

# China's Rise in the Medium and Long Term Perspective: An Interpretation of Differences in Economic Performance of China and Russia since 1949

(História e Economia Revista Interdisciplinar, Vol. 3 - n. 1 - 2º semestre 2007)

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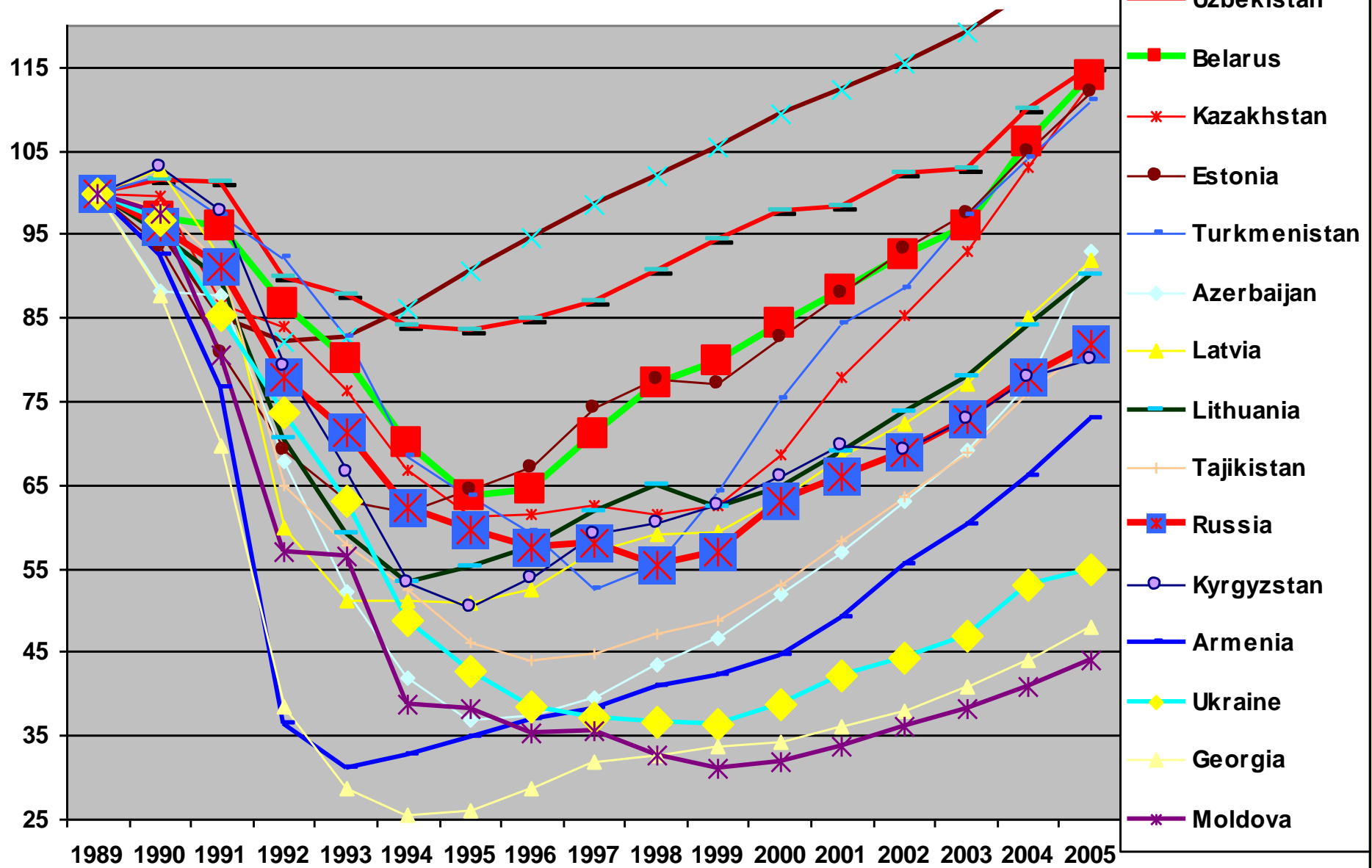
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# PAPERS EXPLAINING DIFFERENT PERFORMANCE OF TRANSITION ECONOMIES

