:
  - “Acemoglu, Johnson, and Robinson completely neglect the fact that the 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).
How the West got rich?

• Sachs (2003): impoverished regions with an 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 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”.
How the West got rich?

• Rodrik, Subramanian and Trebbi (2002) - “Institutions Rule”:

• They instrument institutions with 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).

• Institutions are largely, but not totally, determined by geography, and in turn they determine the trade openness and growth. The direct impact of geography on growth (apart from the impact through institutions) turns out to be insignificant.
How the West got rich?

• Rodrik, Subramanian and Trebbi (2002) believe that geography, in particular settlers’ mortality rates, is a good predictor of institutional quality, but not the major cause of it.

• Rodrik (2004) explains the difference with 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 at the other end with Turkey and Thailand lying somewhere in between. What accounts for the different quality of the institutions in this non-colonized part of the world?
Shortcomings of existing explanations

• “…How could the enormous variation in customs, social structures, institutions, languages, geography, husbandry, and much else produce no variation in long-term economic growth? … Why was this pattern suddenly disrupted or transformed so that growth rates that had been stable for at least ten thousand years suddenly shifted by two orders of magnitude within a century?” (Goldstone, 2007).

• Indeed, if the demise of traditional institutions results in such an acceleration of economic growth, why don’t we see this happening before? In Greece, Rome, Byzantine or China? Conventional theory does not explain, for instance, why ancient Greece with personal freedoms, free flow of ideas and entrepreneurship did not have its own Industrial Revolution.

• And why, after the West made a successful transition to modern economic growth, it was not successfully replicated elsewhere? On the contrary, all cases of successful catch up development (mainly East Asia since mid 1900) occurred in countries that obviously did not dismantle traditional institutions.
How the West got rich? - Continuity and Asian values

- A different interpretation of the genesis of the institutions – continuity perspective.

- All countries had traditional community structures in the past, everywhere before 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 individuals.

- The West was the first to break away with this principle, making individual rights and freedoms sacred: this resulted in the increase in income inequalities and savings rate and rapid growth of productivity and allowed to overcome the limits of the two-dimensional Malthusian world (more population => more GDP).
Three ways out of Malthusian regime

Preservation of collectivists institutions (community) - South

- Preservation of collectivists institutions until 20th century - East Asia, South Asia, MENA
- Keeping inequality low
- Low savings rate, but strong institutional capacity

Elimination of collectivists institutions (community) - West

- Elimination of collectivists institutions (community) - West
- Colonialism – destruction of collectivist institution – SSA, LA, Russia
- Growing inequality
- High savings rate, but low institutional capacity

Overcoming Malthusian trap:
- Increase in inequality (large part of the population below poverty line), but also increase in savings and investment rate => faster growth of productivity ($A$ and $k$ in $y = A^*k^\alpha$)
- Decrease in population => smaller army => defeat in wars (Greece, Rome, Byzantine)
- Overcoming Malthusian trap:
  - High investment rates cause high productivity growth that compensates for slow population growth and deterioration of institutions
The West got rich due to technical progress or capital accumulation?

- First came capital accumulation that led to the increase in K/L and speeded up technical progress.

- Borrowing the expression from Paul Krugman that was used on a different occasion: the West got rich due to “perspiration”, not “inspiration”.

- Or, to be more precise, due to merciless ‘big push’ – increase in capital accumulation that was only made possible by the increase in income inequalities, which – at this low stage of per capita income – involved a lot of pain and sacrifices by putting a substantial portion of population below the subsistence level.
Two ways to escape the Malthusian trap

• (1) eliminating collectivist institutions and allowing for the costly increase in income inequalities at the very early stage of development: \( y = A^* k^\alpha \);  

