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

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OXFORD

MIXED FORTUNES

AN ECONOMIC HISTORY OF CHINA, RUSSIA, AND THE WEST

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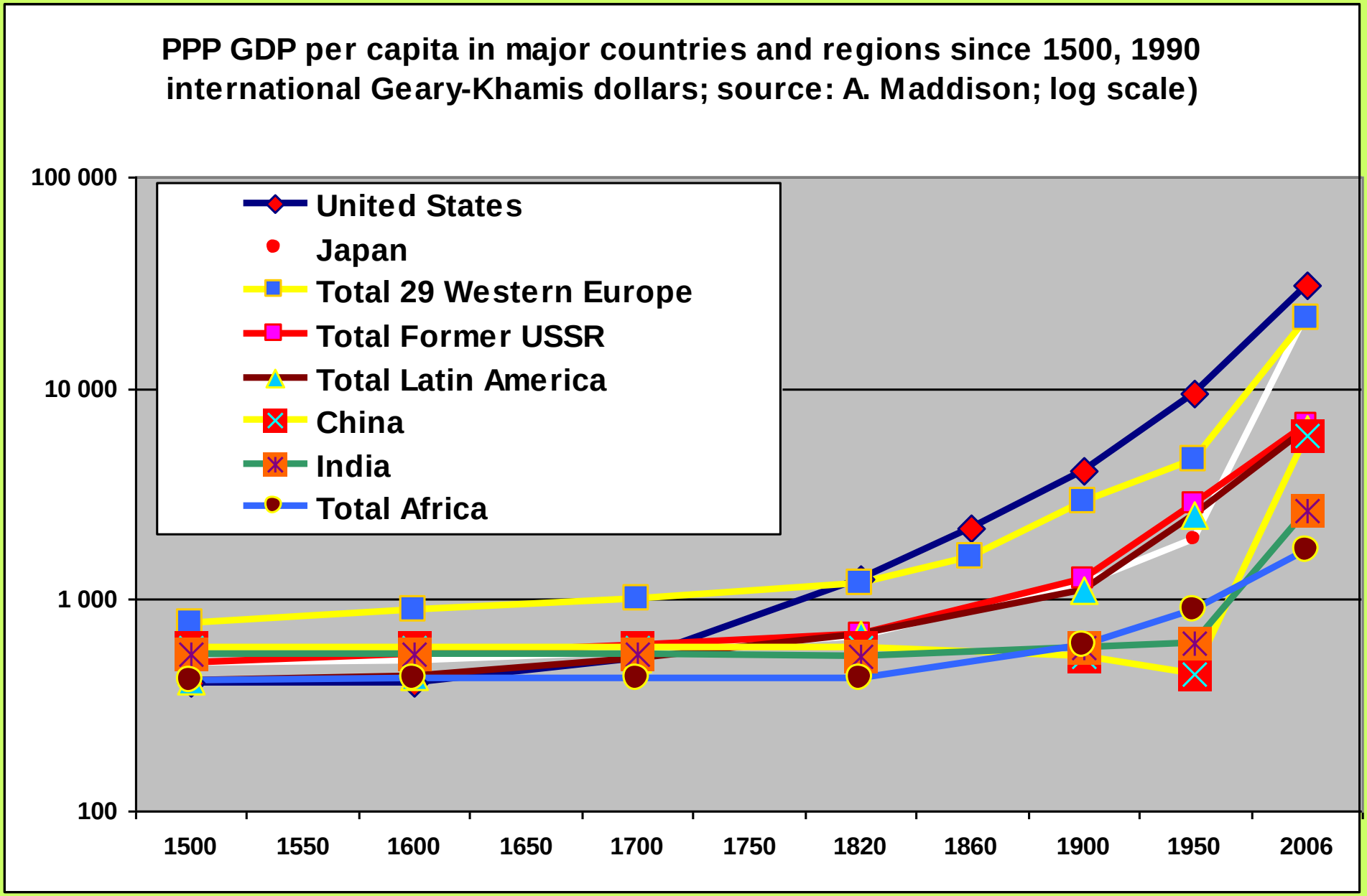
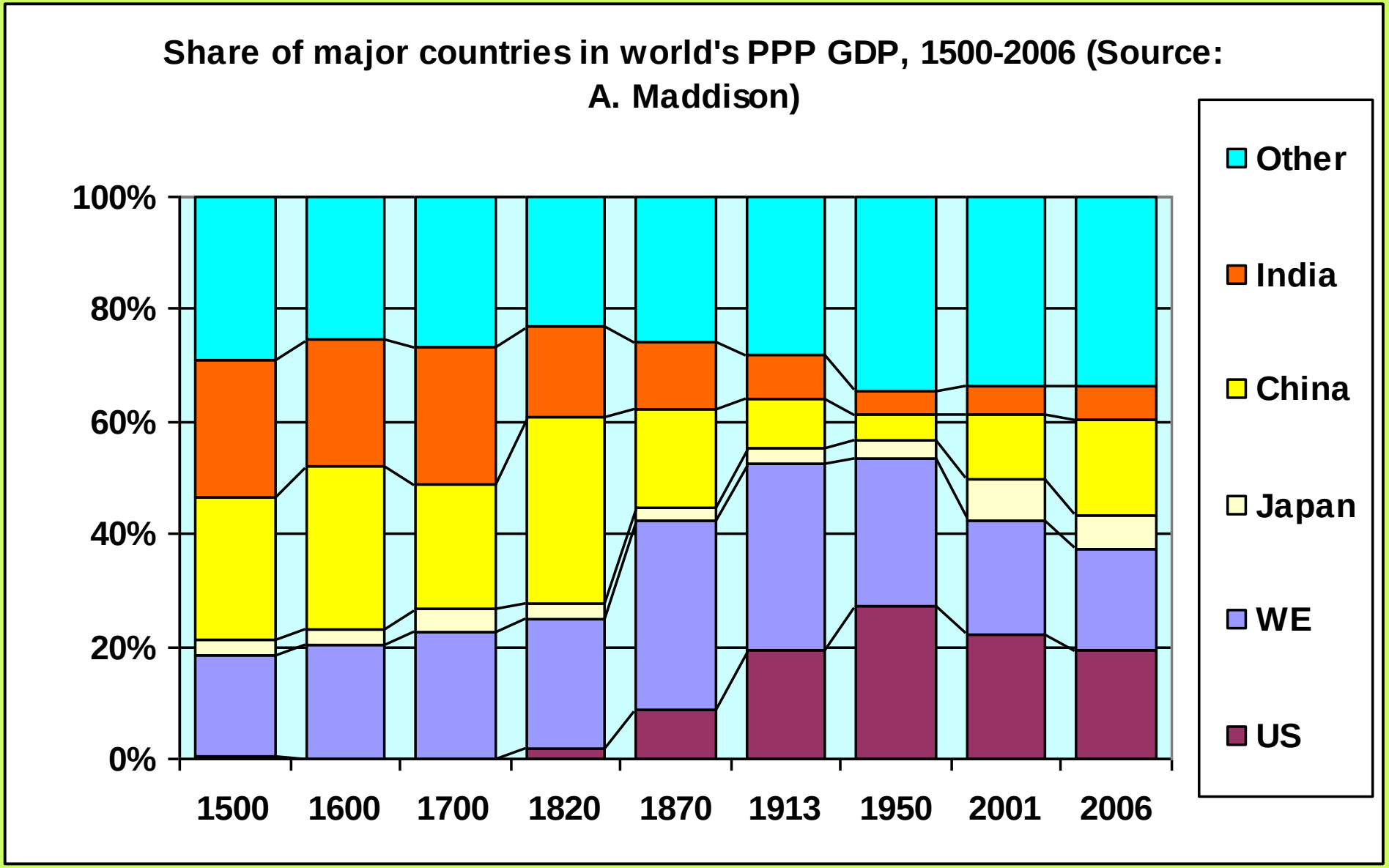
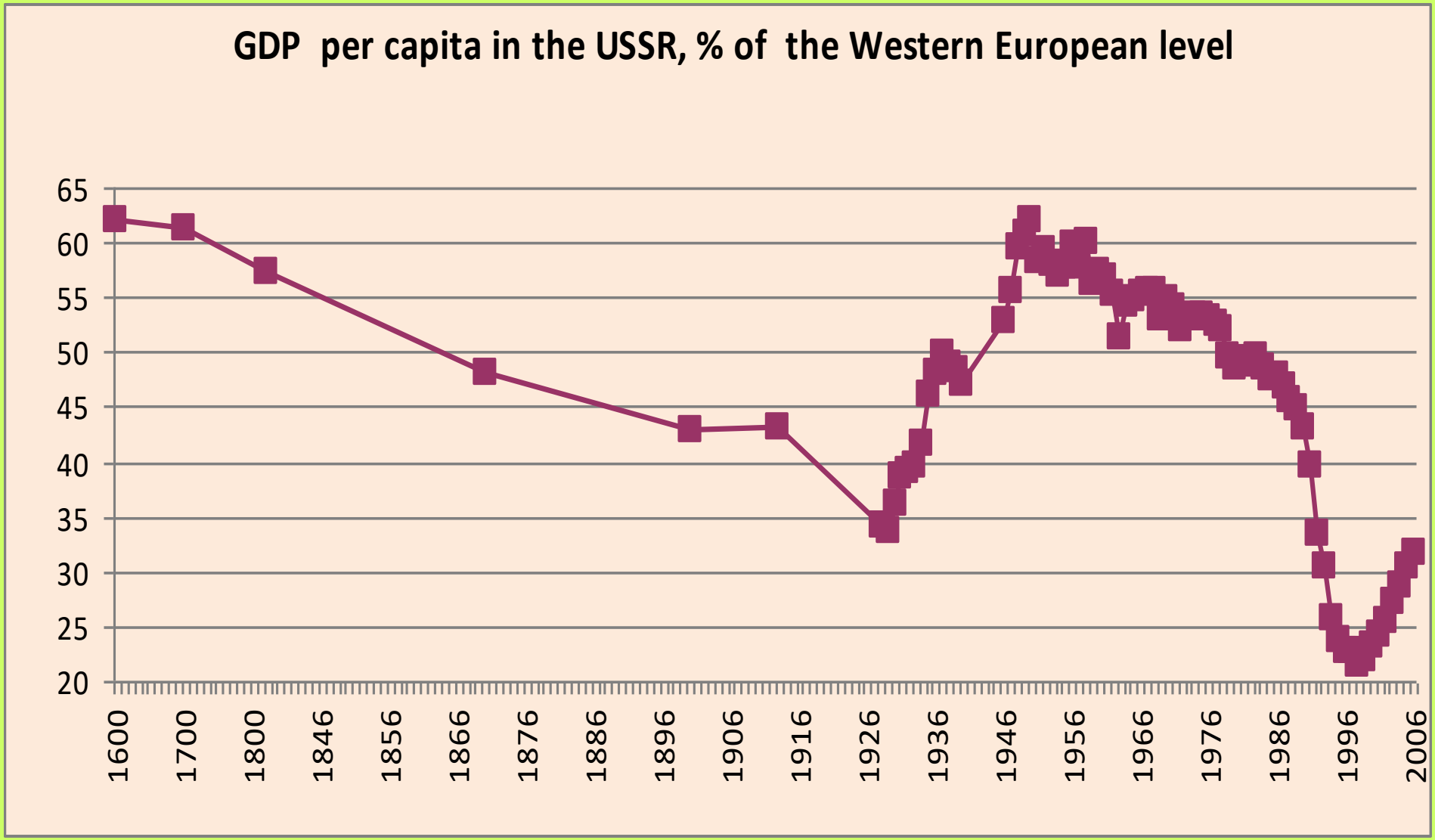
Millennium perspective: How the West got rich?



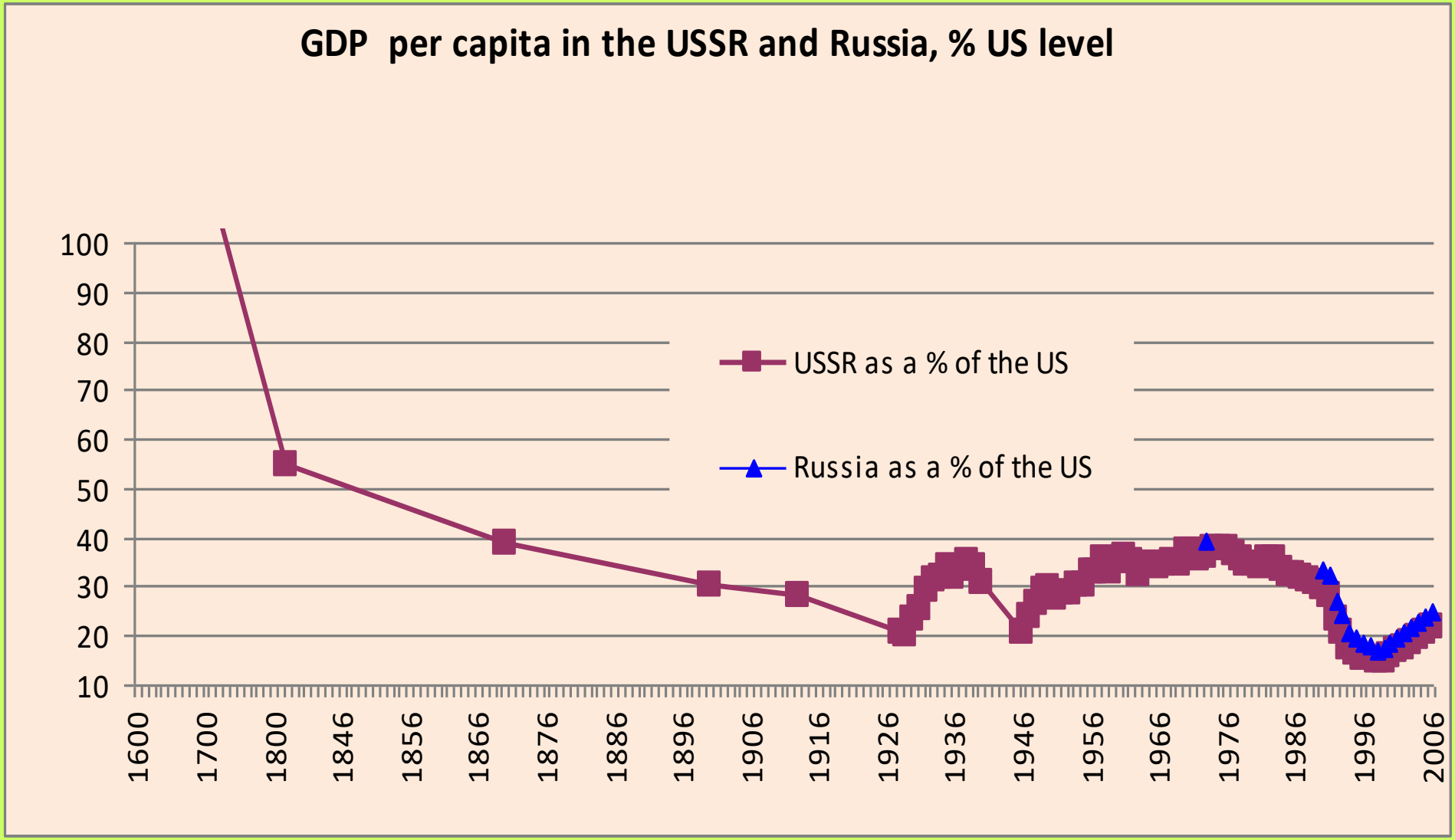
Before 1820 China and India accounted for about half of the world GDP



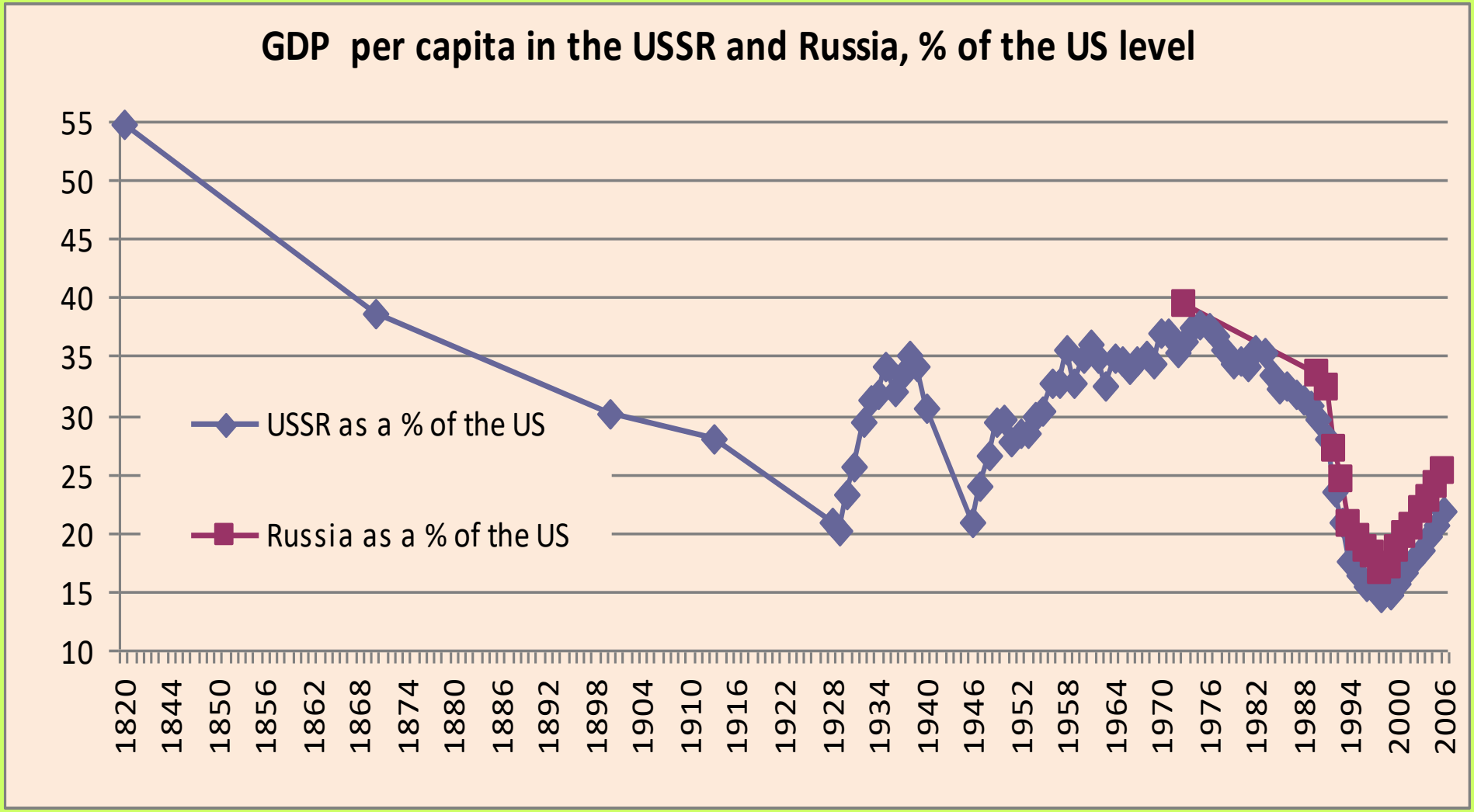
PPP GDP per capita in the USSR and Russia, % of Western European level

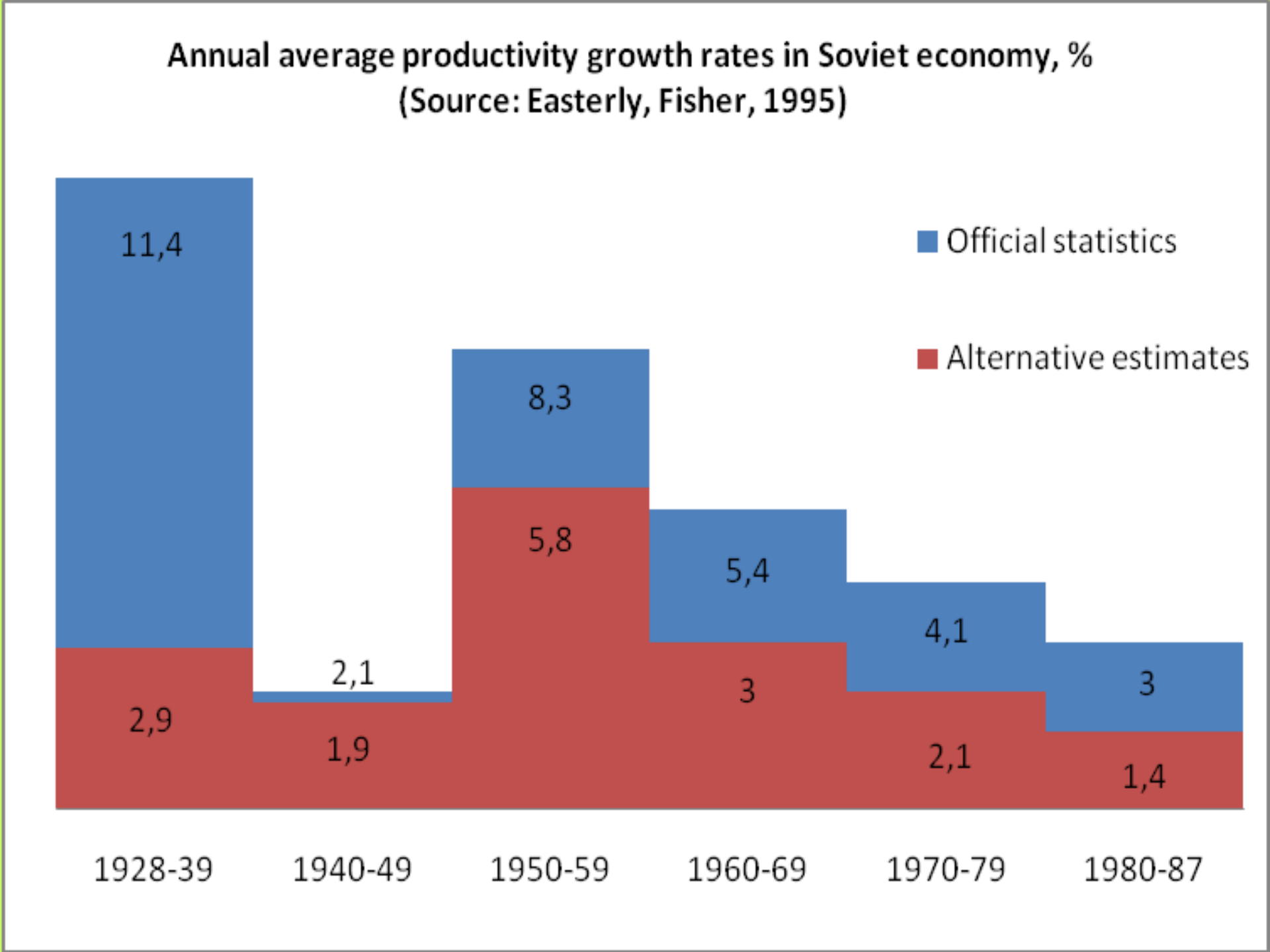


PPP GDP per capita in the USSR and Russia, % of US level



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




Annual average productivity growth rates in Soviet economy, %
(Source: Easterly, Fisher, 1995)
Official statistics
Alternative estimates
11,4
2,9
2,1
1,9
8,3
5,8
5,4
3
4,1
2,1
3
1,4
1928-39
1940-49
1950-59
1960-69
1970-79
1980-87

Growth in the USSR and Asian economies, Western data, 1928-87 (average annual, %) – Easterly, Fisher, 1995