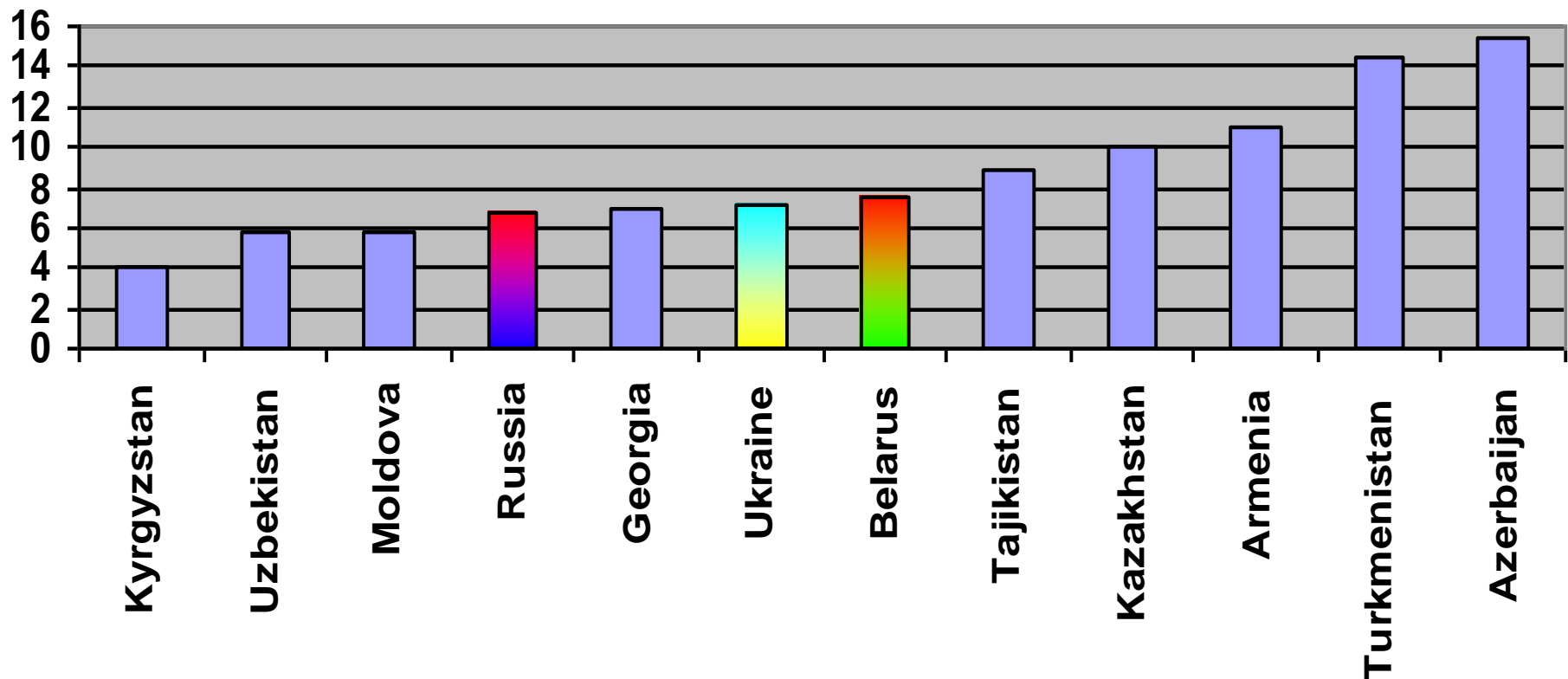
- Shock Therapy versus Gradualism Reconsidered: Lessons from Transition Economies after 15 Years of Reforms. *Comparative Economic Studies*, 2007,. Vol. 49, Issue 1, March 2007, pp. 1-31.
- Reform Strategies and Economic Performance of Russia's Regions. – *World Development*, Vol. 29, No 5, 2001, pp. 865-86.
- Shock Therapy versus Gradualism: The End of the Debate (Explaining the Magnitude of the Transformational Recession). – *Comparative Economic Studies*, Vol. 42, Spring, 2000, No. 1, pp. 1-57.