• 2) maintaining collectivist institutions and keeping the income inequalities relatively low until slow technological progress and rise in productivity allows to begin accumulating capital at a pace surpassing population growth rates: \( y = A^* k^\alpha \);
Scheme 1. Equilibrium in the Solow model with fixed growth rates of the population

\[ y = A^\alpha k^\alpha \]

\[ A^\alpha k^\alpha = (n + d)k \]

\[ l_a = sA^\alpha k^\alpha \]
Malthusian trap in a Solow model with changing population growth rates

\[ y = A^\alpha k^\beta \]

\[ l_a = s^*y = s^*A^\alpha k^\beta \]

Needed investment with changing population growth rates
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</table>

a) excludes inventories; b) 1870-1926 excludes inventories; c) 1925-38; d) 1900-13; e) 1885-1940 excludes inventories and first entry is for 1885-9; f) excludes part of inventories; g) 1953-73; h) 1953-9; i) 1921-38; j) 1903-13 and excludes part of inventories; k) excludes part of inventories.

Source: Appendix Table 2.
It took 100 years to increase savings rate from 0 to 20%
Costs of the first way: via increase in inequalities and mobilization of savings

- Despite the acceleration of productivity growth in 1500-1800 in the UK (to about 0.2% a year, so that GDP per capita in the UK more than doubled over three centuries, 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). This is consistent with the story of rising income inequalities, accumulation of wealth in the hands of a few, and increasing savings and investment rate (the latter increased during the Industrial Revolution from a mere 6% in 1760 to 12% in 1831 – Galor, 1998).
- The costs of this transition were extremely high – rising income inequalities and weakening of the institutional capacity (high murder rate) leading, among other factors, to the decline in life expectancy from about 35-40 years to about 30-35 years in 1560-1730
Two ways to escape the Malthusian trap

- The first way was taken by countries that are now called Western and was associated with dramatic social costs in 16-18\textsuperscript{th} century. Moreover, it was imposed on part of the developing world in the 19-20\textsuperscript{th} century during the era of colonialism.

- Those developing countries that managed to resist and to preserve institutional continuity as well as relatively low inequalities (East Asia, MENA countries, 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 exiting the Malthusian trap.

- The other countries that destroyed their egalitarian institutions prematurely (replicating the Western path) experienced tremendous declines in institutional capacity and rise in inequalities.
How the West got rich? - Continuity and Asian values

- The 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, going hand in hand growth of productivity and population.
- The colonial expansion of the West interrupted the logical development along the second trajectory.
- Colonization of Sub-Saharan Africa, North and South America, Australia and to a lesser extent – South Asia led to complete or near complete destruction of traditional (community) structures that were only partially replaced by the new Western-style institutions.
How the West got rich? - Continuity and Asian values

- 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 have now a better chance for the catch up development than the less fortunate regions of the world periphery, where the continuity of the traditional structures was interrupted.
Gini coefficient in developed countries, 1550-2000 (source: Milanovic, Lindert, Williamson, 2007)
Fig. Long term trends in income inequalities in the US, 1913-2010

Source: Alvaredo, Atkinson, Piketty and Saez (2012)
Largest fortunes in million dollars (left scale) and as a multiple of median household wealth (right scale). Names of owners - in vertical bars.
## Inequalities

Table 2.3. Gini coefficients around particular years in developing countries, %

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<th>1750</th>
<th>1800</th>
<th>1850</th>
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<td>33.2</td>
<td>46.2</td>
<td>44.4</td>
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<tr>
<td>Nueva Espana/Mexico</td>
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<td></td>
<td></td>
<td></td>
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<td>50</td>
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<td>Brazil</td>
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<td>43.3</td>
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<td>58.8</td>
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<td></td>
<td></td>
<td></td>
<td>63.7</td>
<td></td>
<td>54.6</td>
</tr>
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<td>Peru (1876)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>41</td>
<td>51</td>
</tr>
</tbody>
</table>

Source: Milanovic, Lindert, Williamson, 2007; Modalsli, 2013; data for 2000 are sometimes from the WDI.
Fig. Predicted inequality in Latin America 1491-1929

[These are not the actual Ginis, but predicted Ginis reconstructed using regression equation]
Famines in the world periphery

- Other countries that destroyed their egalitarian institutions prematurely (replicating the Western path) experienced tremendous declines in institutional capacity and rise in inequalities.