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	

Growth accounting for major regions of the world in 1960-1990, %

REGIONS	Annual average growth rates, %				
	GDP	Labour (# of workers)	Human capital (labour quality)	Physical capital	TFP (Total factor productivity)*/
East Asia	7.46	2.75	1.33	10.89	0.63 – 1.00
Latin America	3.27	2.42	0.98	4.51	-0.58 – 0.46
MENA	5.14	2.43	1.36	6.43	0.22 – 0.42
South Asia	4.10	2.08	1.51	5.38	-0.96 – -0.50
Sub-Sahara Africa	3.42	2.61	0.77	3.64	-0.28 – 0.15
OECD	3.56	1.17	0.63	4.62	0.60 – 1.27

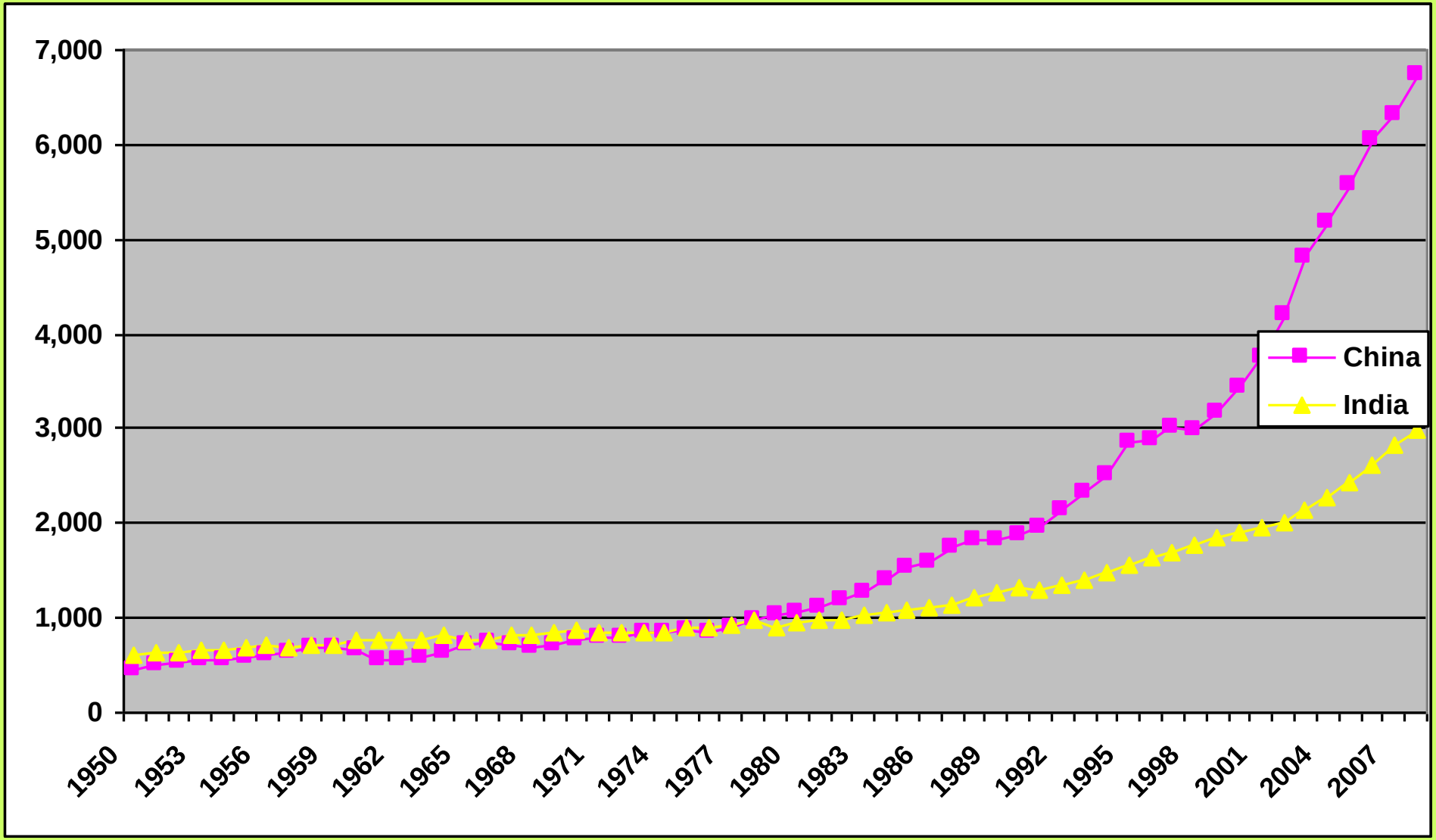
***/ The lower estimate is obtained after adjustment for labour quality, the highest – without such adjustment.**

Source: Hahn and Kim (2000).

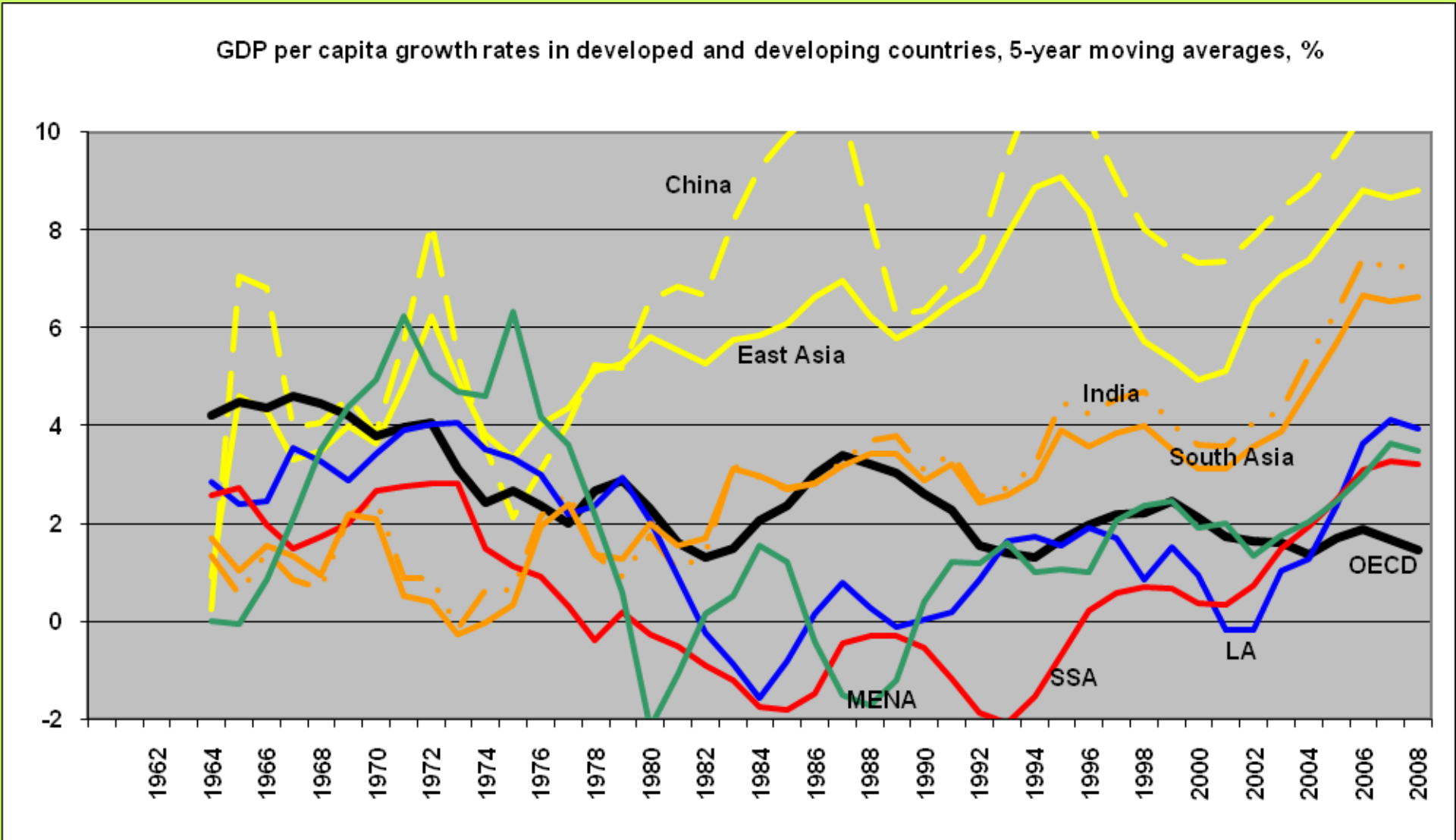
China since 1949

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

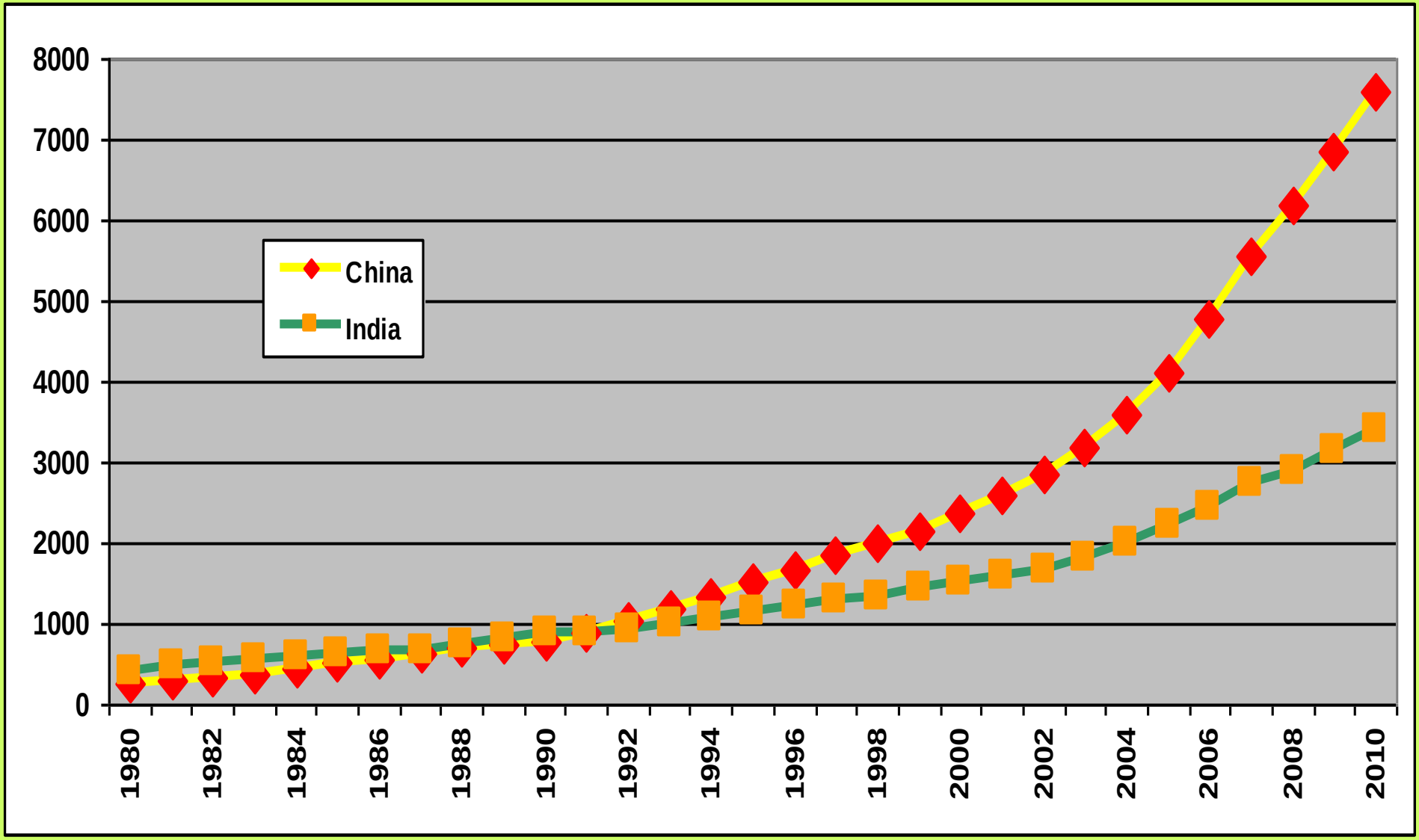
PPP GDP per capita in China and India in 1950-2008, 1990 Geary-Khamis international dollars (Maddison, 2010)



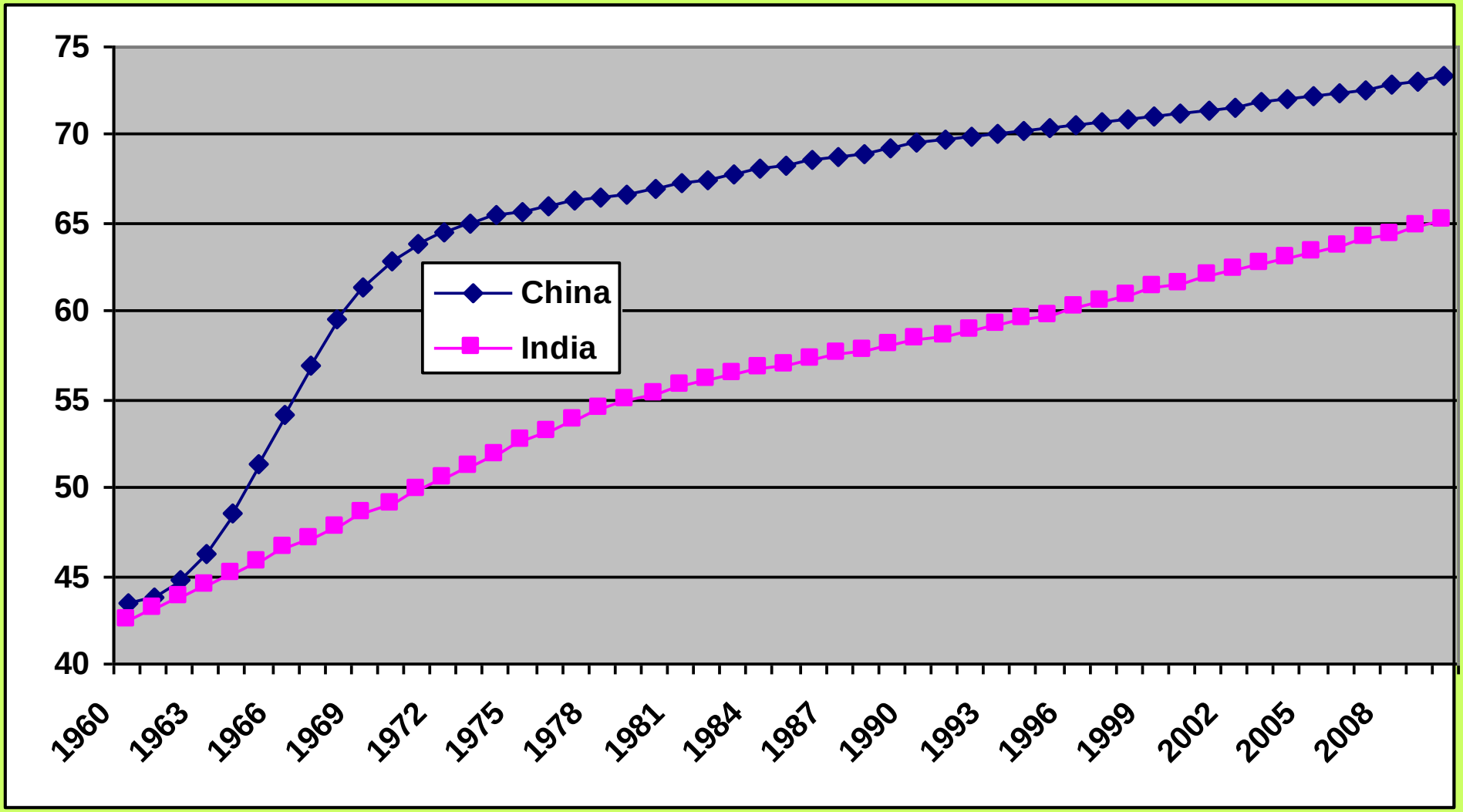
GDP growth rates of major countries and regions in 1960-2008, %

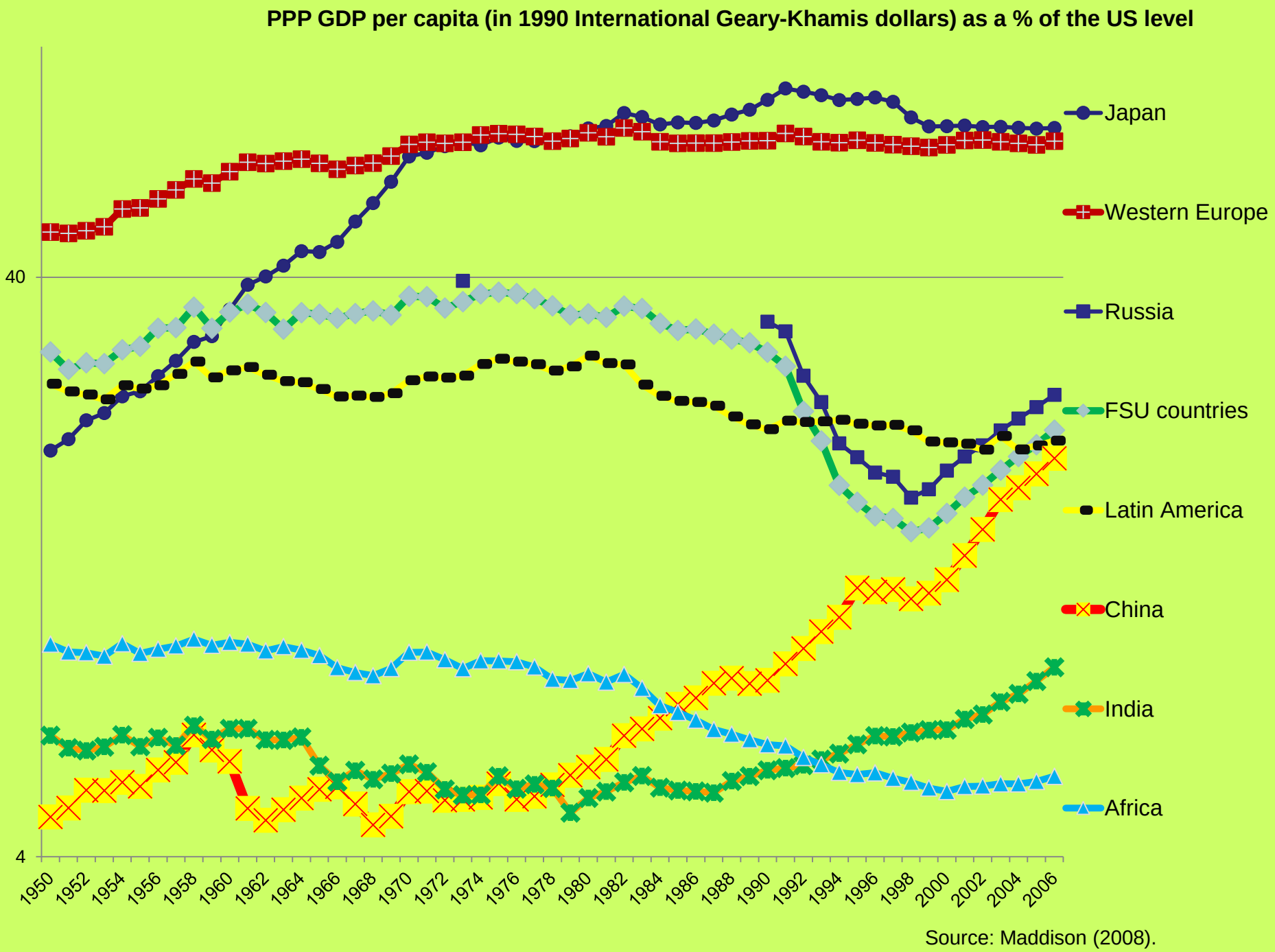


PPP GDP per capita in current international dollars, China and India, 1980-2010 (WDI)

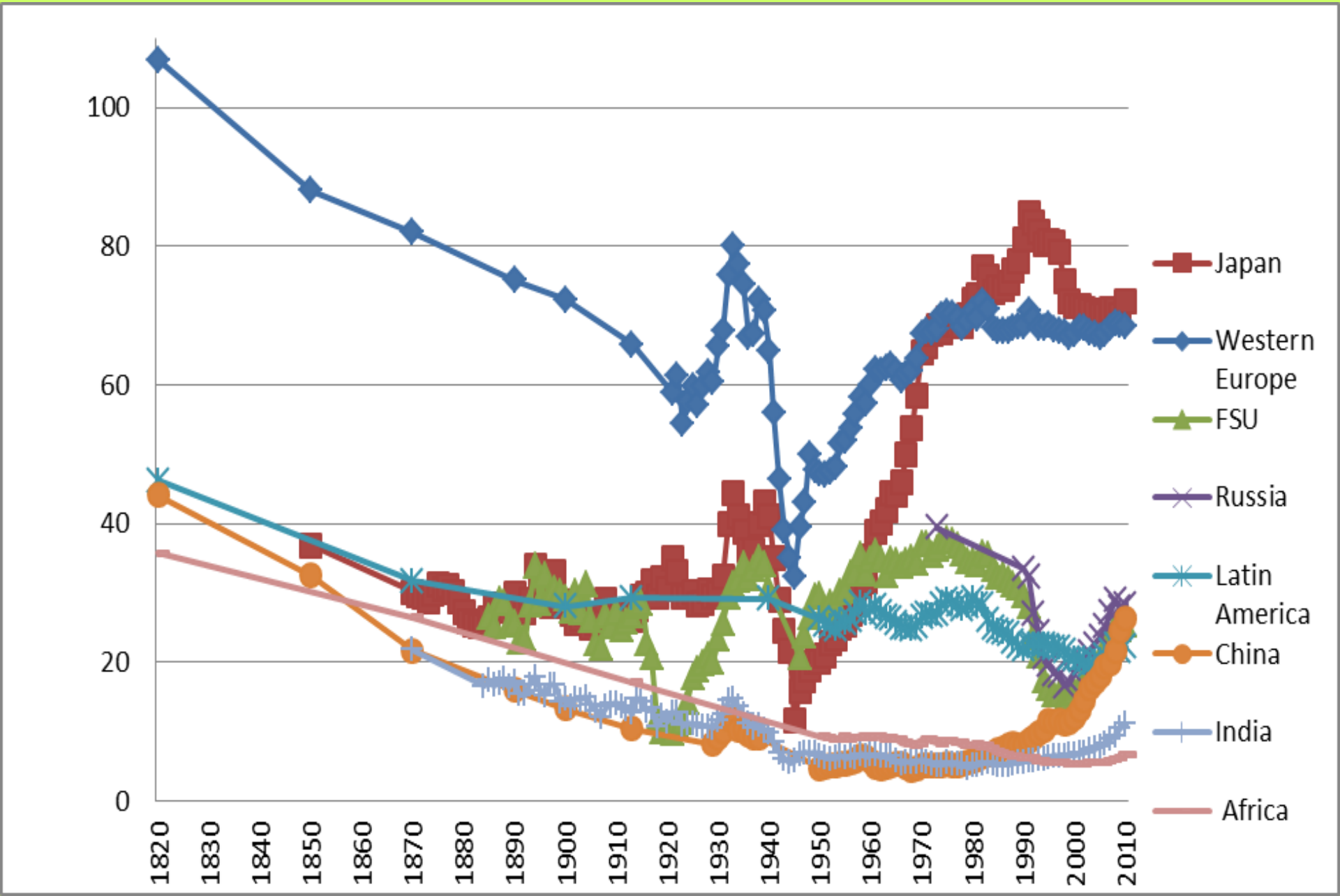


Life expectancy at birth, years, China and India, 1960-2010 (WDI)