**Fig. 2. GDP change in FSU economies, 1989 = 100%**



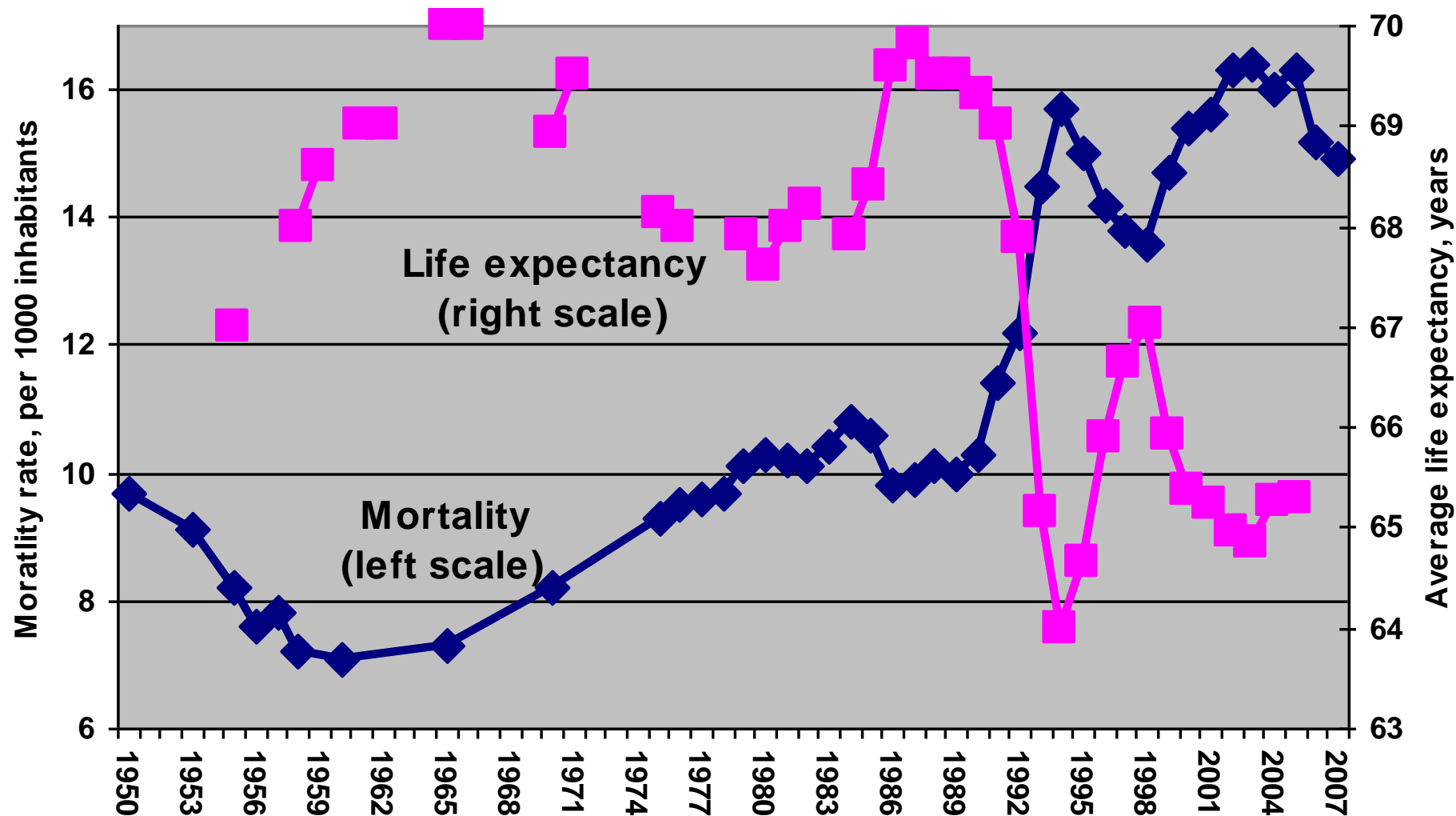
# Russian growth is lagging behind that of oil exporters and some oil importers

Average annual GDP growth rates in CIS countries in 2000-07, EBRD estimates



In 1950-1991 mortality rate in Russia was never as high as it is today (1992-2007)