- In India 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.

- India – late XIX century:

  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).
Murder rate in 2002 and income inequalities in 1990-2005

Murders per 100,000 inhabitants (WHO)
Institutional capacity of the state?

- The ability of the state to enforce rules and regulations
- Subjective measures – indices of the rule of law, government effectiveness, corruption, etc.
- Objective measures – murder rate, shadow economy
Murder rate (per 100,000 inhabitants) and the share of shadow economy in GDP (%)

The scatter plot above illustrates the relationship between the murder rate (per 100,000 inhabitants) and the share of the shadow economy in GDP for various countries. Each country is represented by a point on the graph, with the x-axis showing the murder rate and the y-axis showing the share of the shadow economy in GDP.

Countries in the graph include Argentina, Australia, Austria, Azerbaijan, Belarus, Belgium, Bolivia, Botswana, Brazil, Bulgaria, Canada, Chile, Colombia, Costa Rica, Croatia, Cyprus, Czech Republic, Denmark, Ecuador, Egypt, Arab Rep., Estonia, Finland, France, Georgia, Germany, Greece, Guatemala, Hungary, Ireland, Israel, Italy, Japan, Kazakhstan, Korea, Rep., Latvia, Lithuania, Mauritius, Mexico, Moldova, Morocco, Myanmar, Netherlands, Nicaragua, Norway, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Russian Federation, Singapore, Slovak Republic, Spain, Sri Lanka, Sweden, Switzerland, Tanzania, Thailand, Tunisia, Turkey, Ukraine, Uruguay, Uzbekistan, Venezuela, RB, and Yemen.
Fig. 2.—Overall trend in homicide rates, all premodern 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.
WB indices:
- Government effectiveness
- Rule of law
- Voice and accountability
- Political stability
- Regulation quality
- Control over corruption

+ murder rate
Risk index (ICRG), Corruption perception index (CPI) and murder rate (per 100,000 inhabitants), 2002
INSTITUTIONS (Europe, East Asia, MENA): Murders per 100,000 of inhabitants and government effectiveness index in 2002.
INSTITUTIONS (LA, SSA, FSU): Murders per 100,000 of inhabitants and government effectiveness index in 2002.
Murder rate in countries with over 15 murders per 100,000 inhabitants in 2008
Murder rate in countries with less than 1.5 murders per 100,000 inhabitants in 2008
How Russia and China fits into the scheme?
Why China managed 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 the previous papers (Polterovich, Popov, 2007; Polterovich, Popov, Tonis, 2007, 2008), democratization carried out in the poor rule of law environment (weak state institutions) is associated with further weakening of institutions and with worsening of macroeconomic policy, which has a negative impact on growth and does not allow to create a stable democratic regime, especially in resource rich countries.
Democratization and growth

\[ y = \text{CONST.} + \text{CONTR.VAR.} + 0.18 \Delta (RL - 0.72), \]


- The critical level of the rule of law index is 0.72 (more than in Czech, Jordan, Malta, Uruguay; but less than in Cyprus, Estonia, Hungary, Slovenia, Tunisia): if the index is higher, democratization has a positive effect on growth, if it is lower, the impact is negative.

- To put it differently, regression shows that only countries that managed to reach a certain level of the rule of law benefited from democratization.

\[ y = 5.03 - 0.001 Y + 0.160 I - 1.55 n + 0.156 \Delta (CPI - 5.51) \]

• 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, 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.

Chinese 1949 Liberation was similar to the Russian 1917 Revolution not only because communists came to power in both countries, but because traditional collectivists institutions, ruined by preceding Westernization, were re-established and strengthened.