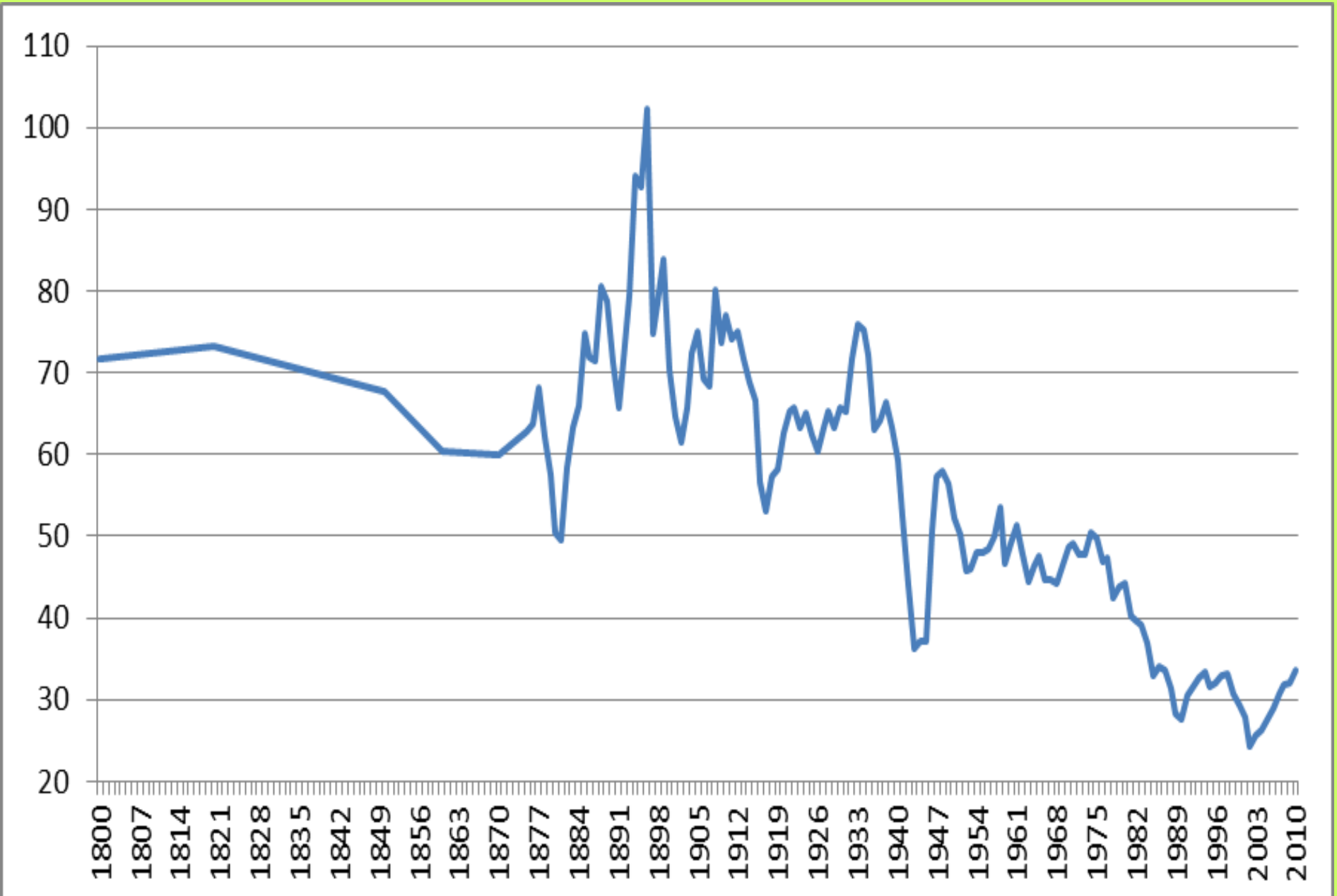



PPP GDP per capita (in 1990 International Geary-Khamis dollars) as a % of the US level
40
4
1950
1952
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
Japan
Western Europe
Russia
FSU countries
Latin America
China
India
Africa
Source: Maddison (2008).

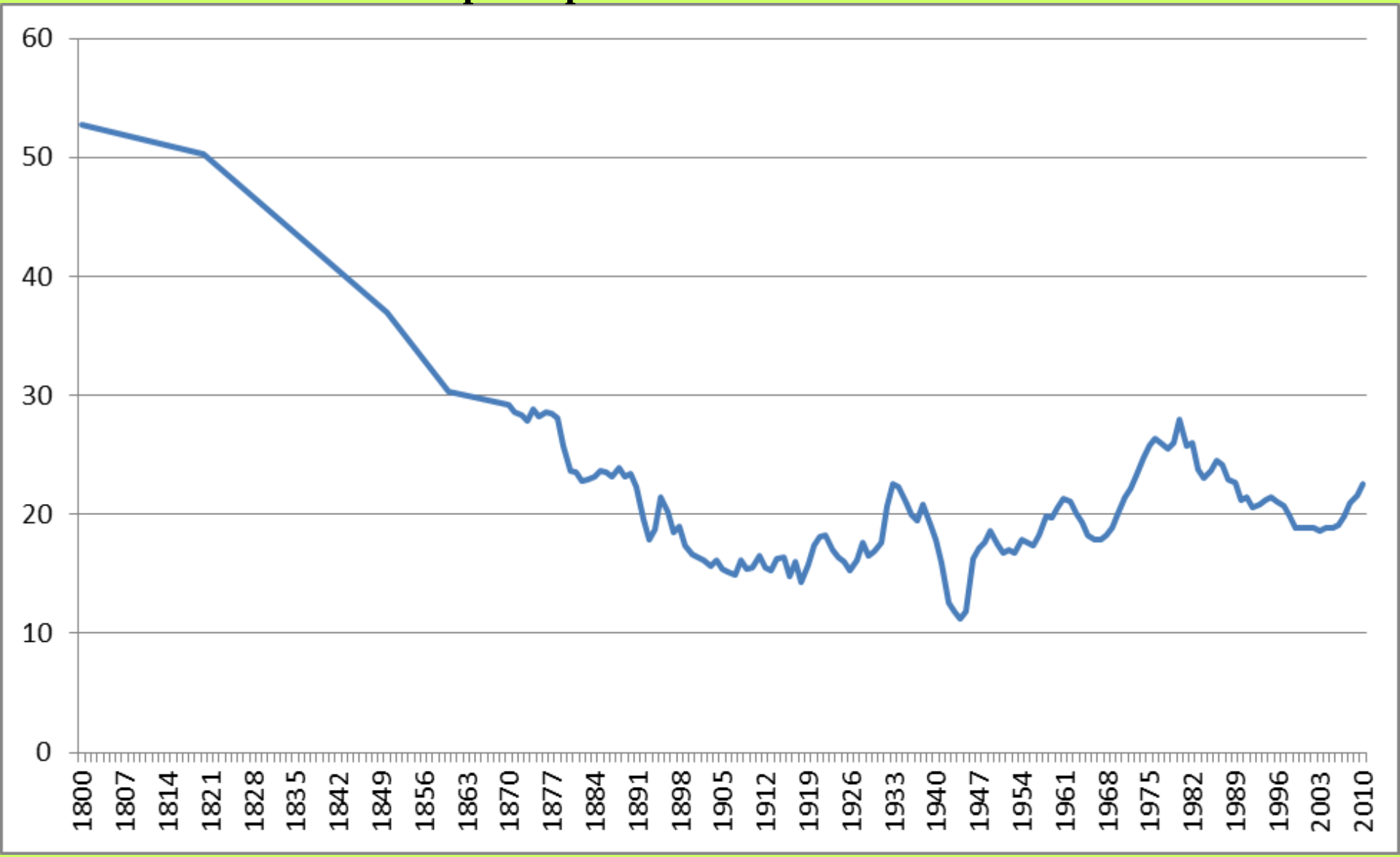
PPP GDP per capita (in 1990 International Geary-Khamis dollars) as a % of the US level



PPP GDP per capita in Argentina as a % of the US in 1800-2010

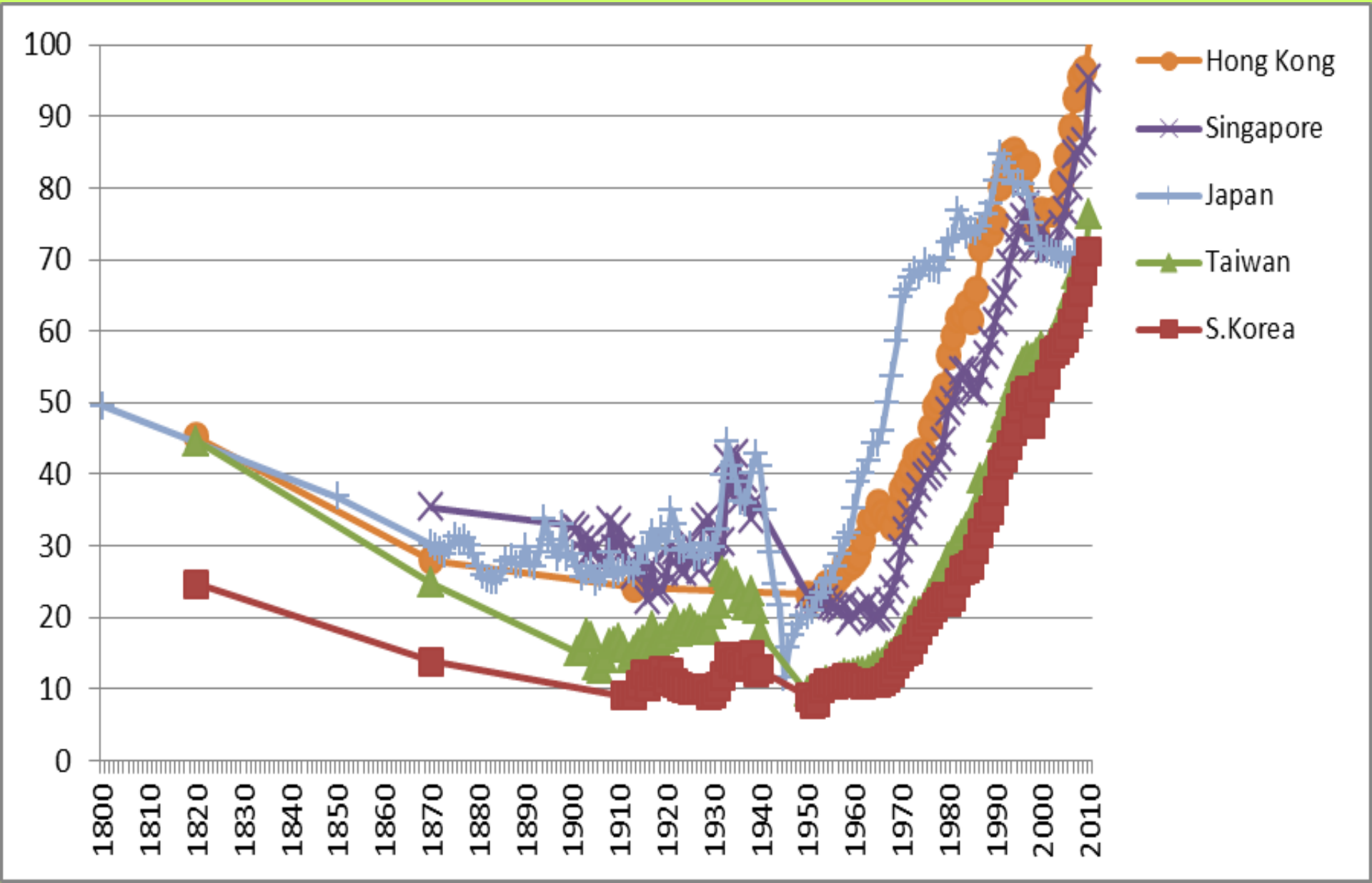


PPP GDP per capita in Brazil as a % of the US in 1800-2010

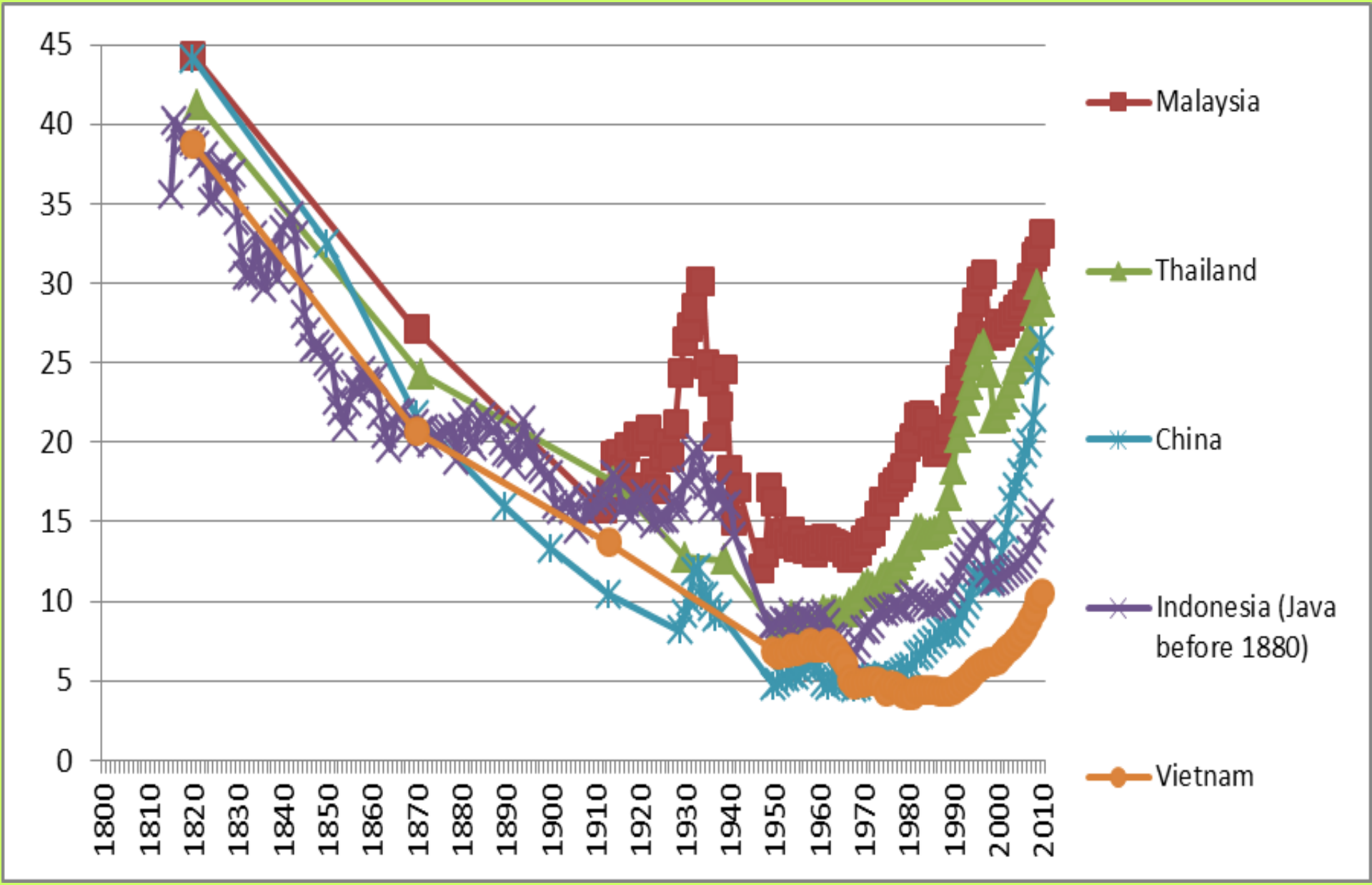


Source: Maddison, 2013.

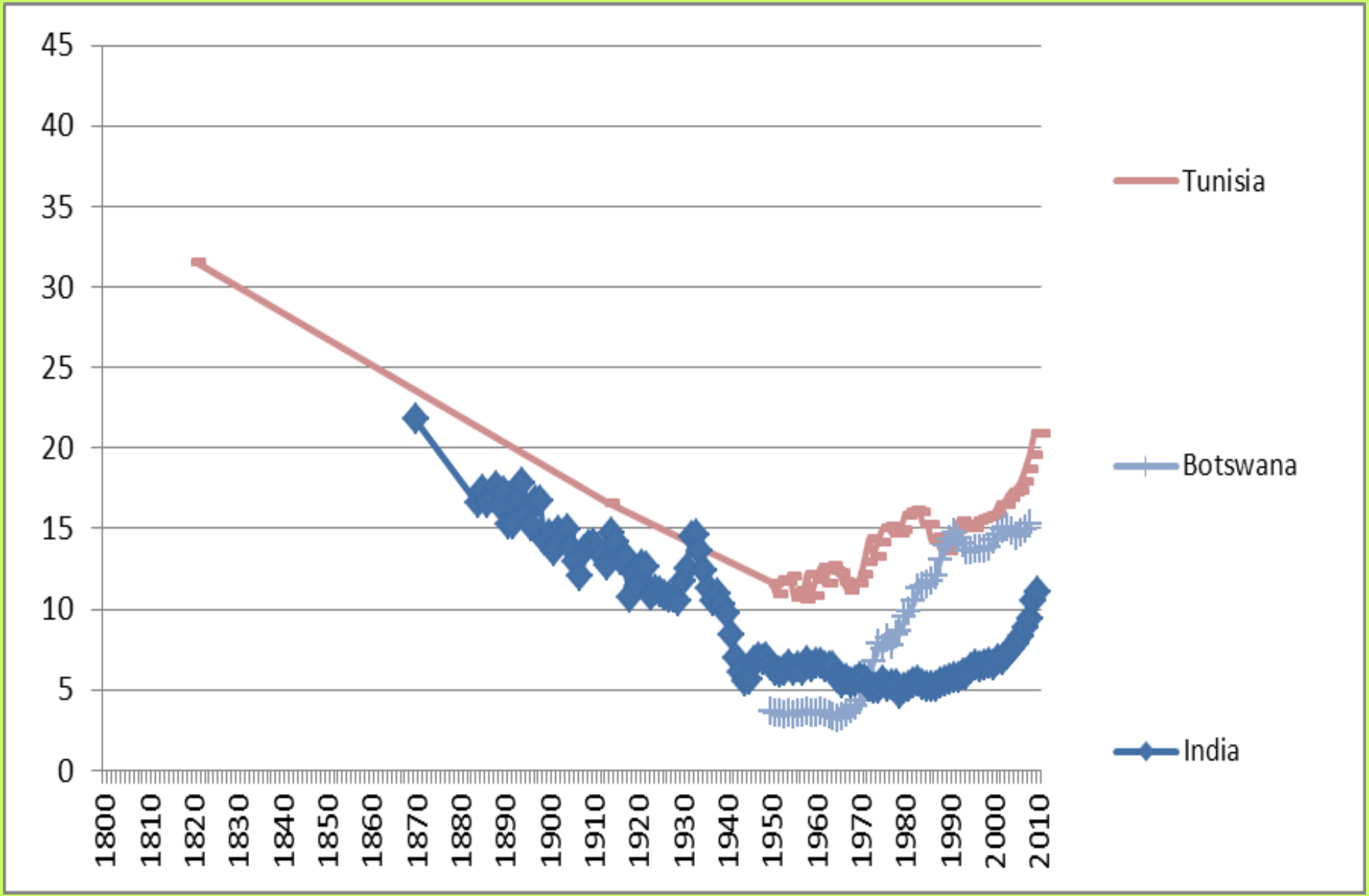
PPP GDP per capita in countries that took off after the Second World War (Japan, Taiwan, Hong Kong Singapore, S. Korea)



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)



Fastest growing countries – average annual per capita real GDP growth rates in 1950-2013, %
Source: Maddison, 2013; World Development Indicators database.

Country / Period	Growth rate in 1950-2010 (Maddison)	Growth rate in 1960-2010 (Maddison)	Growth rate in 1960-2013 (WDI)
Taiwan	5.54	5.86	
S. Korea	5.54	5.91	5.97
China	4.93	5.12	6.60
Oman	4.70	4.82	6.48
Hong Kong SAR, China	4.48	4.67	4.17
Botswana (Maddison data – until 2008)	4.46	5.07	5.66
Singapore	4.38	5.19	5.19
Thailand	4.15	4.42	4.39
Japan	4.14	3.47	3.20
Burma (Myanmar)	3.80	3.84	2.77 (1960-2004)
Spain	3.45	3.46	2.69
Greece	3.45	3.13	2.34
Portugal	3.26	3.20	3.04
Israel	3.25	2.87	2.98
Austria	3.17	2.65	2.55
Malaysia	3.16	3.84	3.77
Ireland	3.14	3.33	3.14 (1971-2013)
India	2.87	3.04	3.12
Indonesia	2.97	3.12	3.54
Tunisia	2.95	3.16	2.94
Montenegro	3.18 (1952-2010)	3.18	
Lesotho (Maddison data – until 2008)	2.88	2.94	3.06
Sri Lanka	2.45	2.88	3.42

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

Elimination of collectivists institutions (community) -West

Preservation of collectivists institutions until 20th century - East Asia, South Asia, MENA

Colonialism – destruction of collectivist institution – SSA, LA, Russia

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 $y = A*k^{\alpha}$)

Keeping inequality low

Growing inequality

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

Low savings rate, but strong institutional capacity

High savings rate, but low institutional capacity

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.

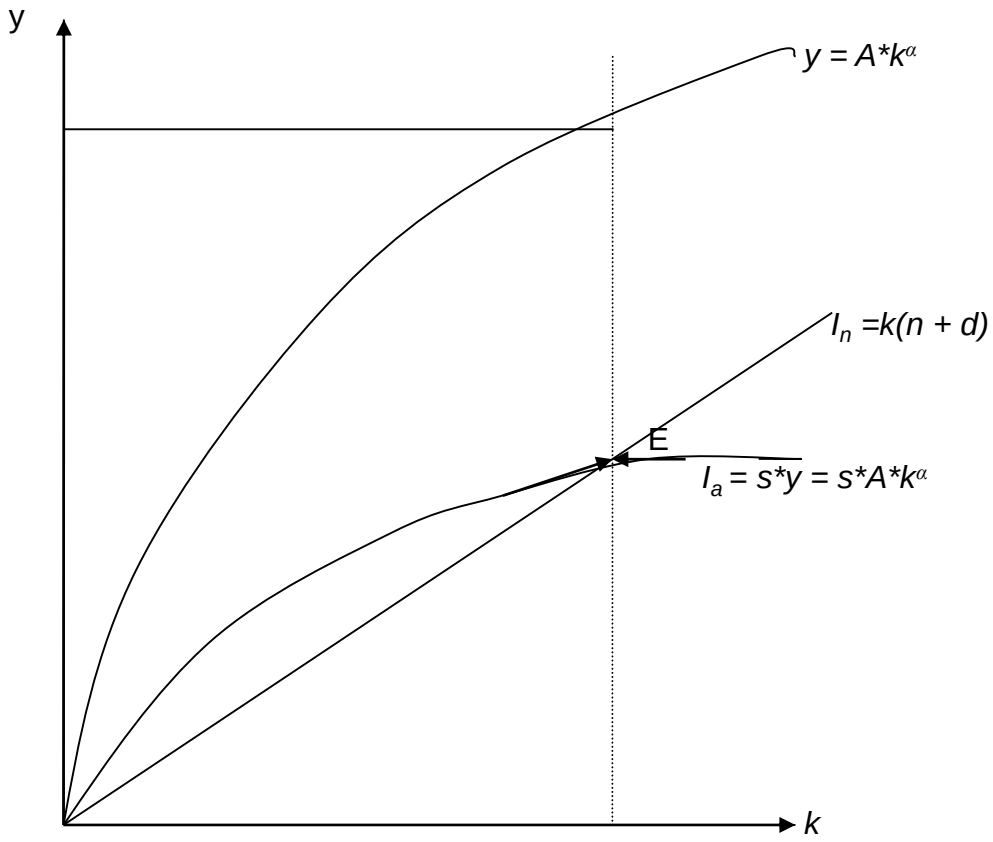
- Borrowing the expression from Paul Krugman that was used on a different occasion: the West got rich due to “perspiration”, not “inspiration”.