Fig. 2 Mortality rate (per 1000) and average life expectancy, years



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

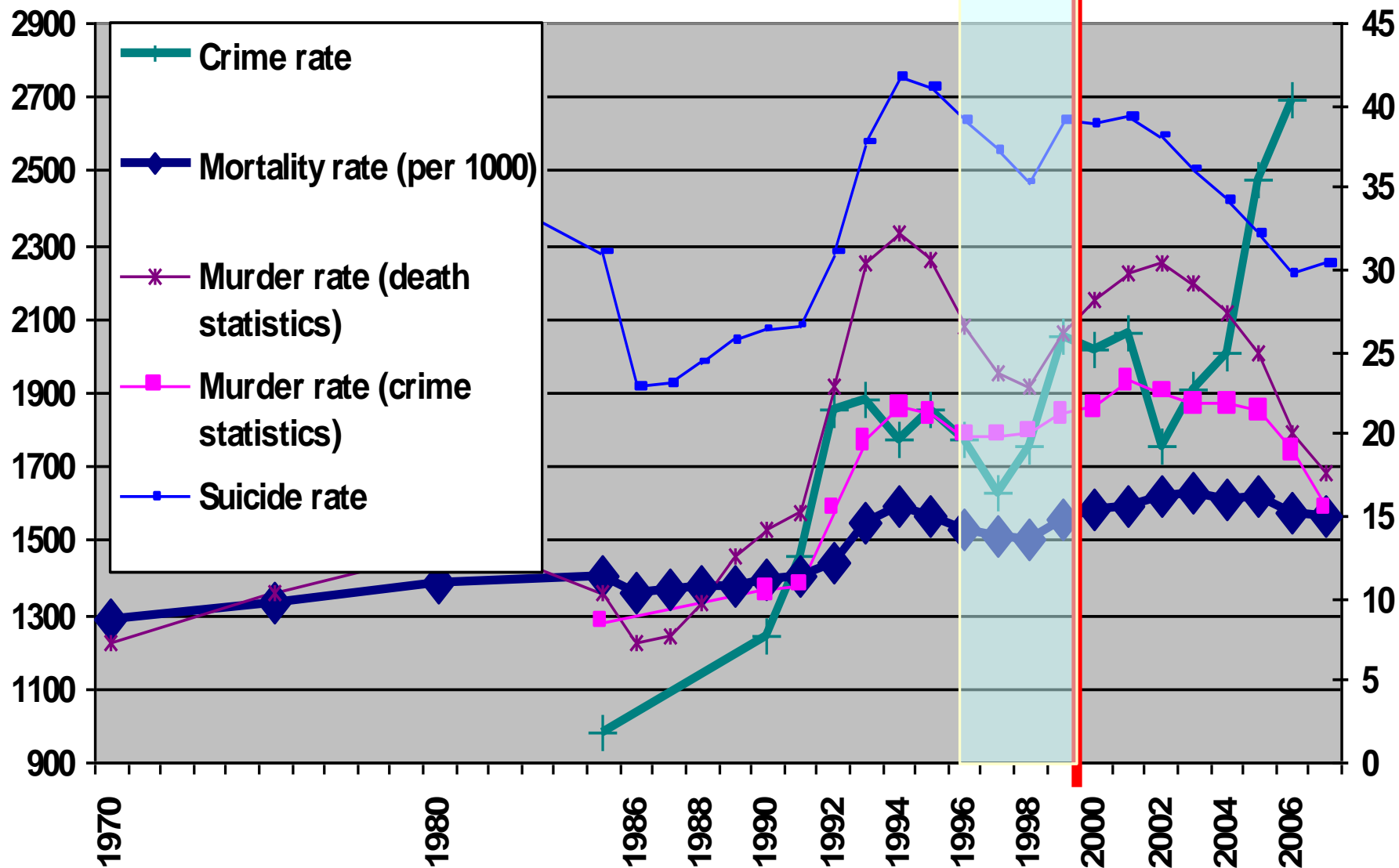
Country/Indicator	Deaths from external causes, total	Including deaths from			
		Accidents	Suicides	Murders	Other*
<b>Russia</b>	<b>245</b>	<b>158</b>	<b>41</b>	<b>33</b>	<b>11</b>
<b>Sierra-Leone</b>	<b>215</b>	<b>148</b>	<b>10</b>	<b>50</b>	<b>7</b>
<b>Burundi</b>	<b>213</b>	<b>64</b>	<b>7</b>	<b>18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

\*Deaths due to unidentified external causes, wars, police operations, executions.