However, in Russia 1917-91 communist regime just interrupted the process of transplantation of Western institutions, that was going on at least since the 17th century, whereas in China the Liberation of 1949 just returned the country to long-term institutional trajectory that was briefly (and only partly) interrupted after the Opium Wars.

So: How the West got rich, why East Asia is catching up now and what was the role of institutions in the process?
Differences in the institutional trajectories of Russia and China

• Russia has been already westernized before 1917, and collectivist institutions that were introduced in Russia by 1917 Revolution has been already largely alien to previous long-term institutional development.

• On the contrary, China has aborted the unsuccessful westernization attempt (1840s-1949) and returned to collectivist (Asian values) institutions.

• What was a passing episode and deviation from the trend in Russia was a return to the mainstream development and a restoration of long-term trend in China.

• Hence, economic liberalization from 1979 onwards in China, even though accompanied by growing income inequalities and crime and murder rates, did not result at least until today in the institutional collapse.
Top 10% national income share in France, Russia and the USA, 1900-2015
Increase in inequalities in Russia in 1600-1900
Social structure of Russian peasantry, % of total

<table>
<thead>
<tr>
<th>Years</th>
<th>Wealthy</th>
<th>Middle</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1600-1750</td>
<td>15</td>
<td>53</td>
<td>32</td>
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<td>1751-1800</td>
<td>10</td>
<td>48</td>
<td>42</td>
</tr>
<tr>
<td>1801-1860</td>
<td>16</td>
<td>56</td>
<td>30</td>
</tr>
<tr>
<td>1896-1900</td>
<td>18</td>
<td>23</td>
<td>59</td>
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</tbody>
</table>

Figure 9.10 Dynamics of criminality in Russia as the number of total crimes per 100,000 persons (Mironov 2000:II: Table 5.6)
Figure 9.9 Dynamics of peasant disturbances. Data for 1796–1856 and 1881–1900 are from Litvak (1967: Table 1), for 1855–60 from Zayonchkovski (1963), and for 1890–1916 from Dubrovsky (1956). Note the logarithmic scale of the y-axis.

Fig. 12. Death rate from external causes (per 100,000 of inhabitants) - Russian Empire, RSFSR, RF, 1870-2000 (log scale)


1- all external causes, 2 - accidents, 3- suicides, 4- murders, 5-unknown, 6 – work related accidents.
Murders per 100,000 inhabitants in 1987 and in 2002 (WHO statistics)

\[ y = 1.2507e^{0.4158x} \]

\[ R^2 = 0.6517 \]
Crime rate (left scale), murder rates and suicide rate (right scale) per 100,000 inhabitants

August 1998 currency crisis
Table. Number of deaths from external causes per 100,000 inhabitants in 2002 – countries with highest rates

<table>
<thead>
<tr>
<th>Country/Indicator</th>
<th>Deaths from external causes, total</th>
<th>Including deaths from</th>
<th>Accidents</th>
<th>Suicides</th>
<th>Murders</th>
<th>Other*</th>
</tr>
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<tbody>
<tr>
<td>Russia</td>
<td>245</td>
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<td>158</td>
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<td>11</td>
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<tr>
<td>Sierra-Leone</td>
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<td>148</td>
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<td>50</td>
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<tr>
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</tr>
</tbody>
</table>

*Deaths due to unidentified external causes, wars, police operations, executions. Totals may differ slightly from the sum of components due to rounding.

Source: WHO ([http://www.who.int/entity/healthinfo/statistics/bodgbdddeathdalyestimates.xls](http://www.who.int/entity/healthinfo/statistics/bodgbdddeathdalyestimates.xls))
Murder rate in China

- Now: still below 3 per 100,000 inhabitants as compared to about 30 in Russia in 2002 and about 20 in 2008.
- In the 1970s the murder rate in the Shandong province was 0.5 (Shandong, 2005)
- In 1987 was estimated at 1.5 for the whole China (WHO, 1994).
Murder rate in China per 100,000 inhabitants