- 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.

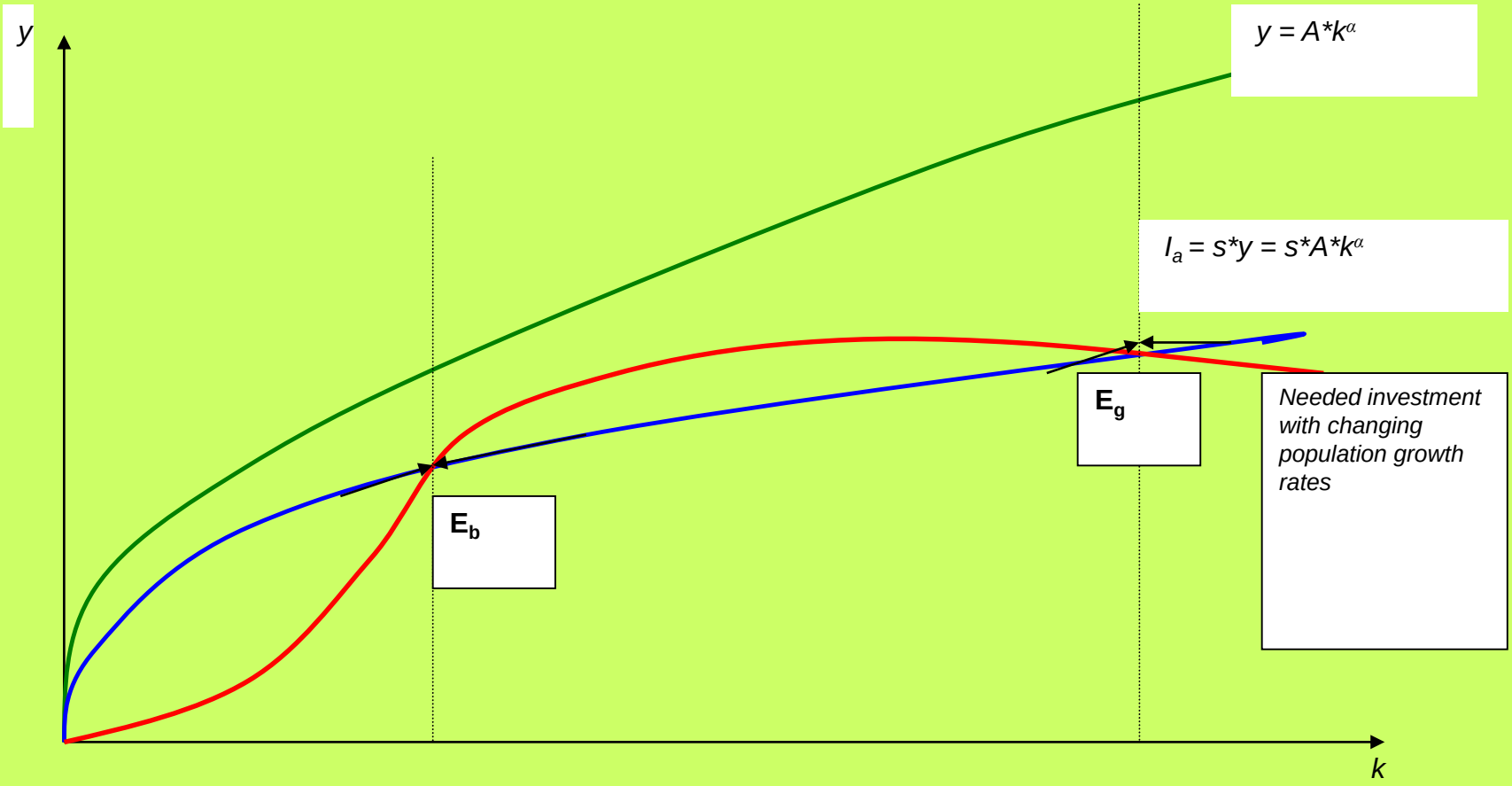
Two ways to escape the Malthusian trap

- (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



Malthusian trap in a Solow model with changing population growth rates



Total Gross Savings as a Ratio of GDP at Current Market Prices

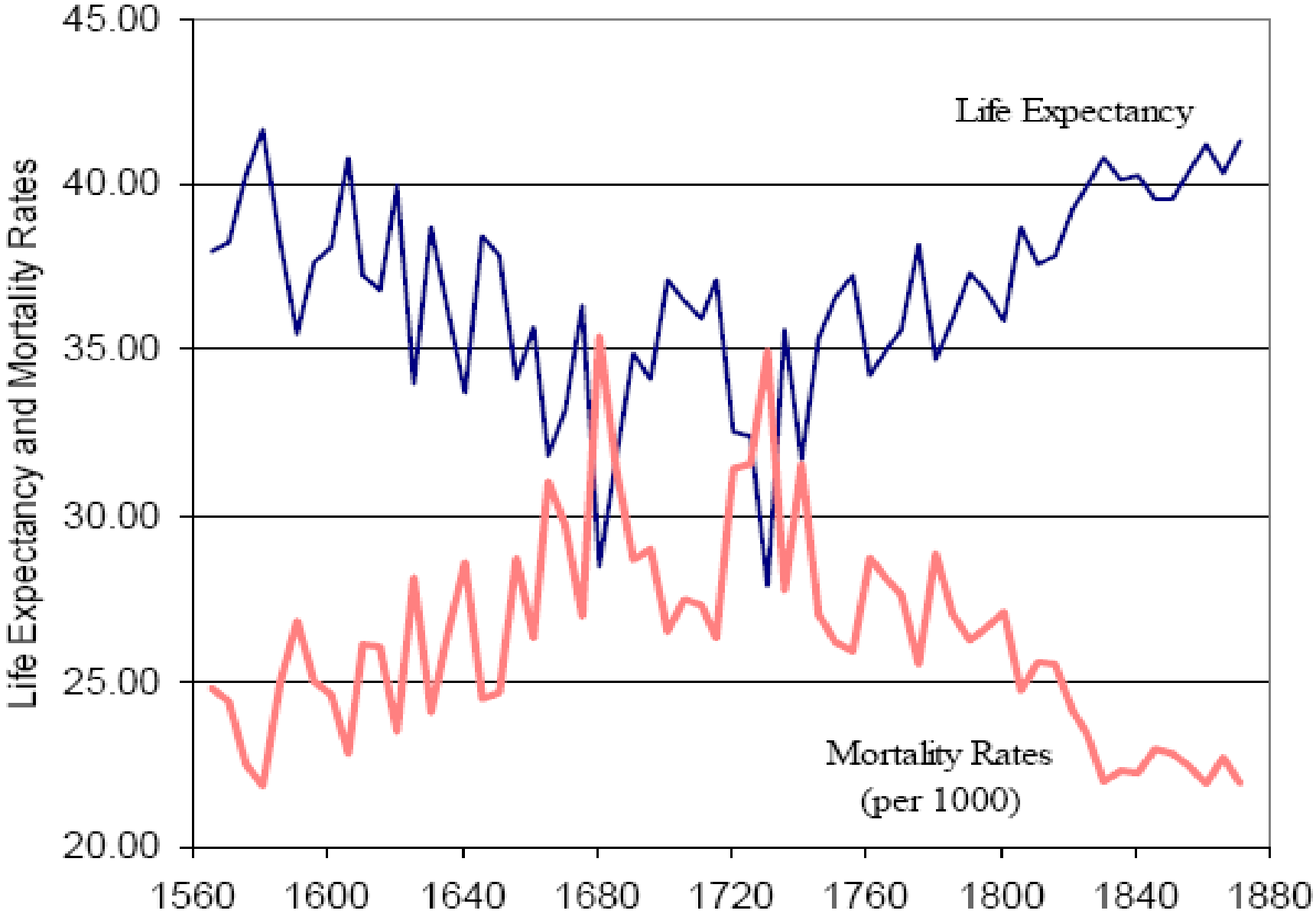
	1870-89	1890-1913	1914-38	1939-49	1950-73	1974-88	1950-89	1960-73	1974-88	1981
Australia	11.2a	12.5a	12.2	13.8	24.3	22.0	23.5	24.9	23.2	20.9
Canada	9.1b	12.2b	14.4b	19.3	22.5	21.4	21.4	23.3		
France	12.8	14.7	n.a.	n.a.	23.4	22.1	18.8	26.6		
Germany	n.a.	n.a.	12.8c	n.a.	26.7	22.4	25.9	27.2		
India	n.a.	5.8d	7.4	6.7	12.8	20.3	10.8	14.3		
Japan	12.4e	12.4e	16.7e	24.8e	32.8	32.8	28.1	36.1		
Korea	n.a.	n.a	4.3f	n.a.	8.1g	27.9	4.0h	10.1		
Netherlands	n.a.	n.a.	15.2i	n.a.	26.6	22.1	25.8	27.2		
Taiwan	n.a.	9.6j	25.5k	n.a.	19.9	33.2	14.7	23.2		
UK	13.9	13.6	8.8	2.5	18.4	18.5	16.8	19.5		
USA	n.a.	18.0	17.0	15.2	19.6	17.9	19.7	19.5		

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 30-35years in 1560-1730


Life Expectancy and Mortality Rates
45.00
40.00
35.00
30.00
25.00
20.00
1560
1600
1640
1680
1720
1760
1800
1840
1880
Life Expectancy
Mortality Rates
(per 1000)

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 16-18th century. Moreover, it was imposed on part of the developing world in the 19-20th 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.

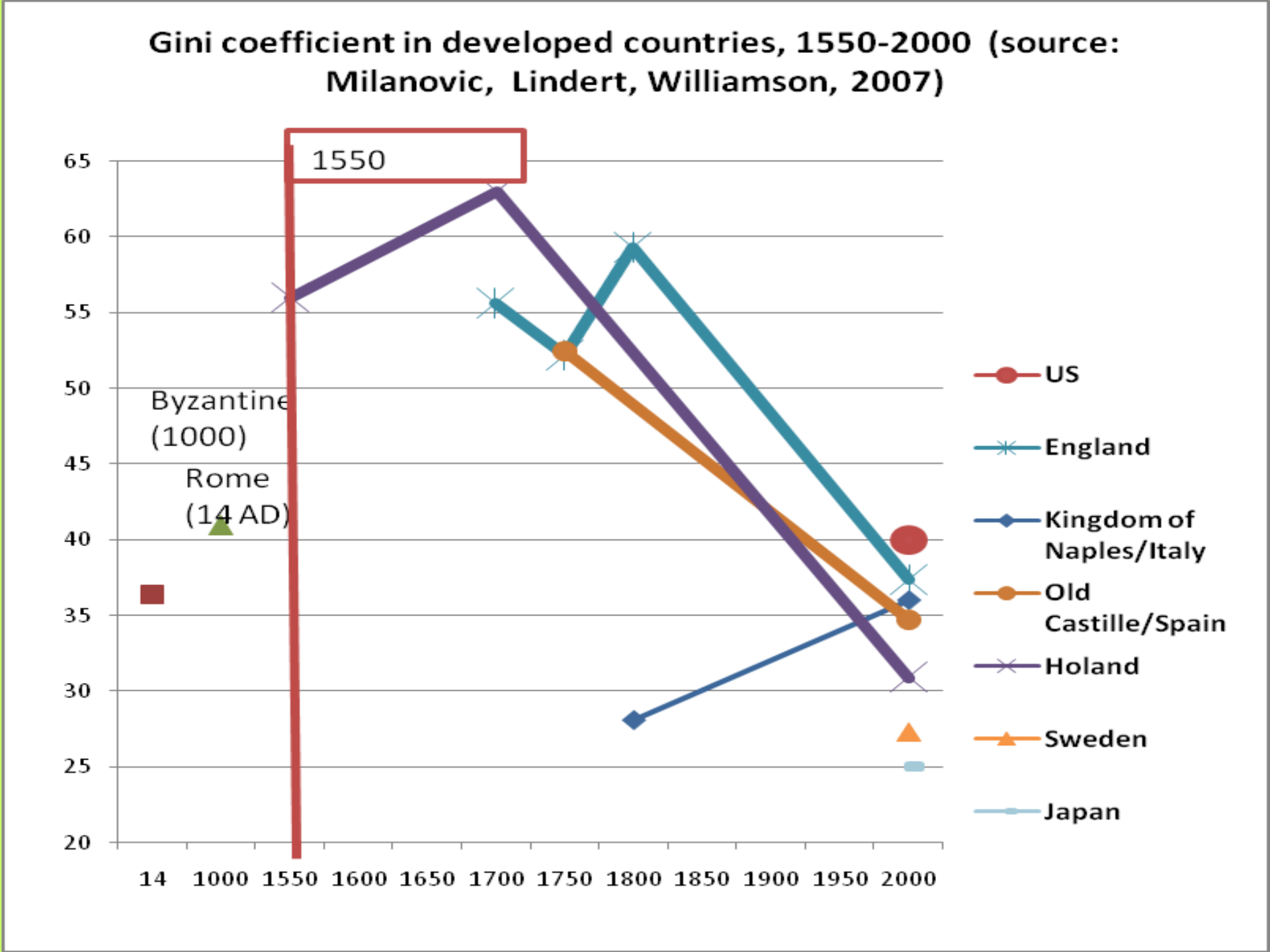
How the West got rich? -Continuity and Asian values

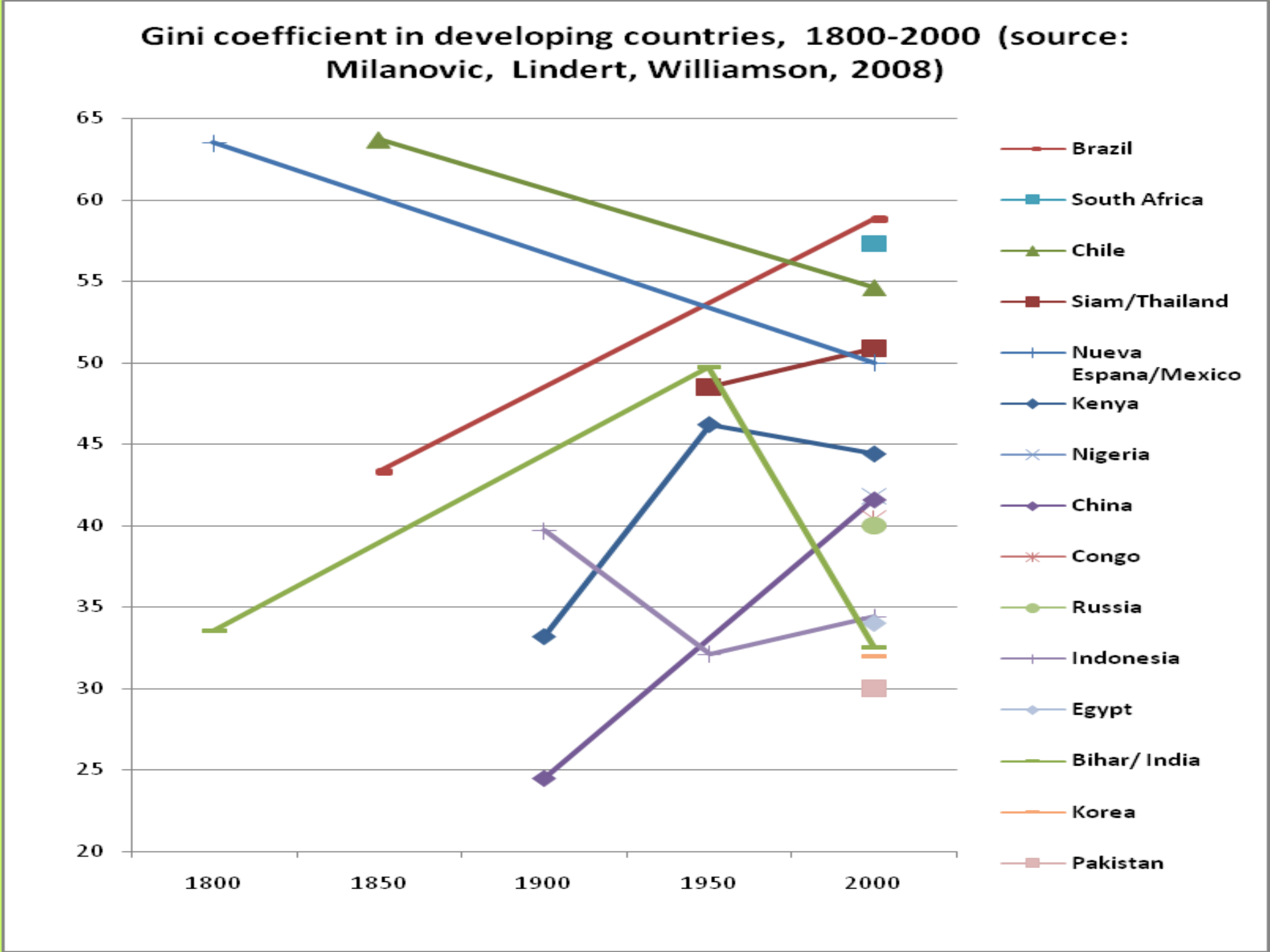
- The other regions of the world, including the most advanced regions, like China, stayed on a different trajectory of development – preservation of “Asian values” and slow, going hand in hand growth of productivity and population.
- The colonial expansion of the West interrupted the logical development along the second trajectory.
- Colonization of Sub-Sahara 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)
1550
Byzantine (1000)
Rome (14 AD)
65
60
55
50
45
40
35
30
25
20
14
1000
1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
US
England
Kingdom of Naples/Italy
Old Castille/Spain
Holand
Sweden
Japan


Gini coefficient in developing countries, 1800-2000 (source: Milanovic, Lindert, Williamson, 2008)
65
60
55
50
45
40
35
30
25
20
1800
1850
1900
1950
2000
Brazil
South Africa
Chile
Siam/Thailand
Nueva Espana/Mexico
Kenya
Nigeria
China
Congo
Russia
Indonesia
Egypt
Bihar/ India
Korea
Pakistan

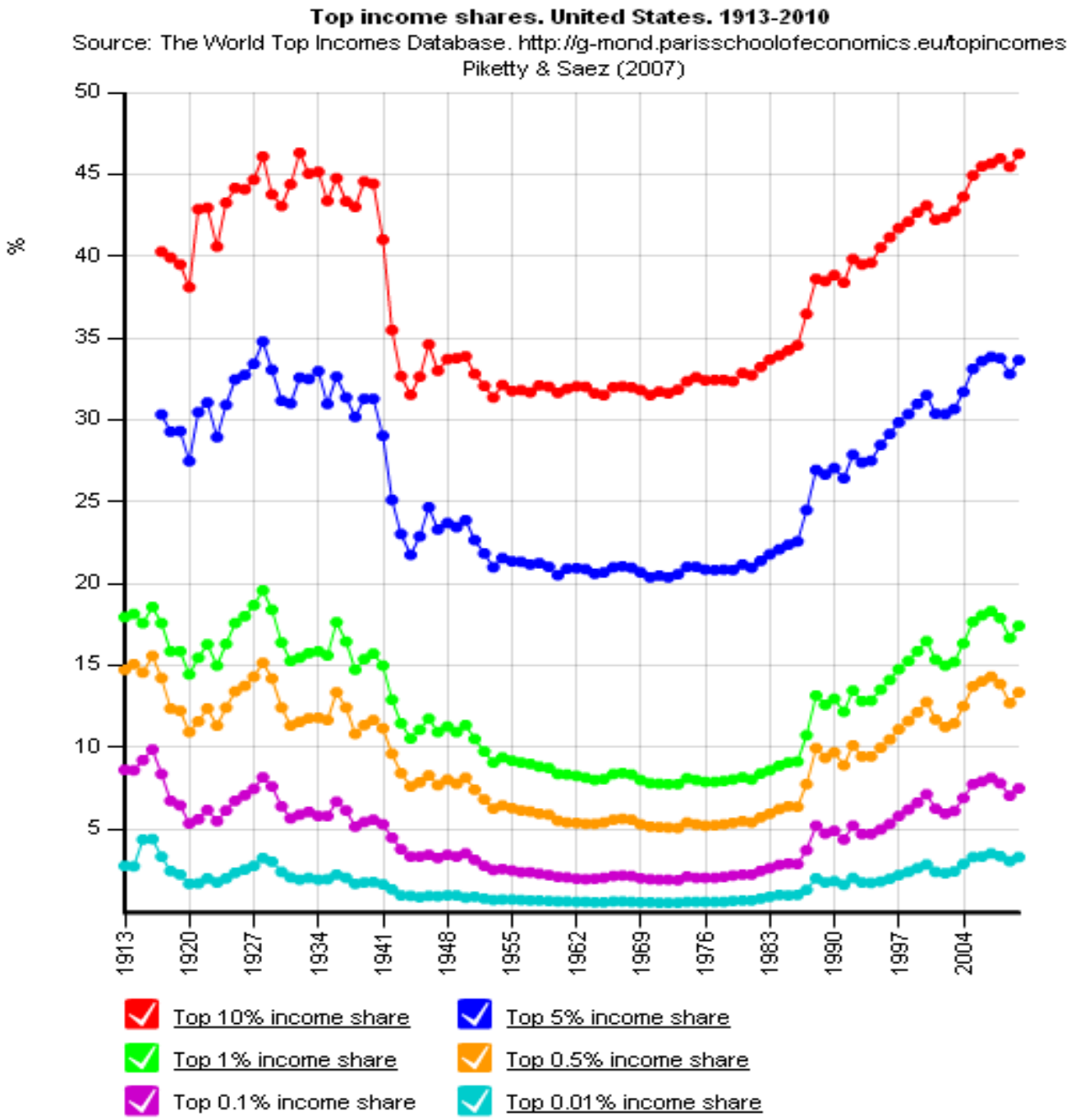
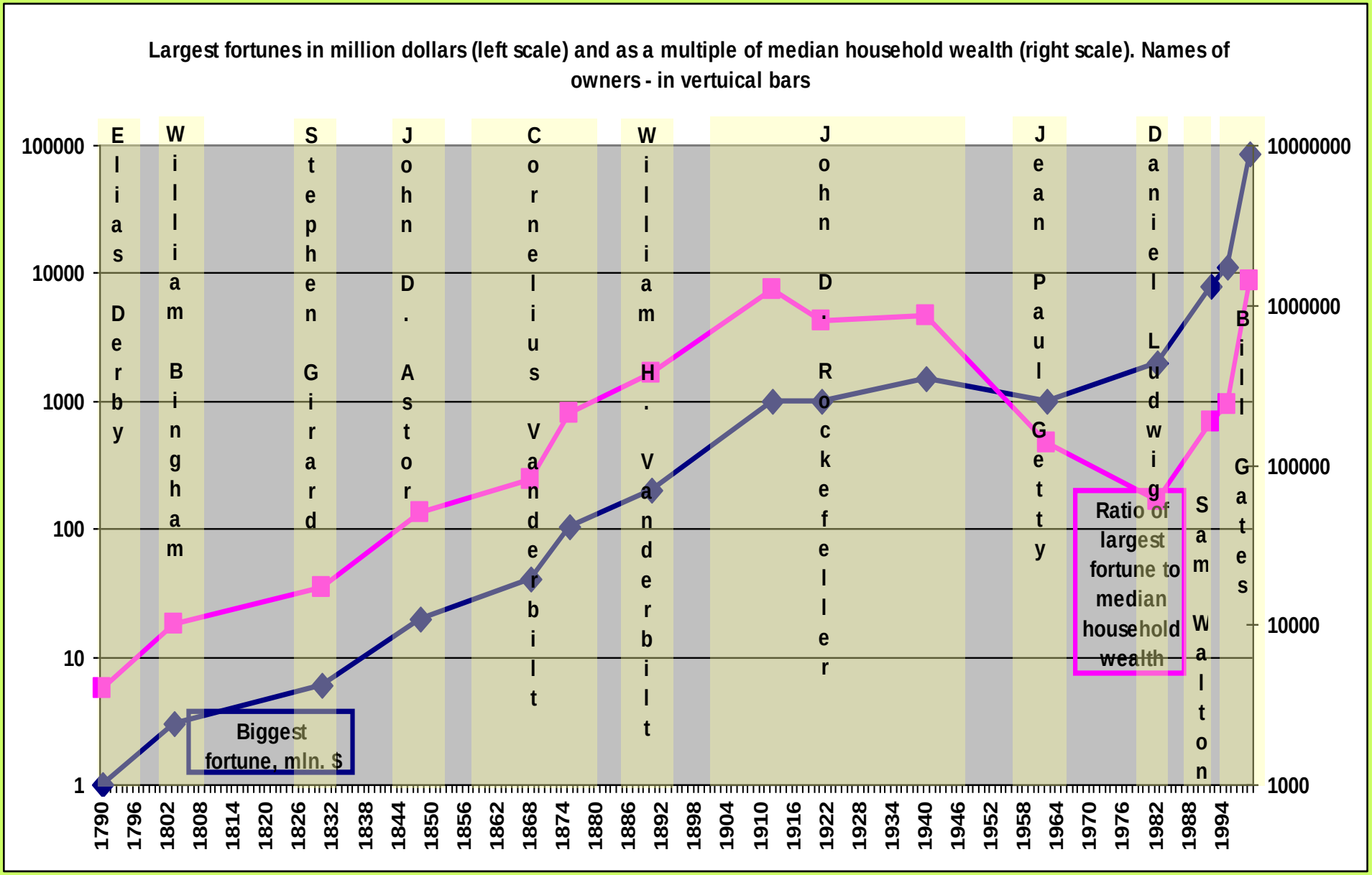