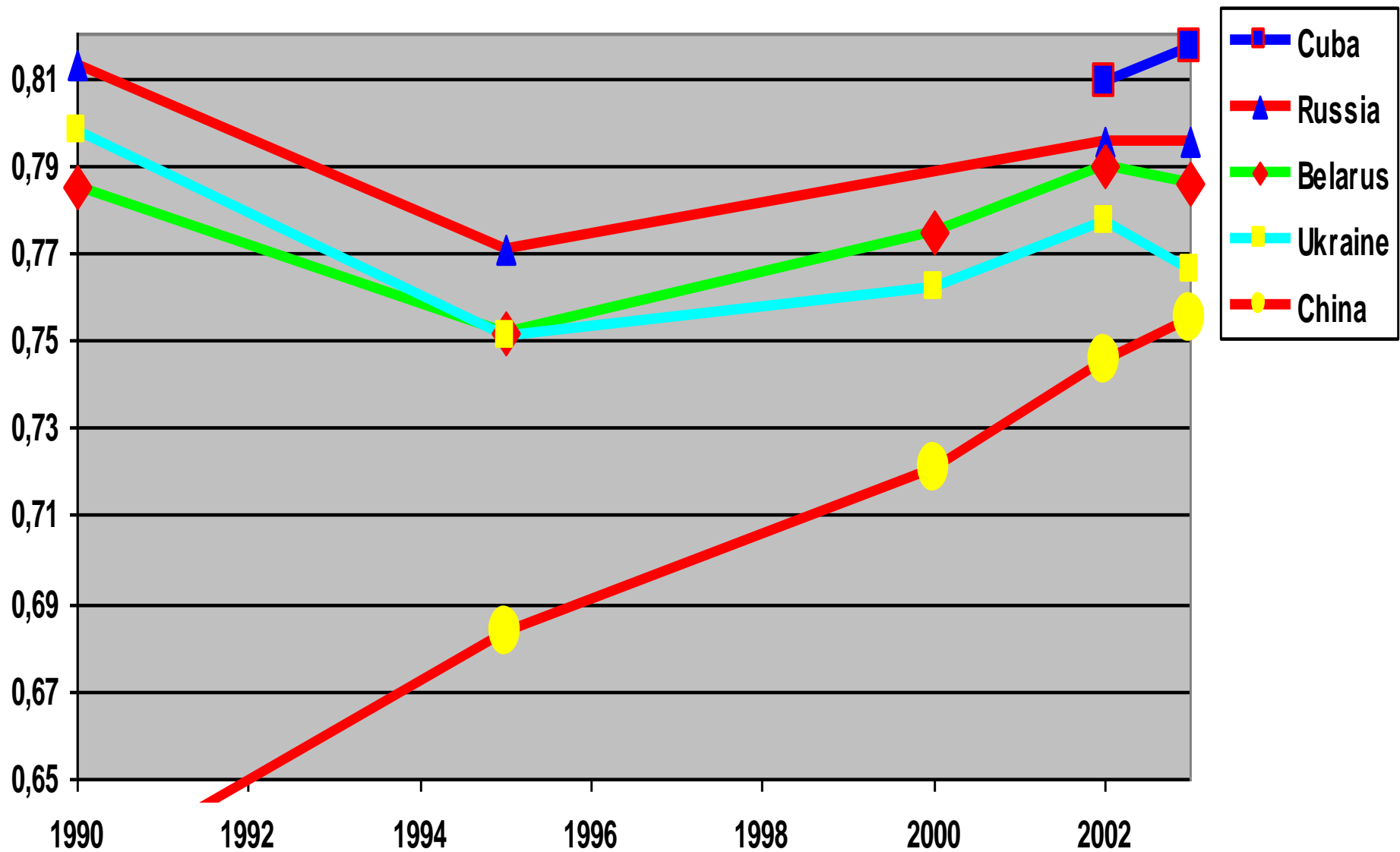
Totals may differ slightly from the sum of components due to rounding.

Source: WHO (<http://www.who.int/entity/healthinfo/statistics/bodgbdeathdalyestimates.xls>)

Crime rate (left scale), mortality rate (per 1000), murder rates and suicide rate (right scale) per 100,000 inhabitants