- Murder rate values range from 1 to 2.5
Gini coefficient of income distribution in Russia and China, %

Source: Chen, Hou, Jin, 2008; Госкомстат; China daily, January 19, 2013.
Fig. 3.18. Gini coefficient of income distribution in China in 2003-12, %, new official sample (China Daily, January 19, 2013)
CHINA'S GINI COEFFICIENT

<table>
<thead>
<tr>
<th>Year</th>
<th>Gini Coefficient</th>
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<tbody>
<tr>
<td>2003</td>
<td>0.479</td>
</tr>
<tr>
<td>2004</td>
<td>0.473</td>
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<tr>
<td>2005</td>
<td>0.485</td>
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<tr>
<td>2006</td>
<td>0.487</td>
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<tr>
<td>2007</td>
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<td>2008</td>
<td>0.491</td>
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<tr>
<td>2009</td>
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<tr>
<td>2010</td>
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<tr>
<td>2011</td>
<td>0.477</td>
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<td>2012</td>
<td>0.474</td>
</tr>
</tbody>
</table>

Source: National Bureau of Statistics

LI YI / CHINA DAILY
Figure 11d. Top income shares: Russia vs China

Distribution of pretax national income (before taxes and transfers, except pensions and unempl. insurance) among equal-split adults (income of married couples divided by two). Sources for China: WID.world.
In 2011:
Russia – 101,
China -116.
HK- 36,
Taiwan – 25.

R² = 0.6811
Inequality in China adjusted

- It is important though to take into account the size of the country – in terms of both territory and population.

- 3 Chinese provinces (Guangdong, Shandong, Henan) have population over 95 million, another 7 – over 50 million, i.e. bigger that most state, so China should be compared with multistate regions, like European Union or ASEAN, rather than with particular states.

- In EU 27, for instance the coefficient of income inequality around 2005 was about 40% with 23 p.p. coming from between the countries inequalities. In China (29 provinces) it was over 40% with 24 p.p. coming from between the provinces disparities.

- In the US, the inequality coefficient was similar (over 40%), but only 6 p.p. came from disparities in income between the states (Milanovic, 2012).

- If China will manage to reduce the income gap between its provinces (and EU – between countries) to the level close to disparities between US states, it general inequality between citizens will fall to quite a low level.
A scatter plot showing GDP per capita (GDPppp05) against the number of billionaires for various countries. The plot includes points for Australia, Austria, Belgium, Brazil, Canada, Chile, China, Colombia, Cyprus, Denmark, Egypt, France, Germany, Hong Kong, China, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Kazakhstan, Korea, Rep., Kuwait, Lebanon, Malaysia, Mexico, Netherlands, New Zealand, Norway, Philippines, Poland, Russian Federation, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, Ukraine, United Arab Emirates, United Kingdom, and Venezuela. The plot also includes fitted values. The x-axis is labeled 'GDPppp05' and the y-axis is labeled 'Billionaires number, 2007-Forbes'.
• The relationship is non-linear:
  Number of billionaires in 2005 =  
  \[-0.9 + 0.367y - 0.0049y^2 + 2.6Y^2,\]

where

• $y$ – PPP GDP per capita in thousand $ in 2005,
• $Y$ – PPP GDP in 2005 in trillions.

$N = 181$, $R^2 = 0.95$, all coefficients significant at 1% level.
Conclusions

• In a sense, China found another and more painless exit from the Malthusian trap.

• Western countries broke traditional collectivist institutions at the low level of development (16-18th century) and experienced a painful redistribution of income in favor of the rich (rising income and wealth inequalities) – this allowed raising the share of savings and investment in income, K/L ratio and productivity, but only at a price of high income inequalities that were extremely costly for low income countries (increase in mortality).

• China retained traditional institutions and low income inequalities for nearly 500 years more than the West – until the technical progress allowed to increase productivity and the share of investment in income without causing mass deprivation of the masses.
Conclusions

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 be falling behind.