Fig. Long term trends in income inequalities in the US, 1913-2010

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 vertuical bars
Elias Derby
William Bingham
Stephen Girard
John D. Astor
Cornelius Vanderbilt
William H. Vanderbilt
John D. Rockefeller
Jean Paul Getty
Daniel Ludwig
Sam Walton
Bill Gates
Biggest fortune, mln. $
Ratio of largest fortune to median household wealth
100000
10000
1000
100
10
1
10000000
1000000
100000
10000
1000
1790
1796
1802
1808
1814
1820
1826
1832
1838
1844
1850
1856
1862
1868
1874
1880
1886
1892
1898
1904
1910
1916
1922
1928
1934
1940
1946
1952
1958
1964
1970
1976
1982
1988
1994

Inequalities

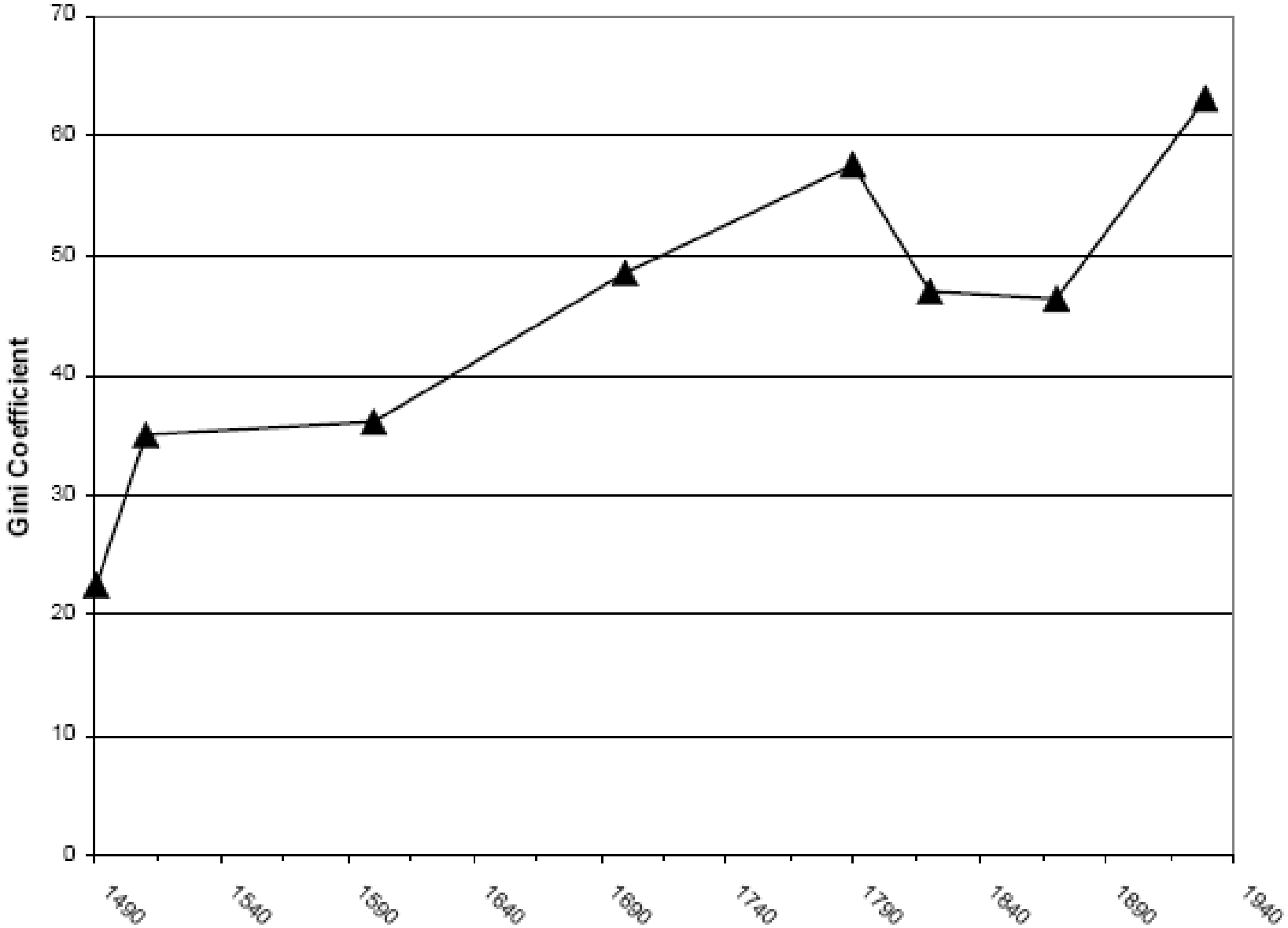
Table 2.3. Gini coefficients around particular years in developing countries, %

Years	1550	1750	1800	1850	1900	1950	2000
Serbia	20.9						32.2
Maghreb					57		40
Bihar/ India		48 .9	33.5			49.7	32.5
China					24.5		41.6
Indonesia					39.7	32.1	34.4
Japan					39.5		26
Siam/Thailand						48.5	50.9
Kenya					33.2	46.2	44.4
Nueva Espana/Mexico			63.5				50
Brazil				43.3			58.8
Chile				63.7			54.6
Peru (1876)					41		51

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

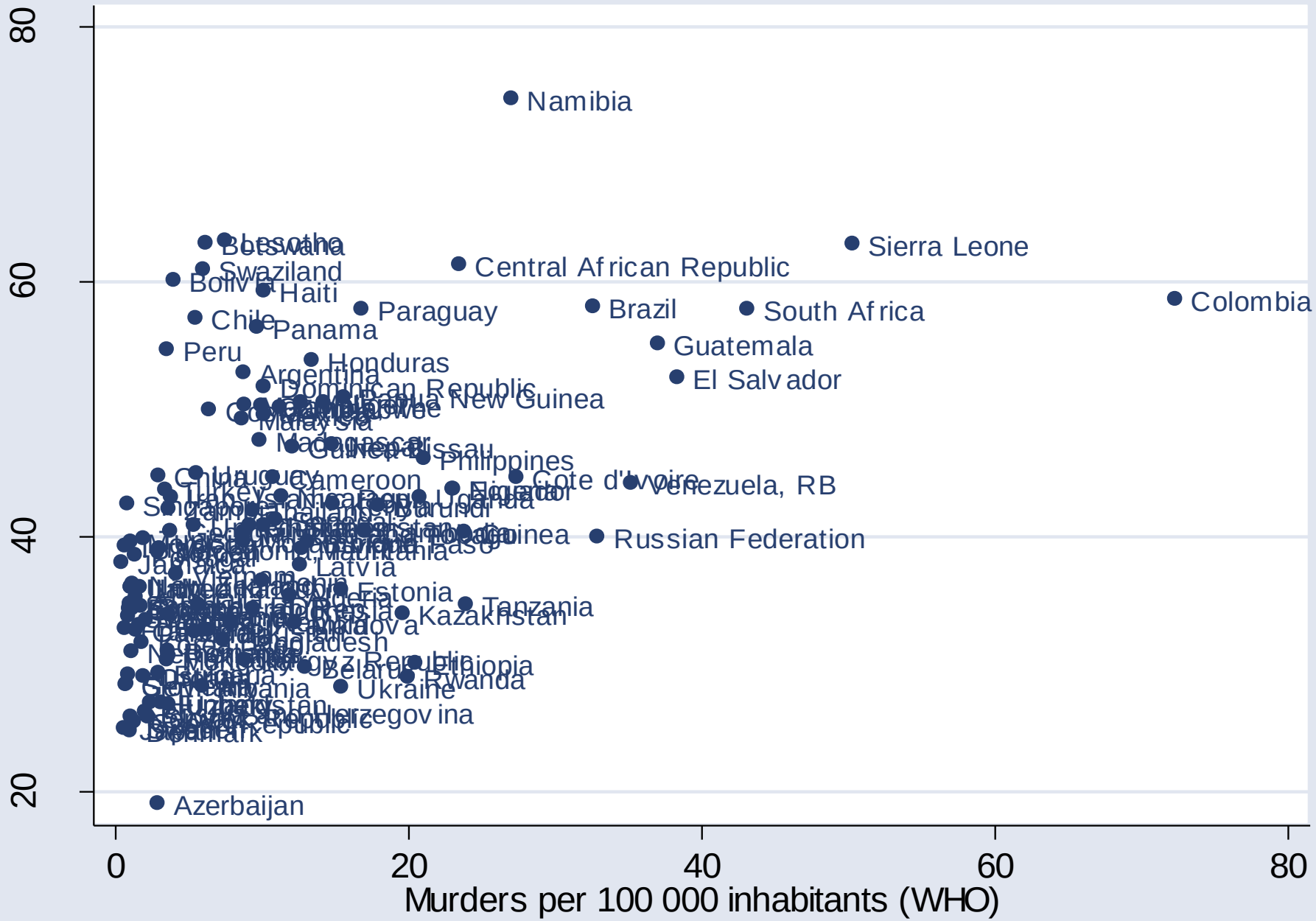
- Other countries that destroyed their egalitarian institutions prematurely (replicating the Western path) experienced tremendous declines in institutional capacity and rise in inequalities.

- 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).

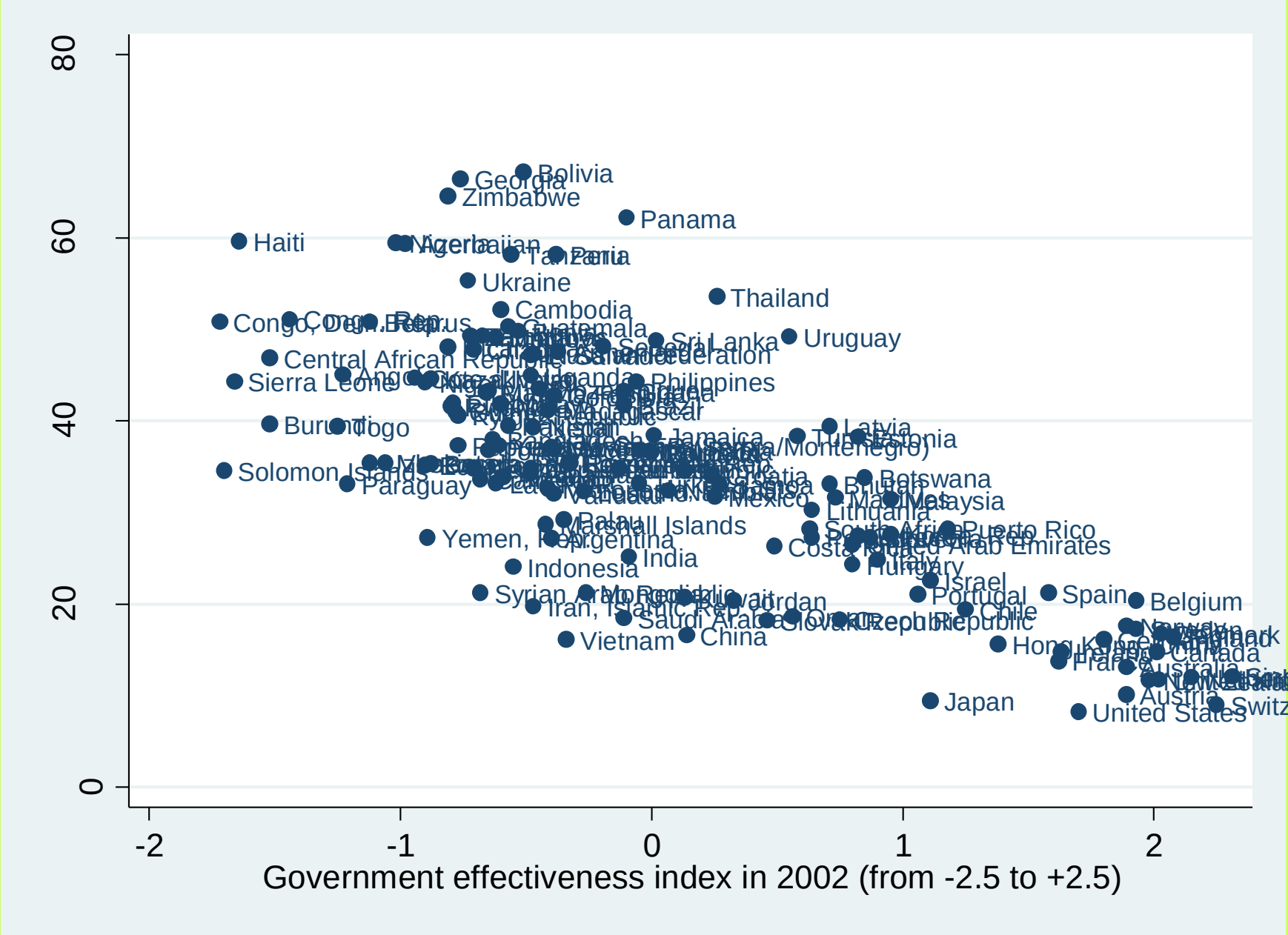
Murder rate in 2002 and income inequalities in 1990-2005



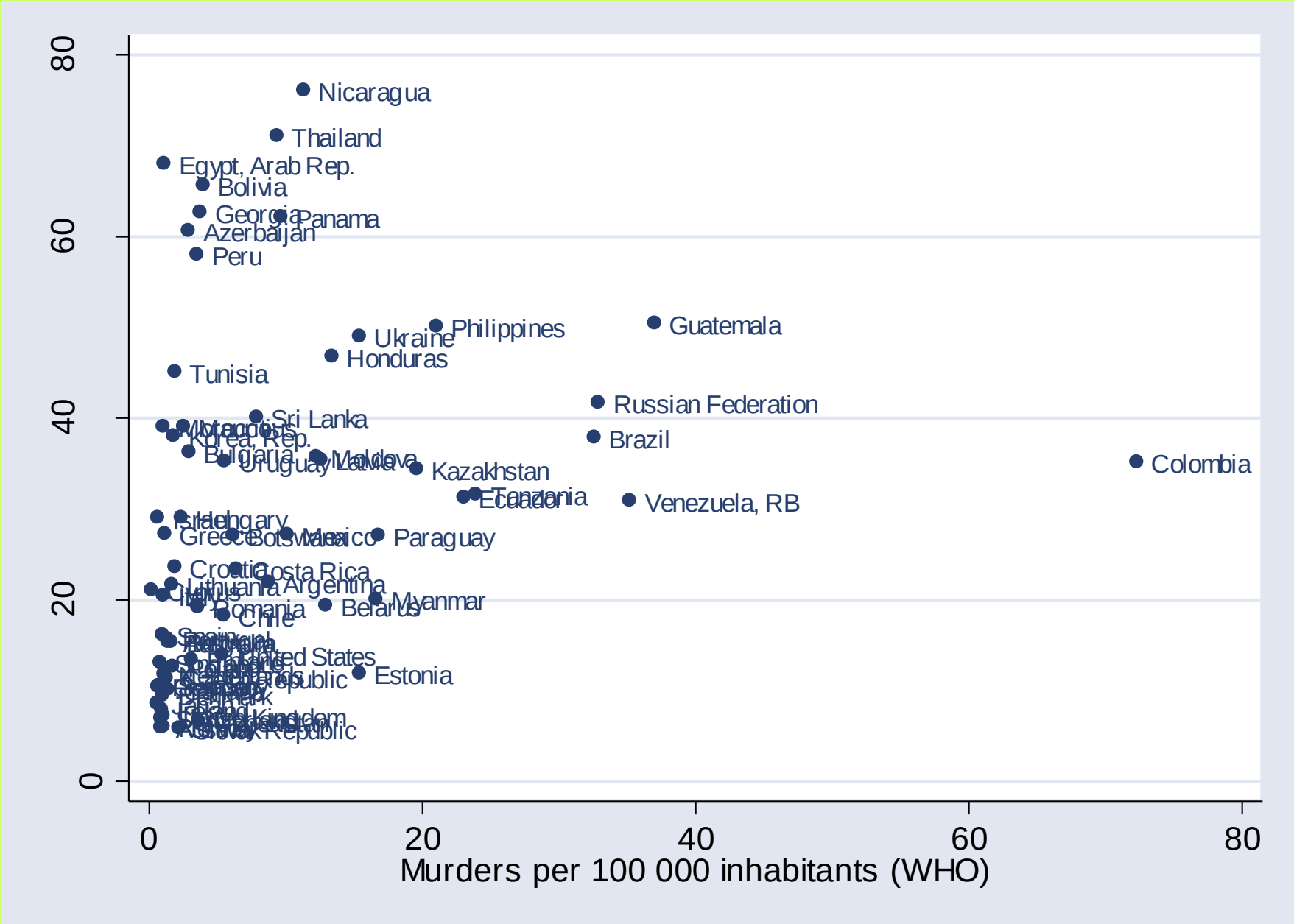
Institutional capacity of the state?

- 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

Share of the shadow economy in GDP in 2005, %, and government effectiveness index in 2002



Murder rate (per 100,000 inhabitants) and the share of shadow economy in GDP (%)