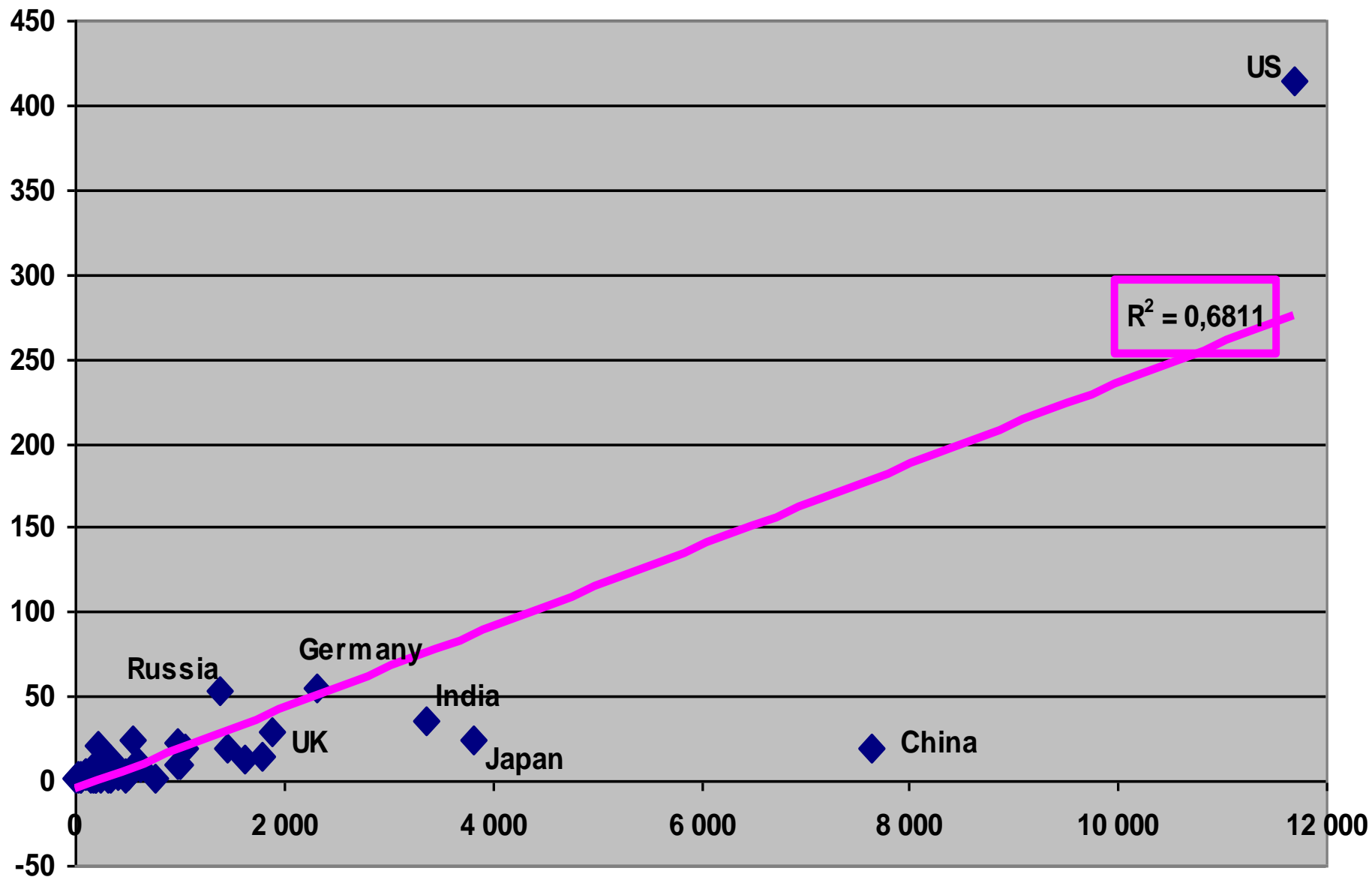


Human Development Index for China, Belarus, Russia and Ukraine





Number of billionaires in 2007 and PPP GDP in 2005 (billion \$) by country



# INITIAL LIBERALIZATION AND OUTPUT CHANGE DURING RECESSION

Fig. 2. Liberalization and output change

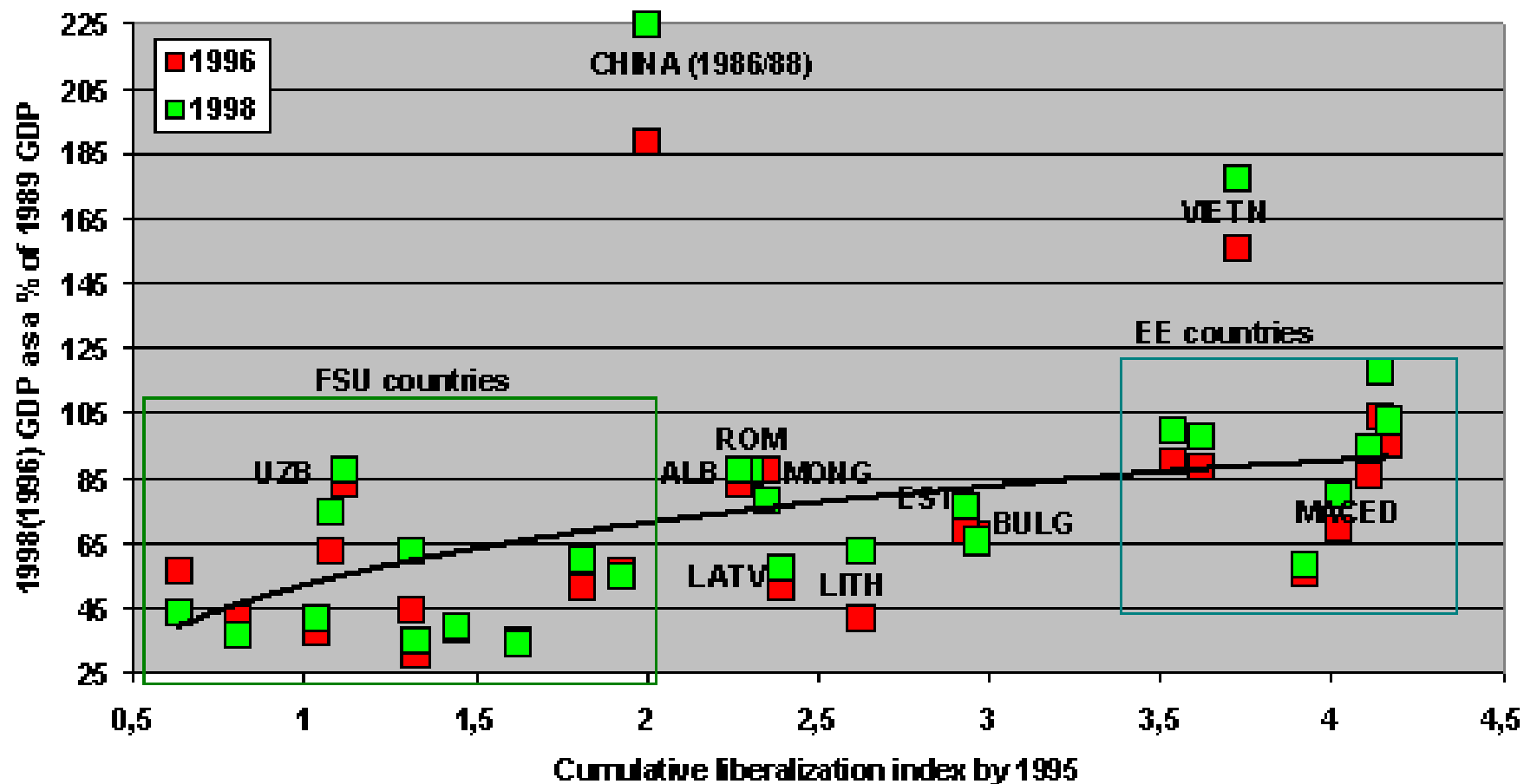