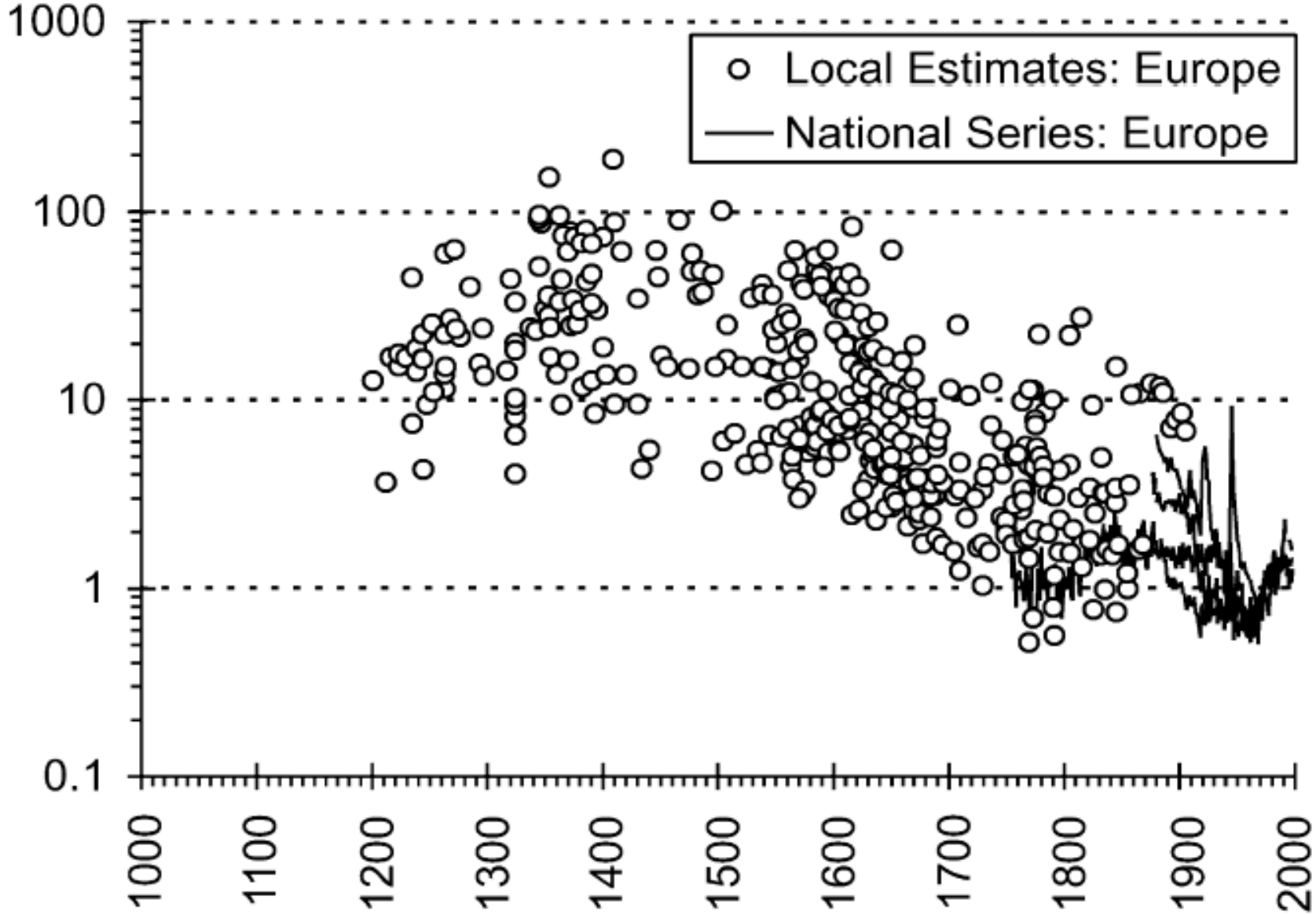
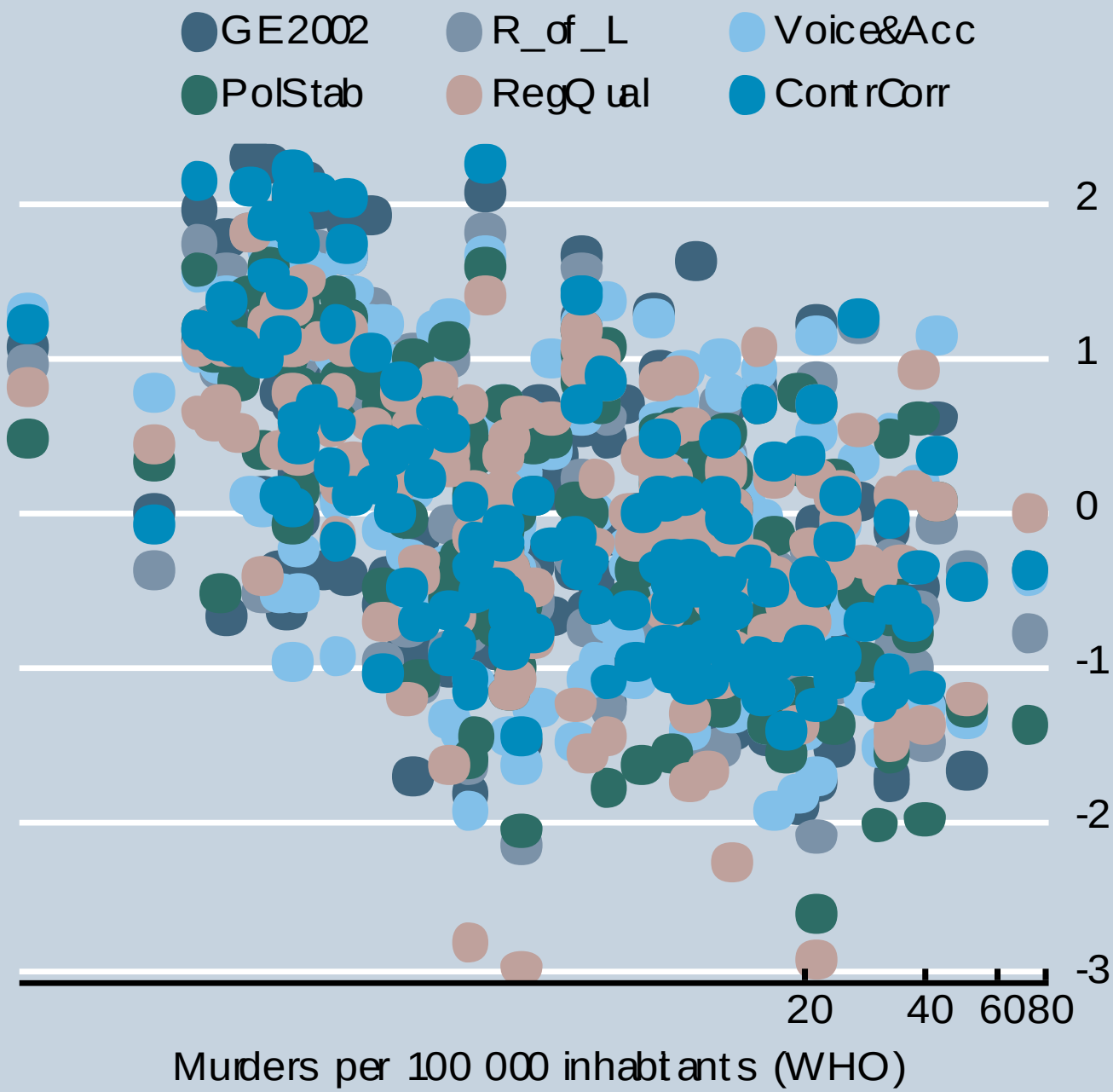


FIG. 2.—Overall trend in homicide rates, all premodern local estimates and four national series. Note: All 398 local estimates from the History of Homicide Database; national series for Sweden, England and Wales, Switzerland, and Italy.



WB indices:

Government effectiveness

Rule of law

Voice and accountability

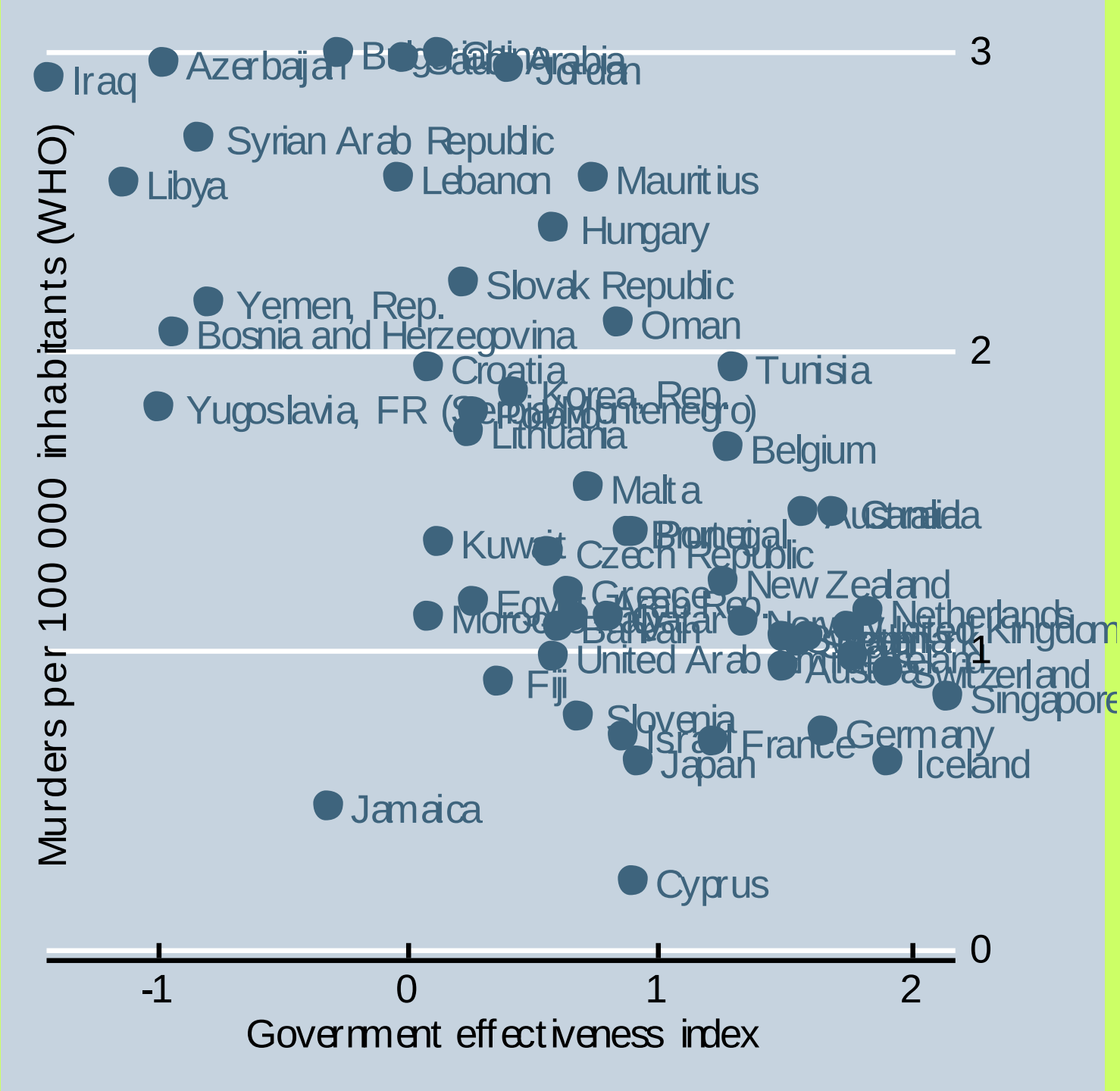
Political stability

Regulation quality

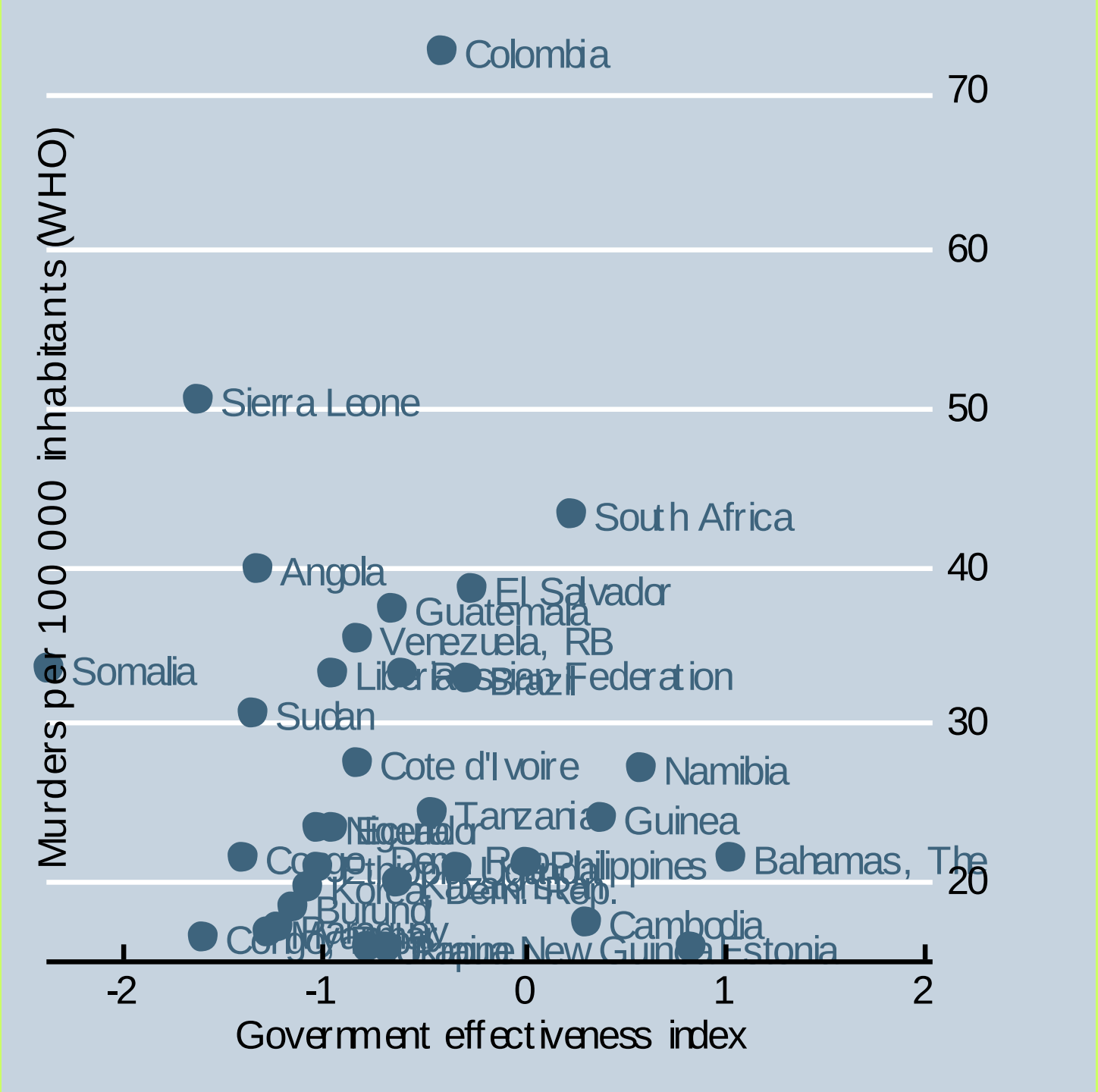
Control over corruption

+ murder rate

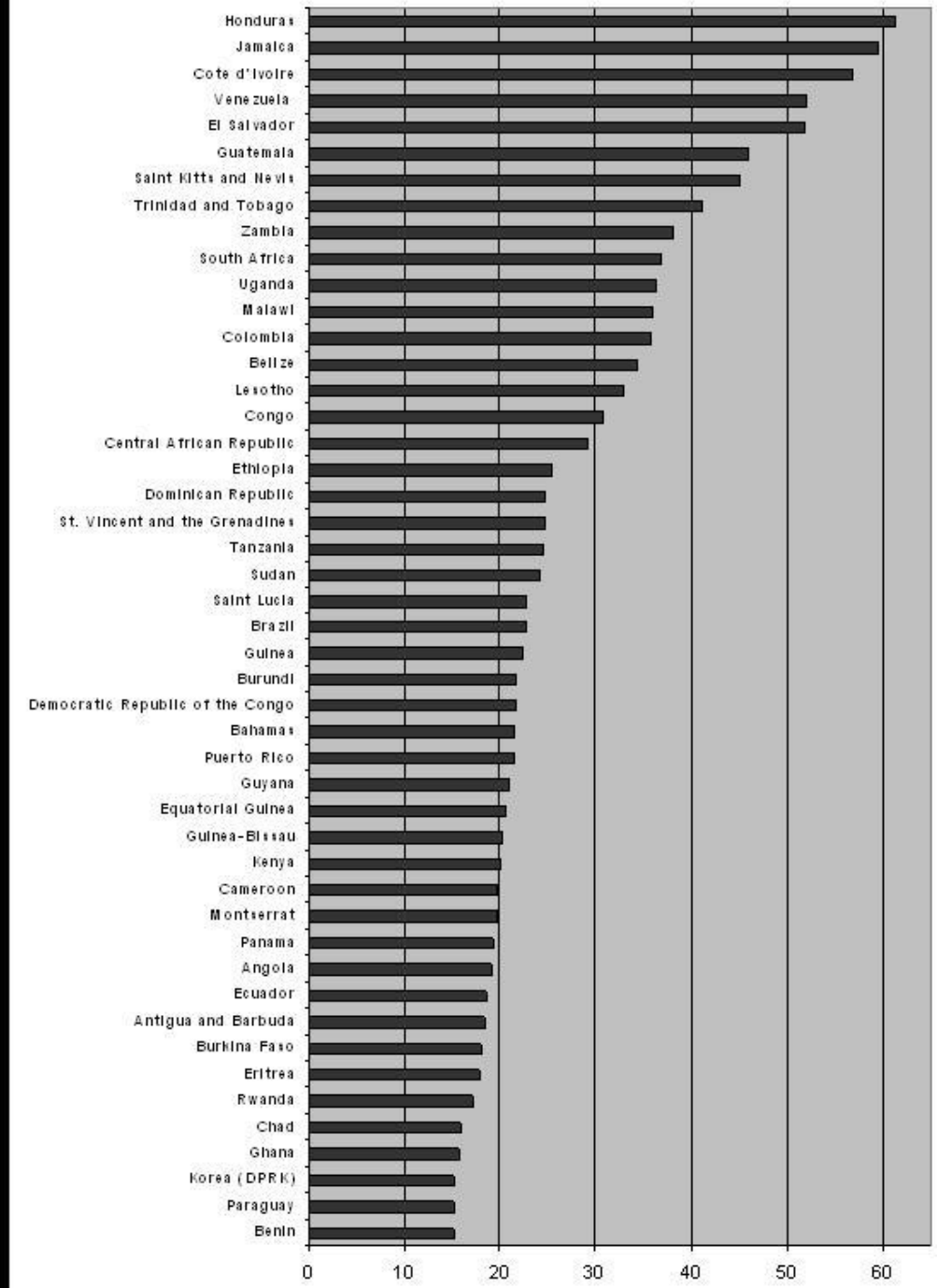
Risk index (ICRG), Corruption perception index (CPI) and murder rate (per 100,000 inhabitants), 2002



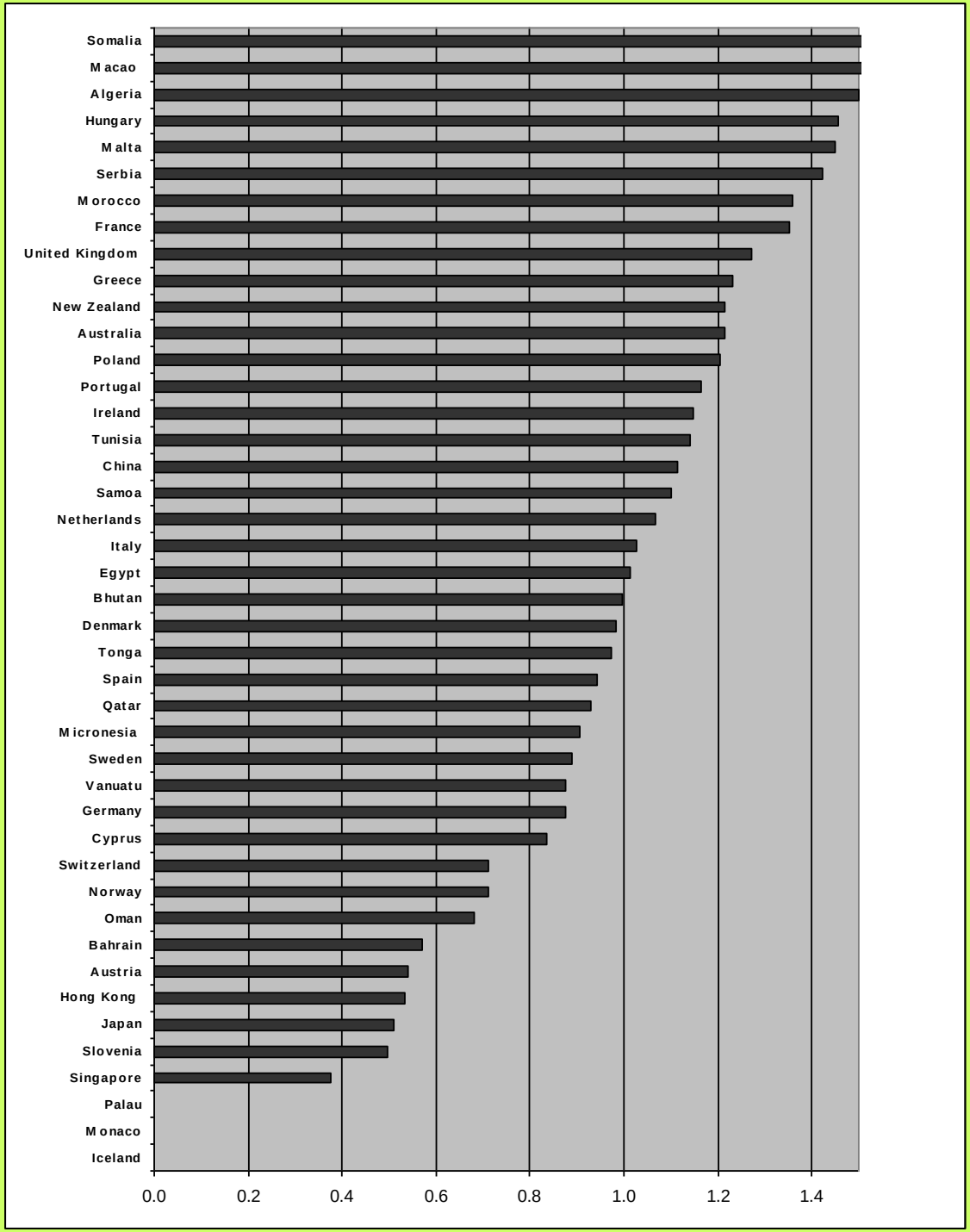
INSTITUTIONS (Europe, East Asia, MENA) : Murders per 100, 000 of inhabitants and government effectiveness index in 2002



INSTITU-TIONS (LA, SSA, FSU): Murders per 100, 000 of inhabi-tants and govern-ment effective-ness 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 **= CONST. + CONTR.VAR. + 0.18∆(*RL* – 0.72),**

- **where ∆ – democratization (change in democracy index in 1970-2000), *RL* – rule of law index for 2000.**
- **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∆ (*CPI* –5.51)**
- **Polterovich, V., V. Popov. Democratization, Quality of Institutions and Economic Growth. - *TIGER Working paper* No. 102, Warsaw, July 2007.**

- **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).**

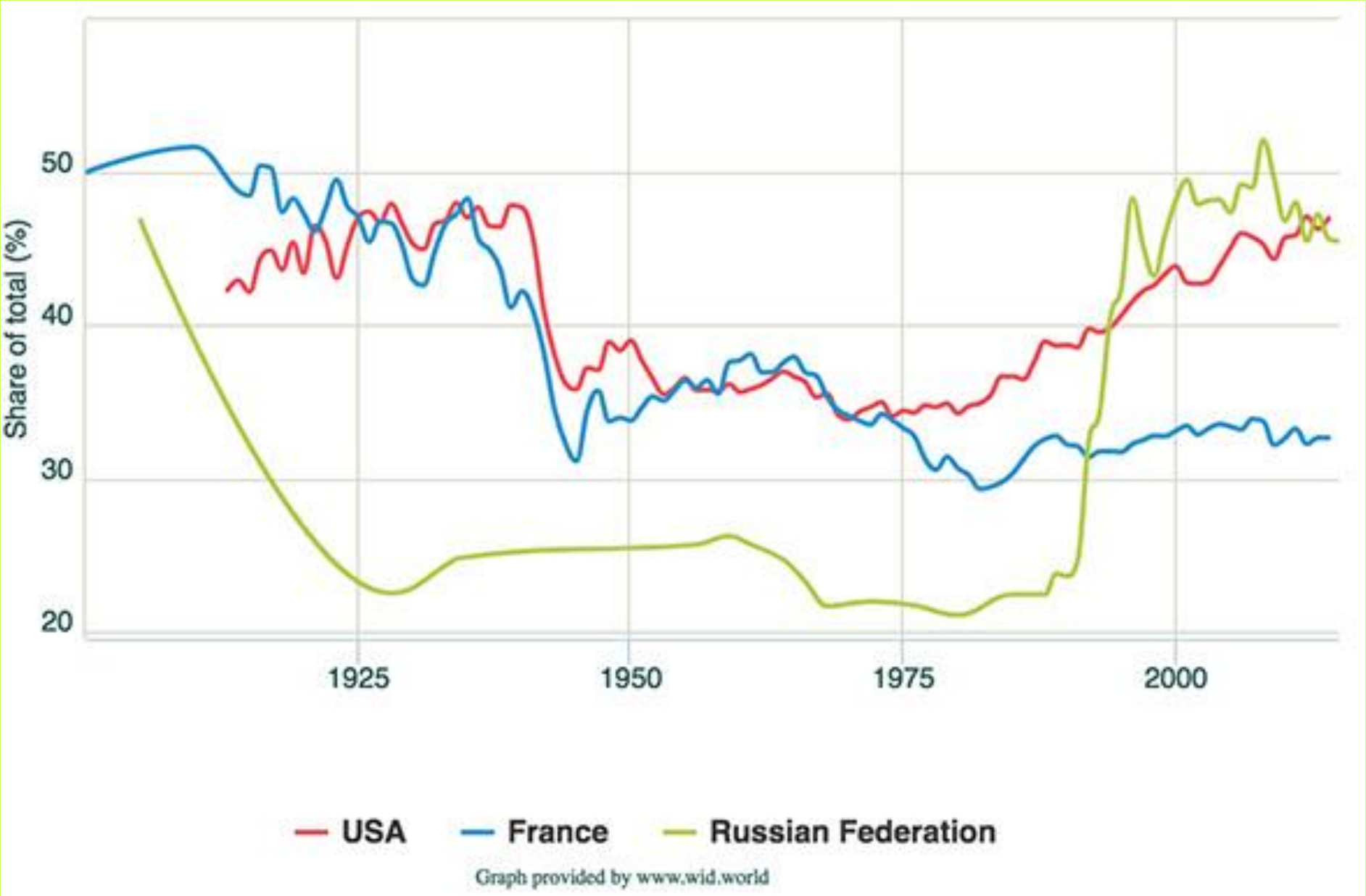
- **Besides, differences in the quality of state institutions among authoritarian regimes are huge – less than 1 murder per 100,000 inhabitants in pre-reform China and over 20 in SSA.**

- **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

Years	Wealthy	Middle	Poor
1600-1750	15	53	32
1751-1800	10	48	42
1801-1860	16	56	30
1896-1900	18	23	59

Turchin, P., S. Nefedov. Secular Cycles. Princeton University Press, 2009, p. 277.

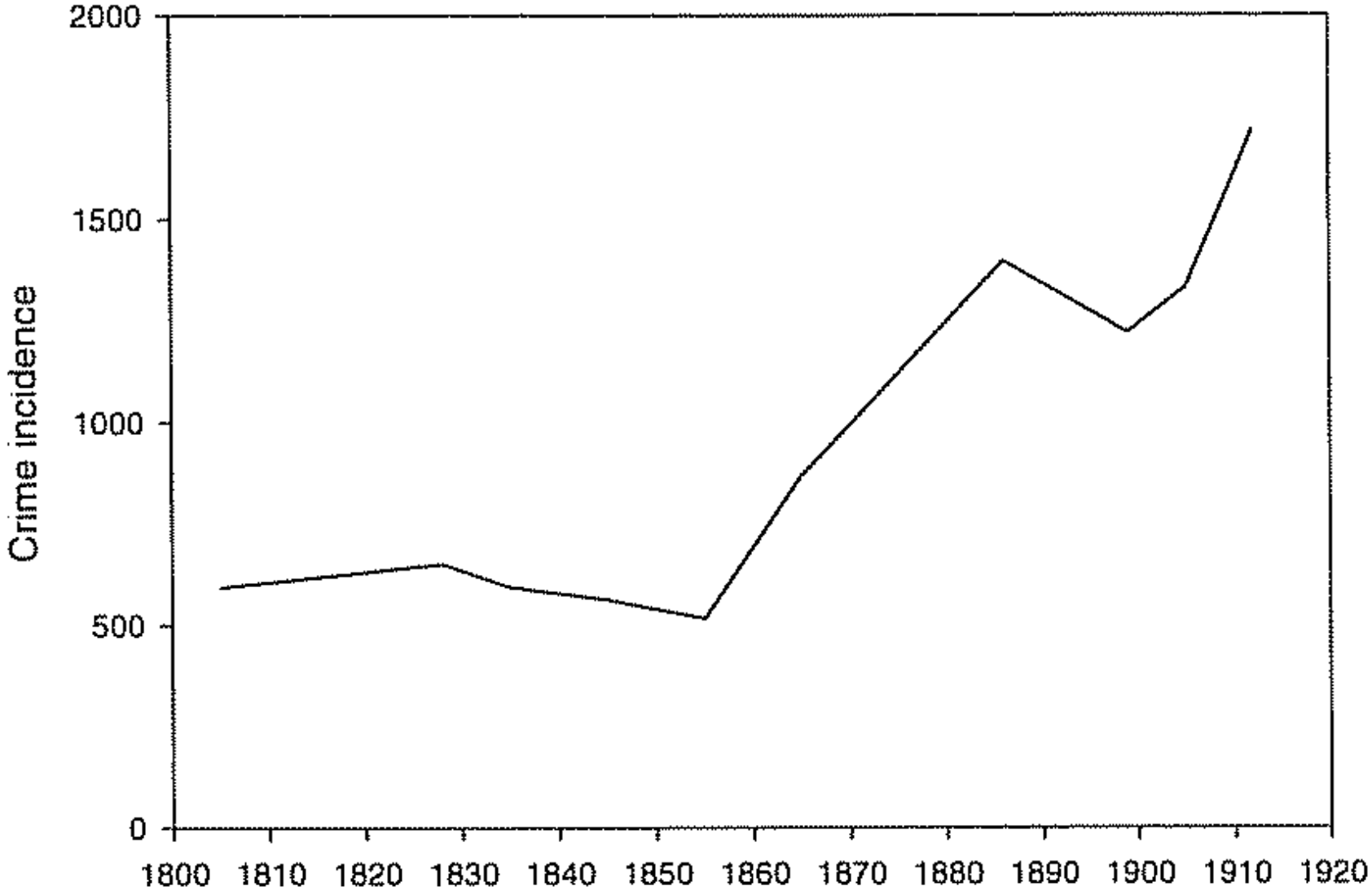


Figure 9.10 Dynamics of criminality in Russia as the number of total crimes per 100,000 persons (Mironov 2000:II: Table 5.6).

Turchin, P., S. Nefedov. Secular Cycles.Princeton University Press, 2009, p. 285.

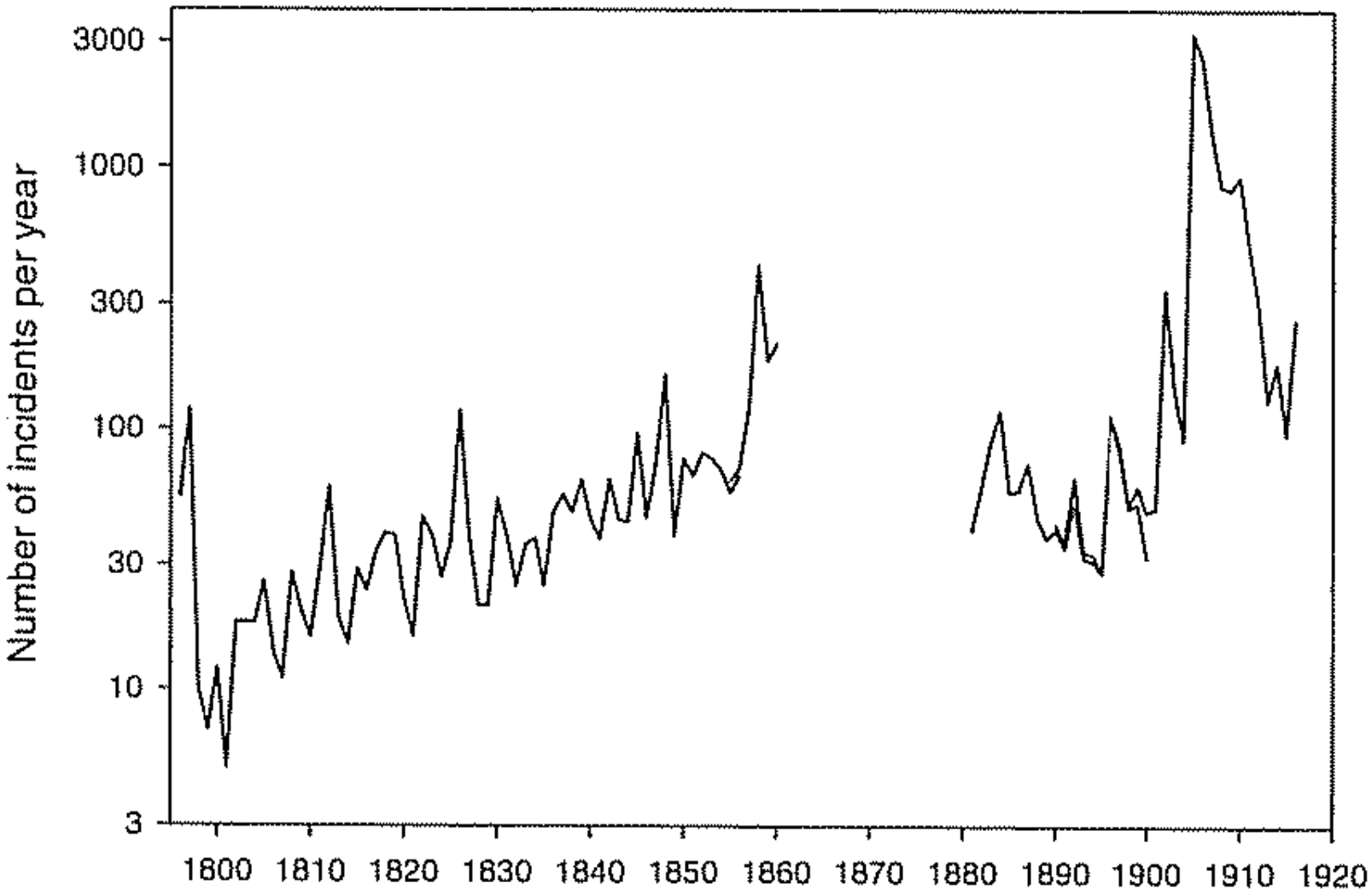


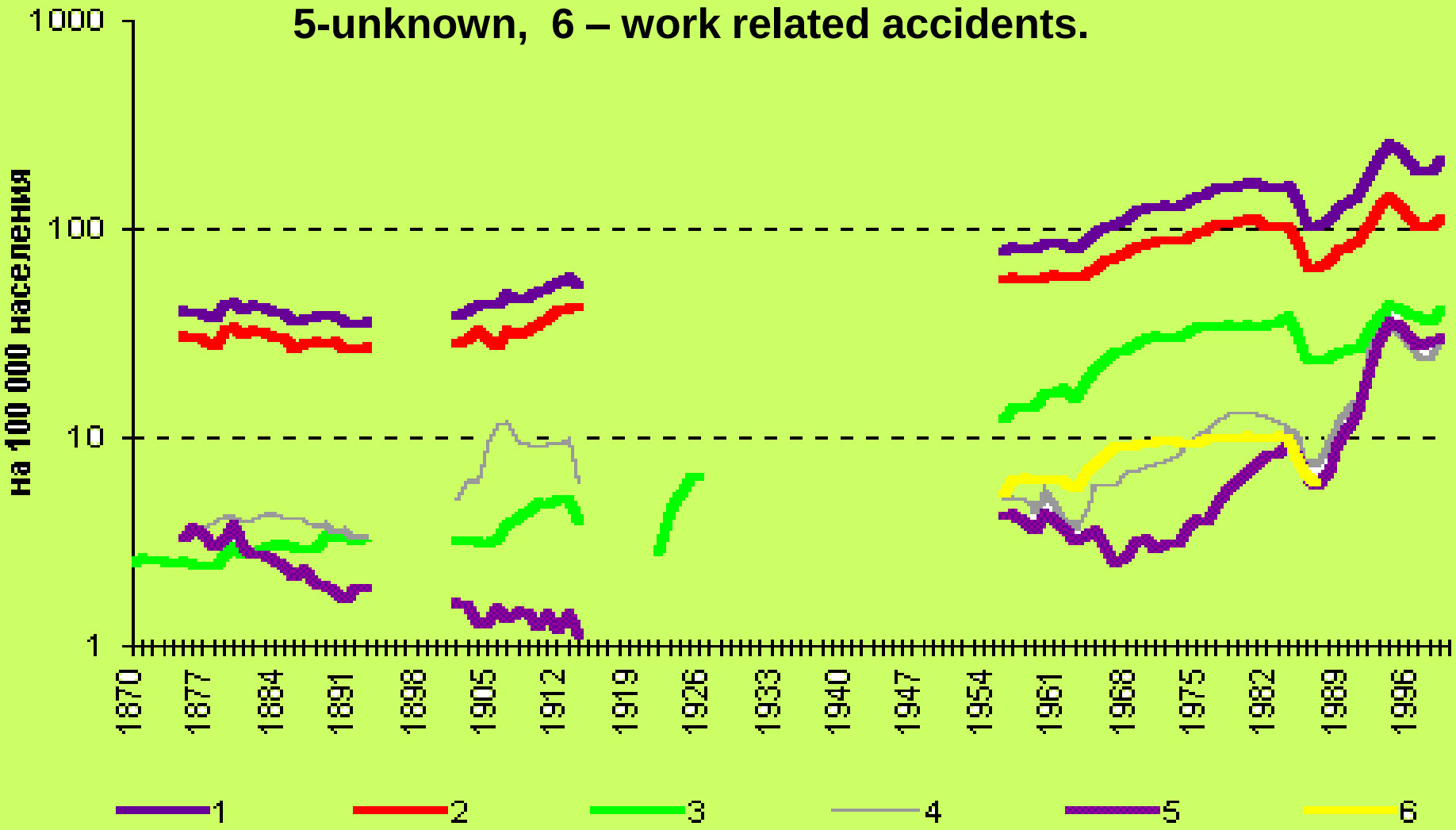
Figure 9.9 Dynamics of peasant disturbances. Data for 1796–1856 and 1881–1900 are from Litvak (1967: Table 1), for 1855–60 from Zayonchkovski (1963), and for 1890–1916 from Dubrovsky (1956). Note the logarithmic scale of the *y*-axis.

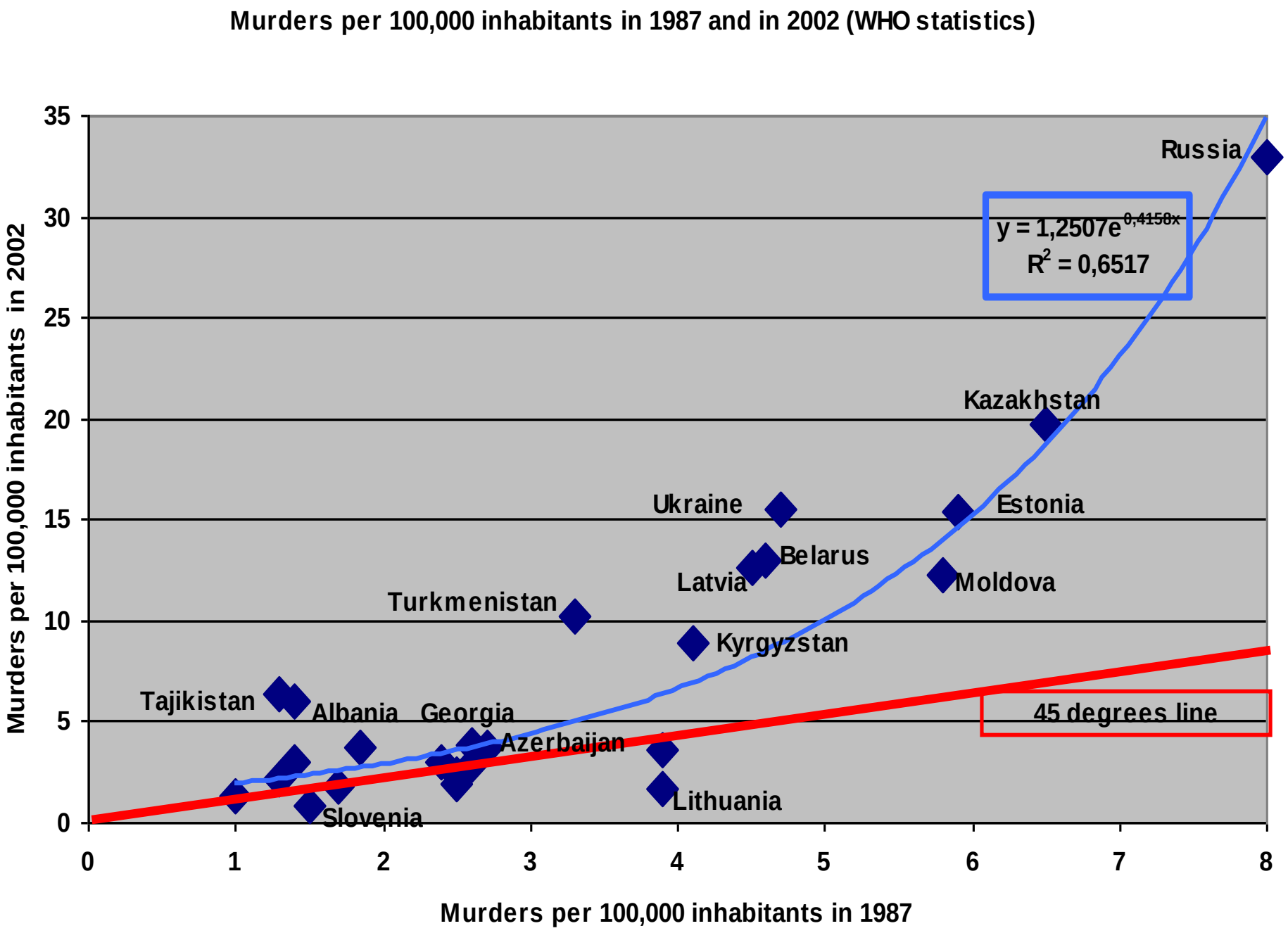
Turchin, P., S. Nefedov. Secular Cycles.Princeton University Press, 2009, p. 286.

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

Source: Demoscope, № 31-32. August 27- Sept. 9, 2001 http://demoscope.ru/weekly/031/img/nomer31.jpg).

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)
Murders per 100,000 inhabitants in 2002
Murders per 100,000 inhabitants in 1987
0
5
10
15
20
25
30
35
0
1
2
3
4
5
6
7
8
Russia
y = 1,2507e^0,4158x
R^2 = 0,6517
Kazakhstan
Ukraine
Estonia
Belarus
Latvia
Moldova
Turkmenistan
Kyrgyzstan
Tajikistan
Albania
Georgia
Azerbaijan
45 degrees line
Lithuania
Slovenia

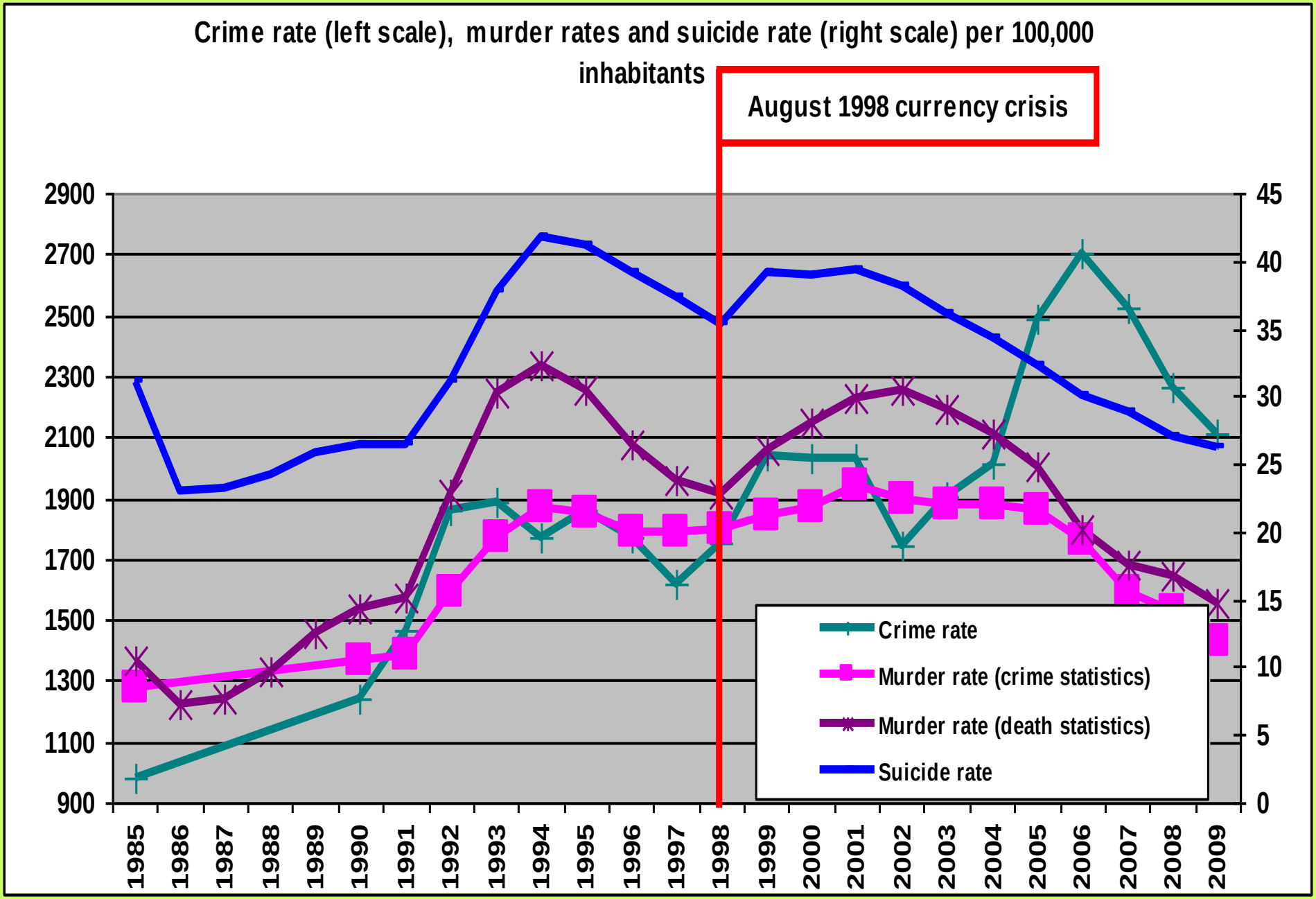

Crime rate (left scale), murder rates and suicide rate (right scale) per 100,000 inhabitants
August 1998 currency crisis
2900
2700
2500
2300
2100
1900
1700
1500
1300
1100
900
45
40
35
30
25
20
15
10
5
0
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
Crime rate
Murder rate (crime statistics)
Murder rate (death statistics)
Suicide rate

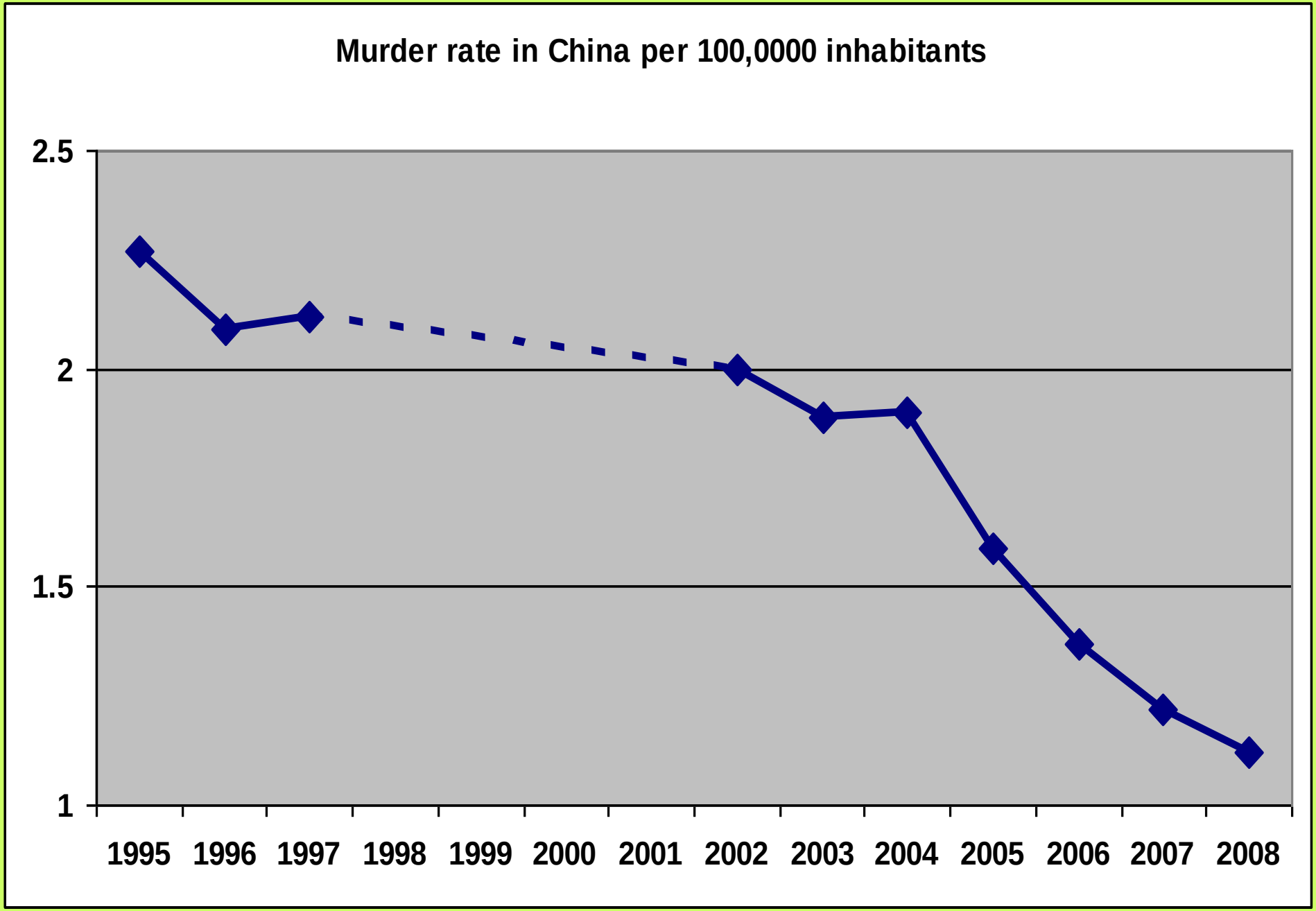
Table. Number of deaths from external causes per 100,000 inhabitants in 2002 – countries with highest rates

Country/Indicator	Deaths from external causes, total	Including deaths from			
		Accidents	Suicides	Murders	Other*
Russia	245	158	41	33	11
Sierra-Leone	215	148	10	50	7
Burundi	213	64	7	18	124
Angola	191	131	8	40	13
Belarus	172	120	38	13	0
Estonia	168	124	29	15	0
Kazakhstan	157	100	37	20	0
Ukraine	151	100	36	15	0
Cote D'Ivoire	148	86	11	27	24
Colombia	134	36	6	72	19
Niger	133	113	6	14	0

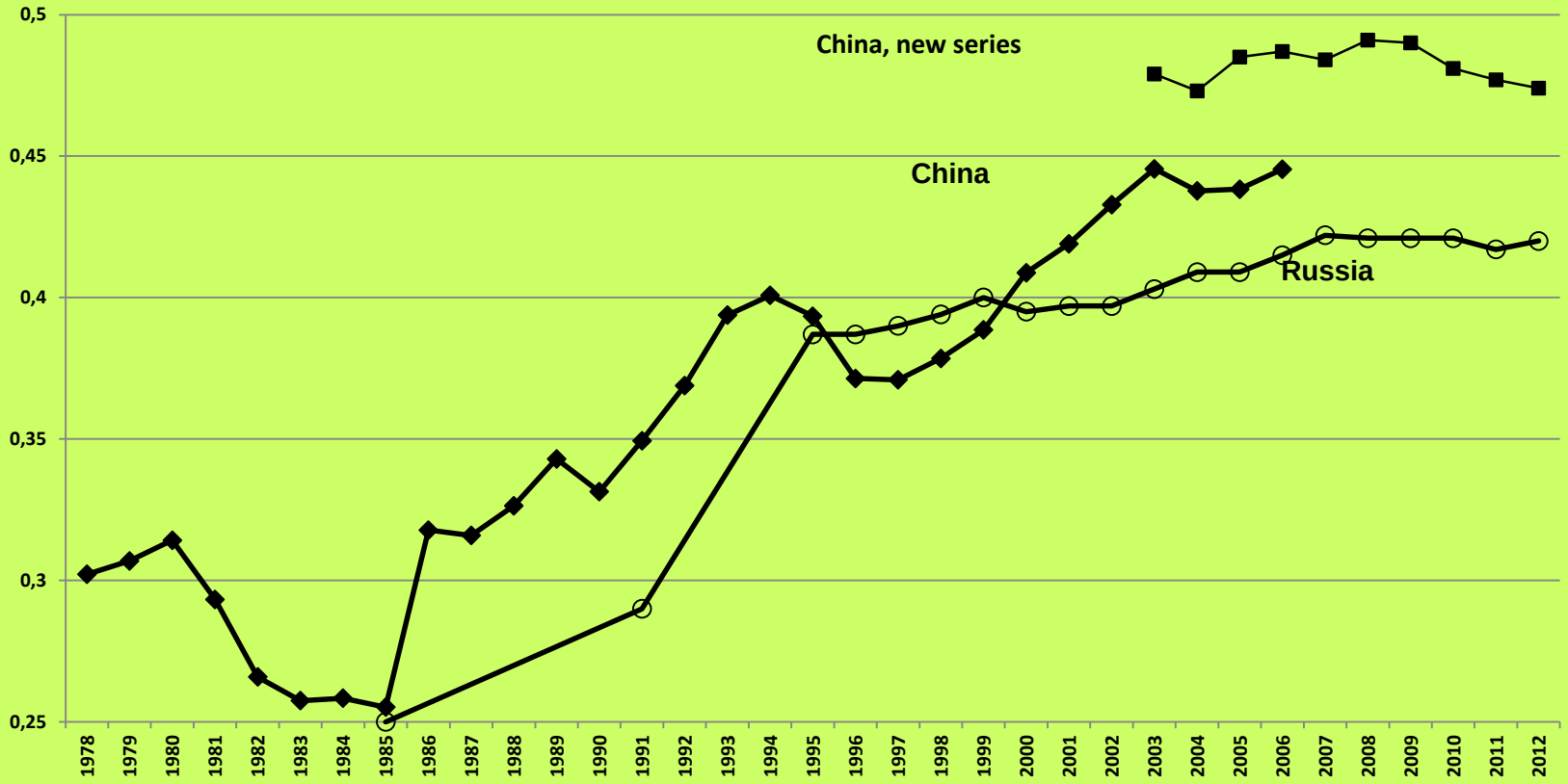
*Deaths due to unidentified external causes, wars, police operations, executions.
Totals may differ slightly from the sum of components due to rounding.
Source: WHO (http://www.who.int/entity/healthinfo/statistics/bodgbddeathdalyestimates.xls)

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).

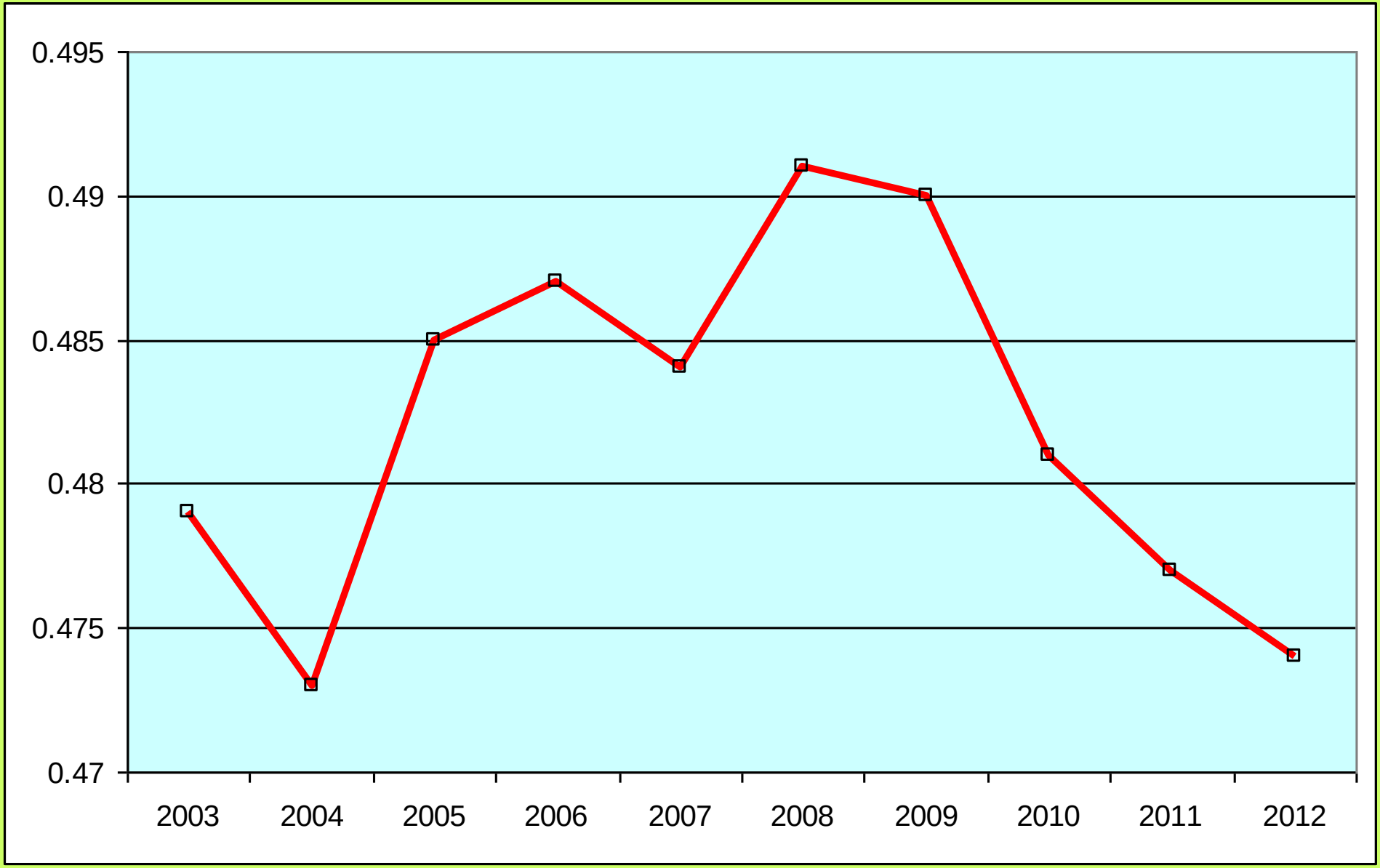

Murder rate in China per 100,0000 inhabitants
2.5
2
1.5
1
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008

Gini coefficient of income distribution in Russia and China, %

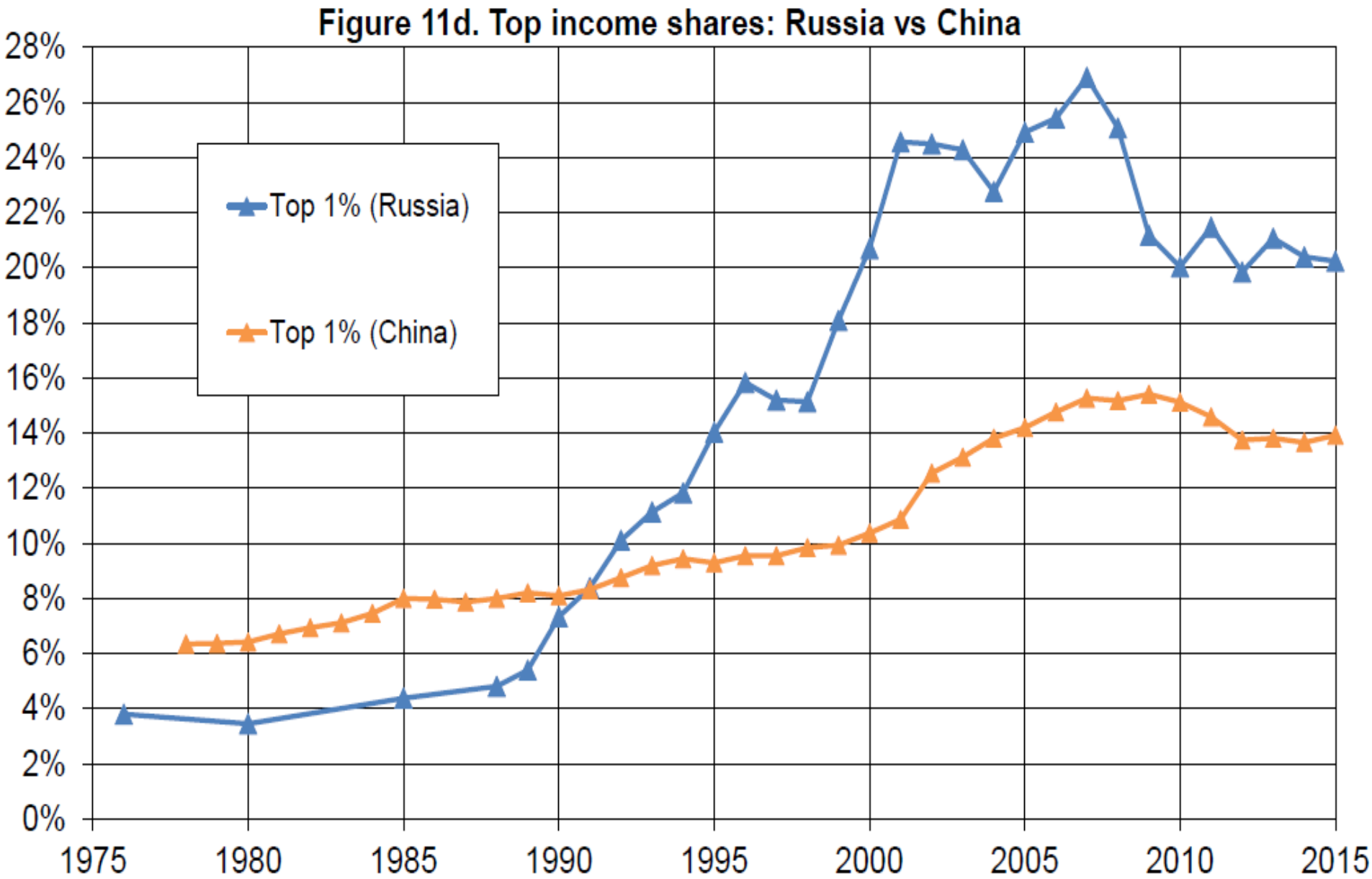


Source: Chen, Hou, Jin, 2008; Госкомстат; China daily, January 19, 2013.

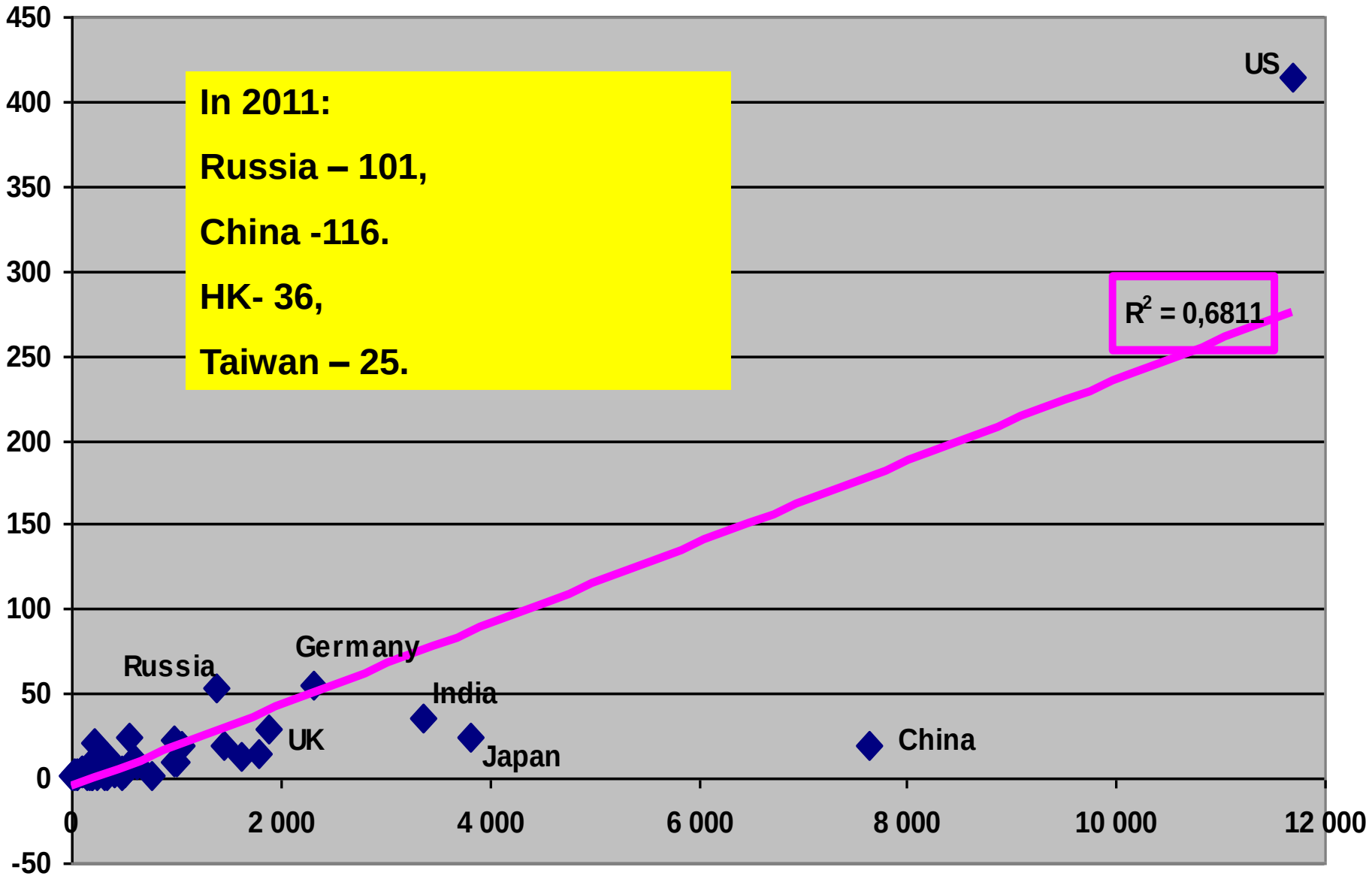
Fig. 3.18. Gini coefficient of income distribution in China in 2003-12, %, new official sample (China Daily, January 19, 2013)



CHINA'S GINI COEFFICIENT
0.50
0.49
0.48
0.47
0.46
0.479
0.473
0.485
0.487
0.484
0.491
0.490
0.481
0.477
0.474
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Source: National Bureau of Statistics
LI YI / CHINA DAILY



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.


Number of billionaires in 2007 and PPP GDP in 2005 (billion $) by country
In 2011:
Russia – 101,
China -116.
HK- 36,
Taiwan – 25.
US
Russia
Germany
India
UK
Japan
China
R2 = 0,6811
450
400
350
300
250
200
150
100
50
0
-50
0
2 000
4 000
6 000
8 000
10 000
12 000

Inequality in China adjusted

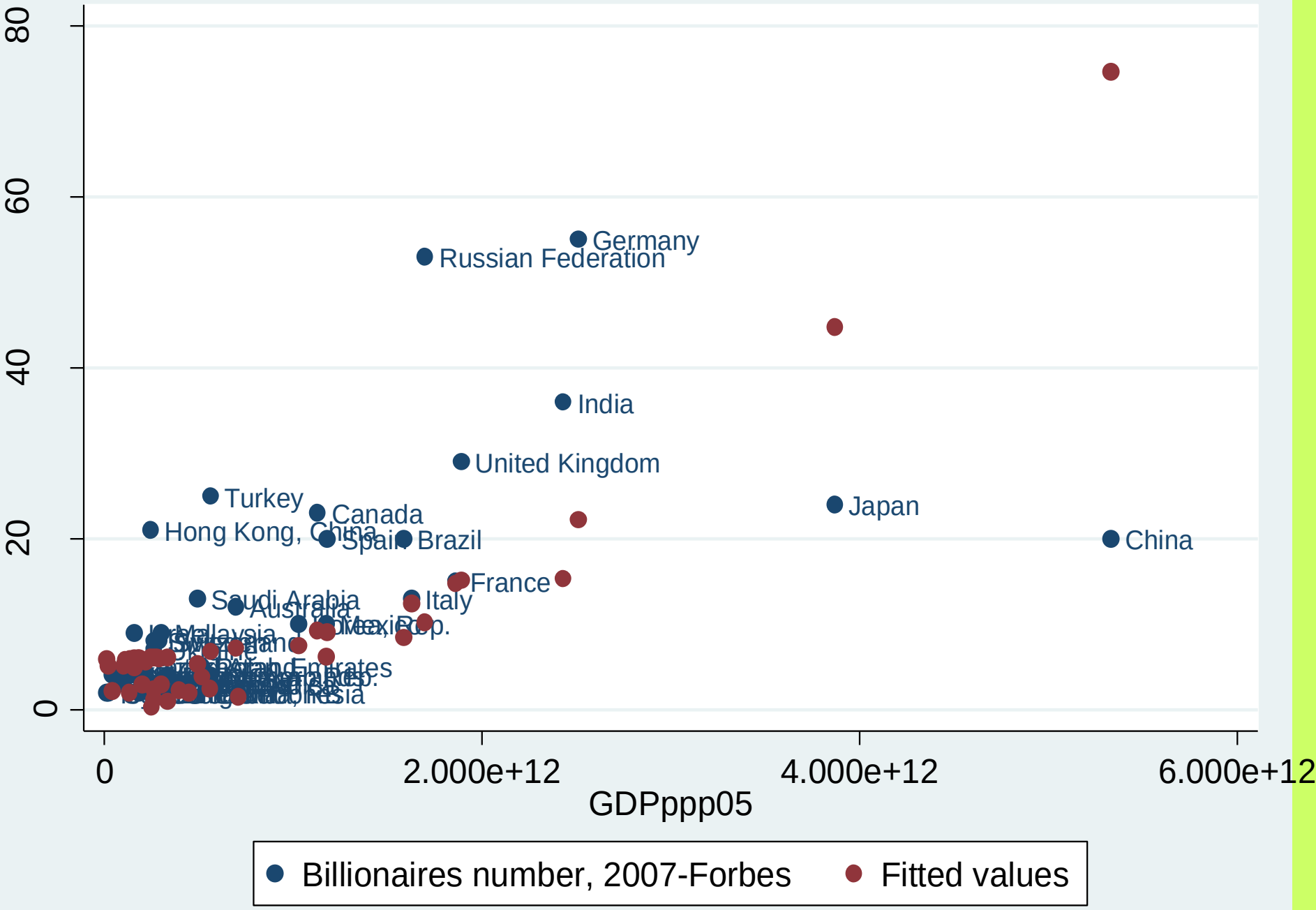
- **It is important though to take into account the size of the country – in terms of both territory and population.**

- **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.**


80
60
40
20
0
Germany
Russian Federation
India
United Kingdom
Turkey
Canada
Hong Kong, China
Spain
Brazil
Japan
China
France
Saudi Arabia
Italy
Australia
Malaysia
Mexico
Pop.
Emirates
0
2.000e+12
4.000e+12
6.000e+12
GDPppp05
Billionaires number, 2007-Forbes
Fitted values

- The relationship is non-linear:

Number of billionaires in 2005 =

$-0.9 + 0.367\boldsymbol{y} - 0.0049\boldsymbol{y}^2 + 2.6\boldsymbol{Y}^2$,

where

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

N= 181, R2 = 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-Sahara Africa and Russia would be falling behind.

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MIXED FORTUNES

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VLADIMIR POPOV