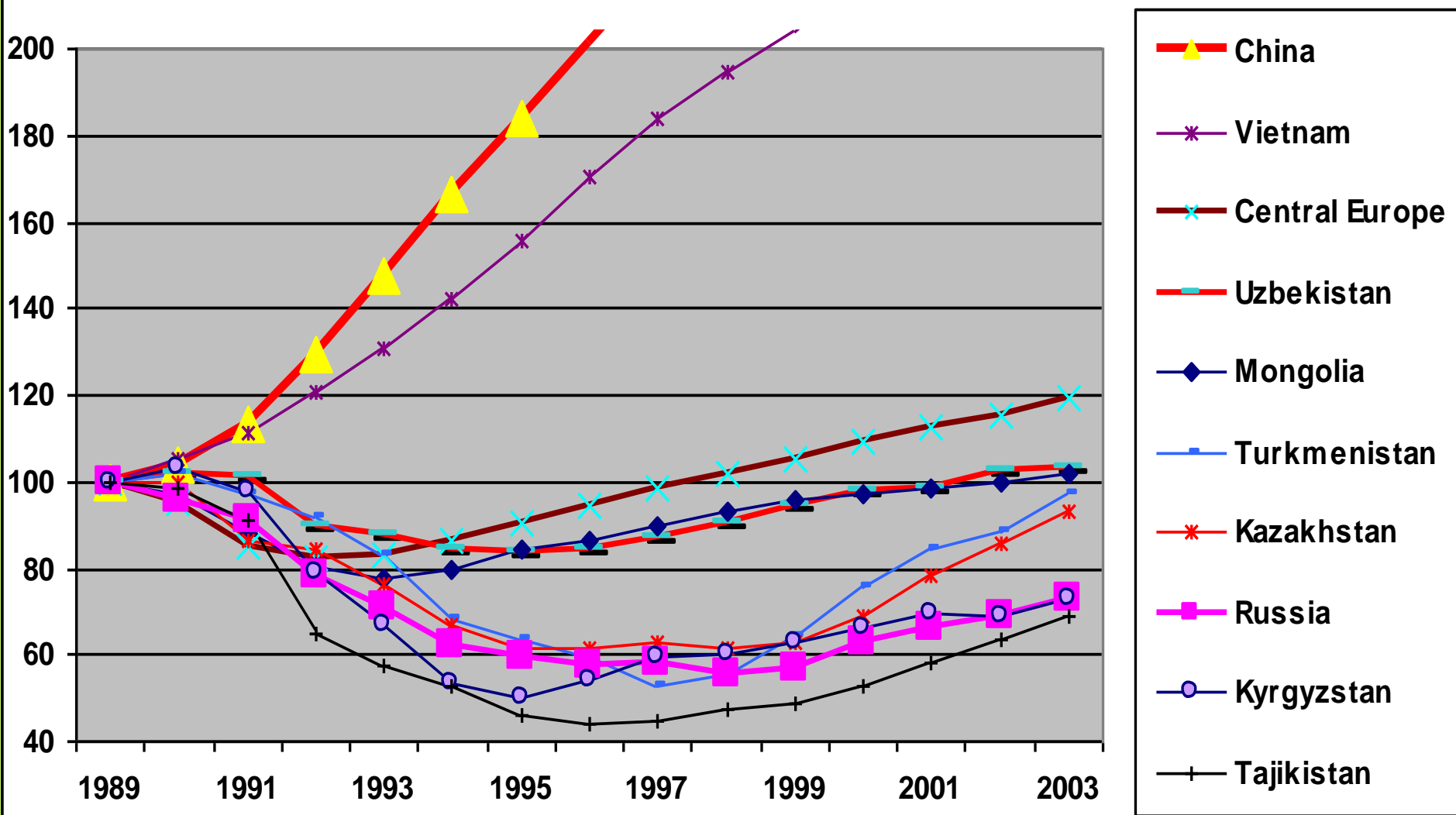
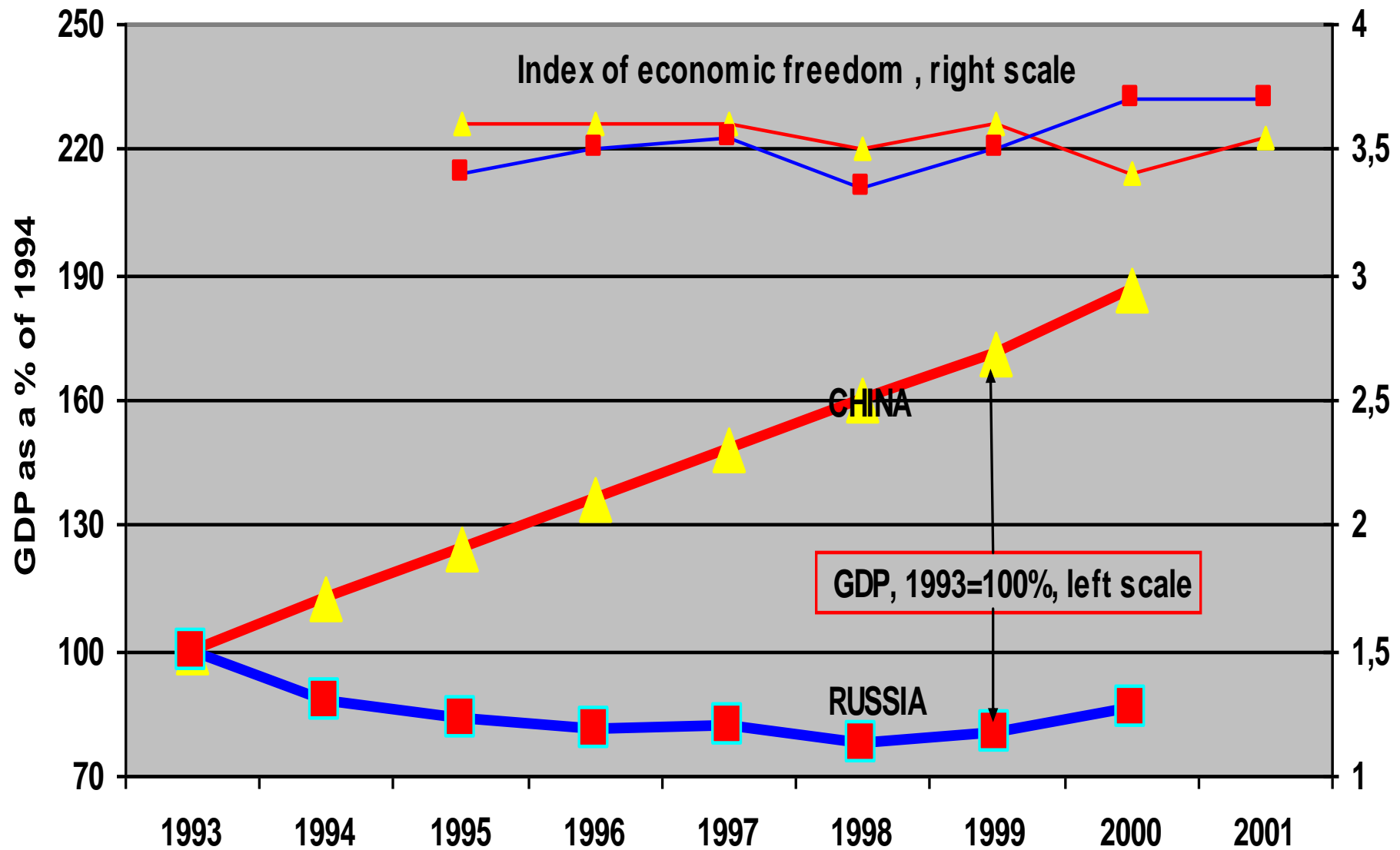


Fig. 1b. GDP change in Asian transition economies, 1989 = 100%

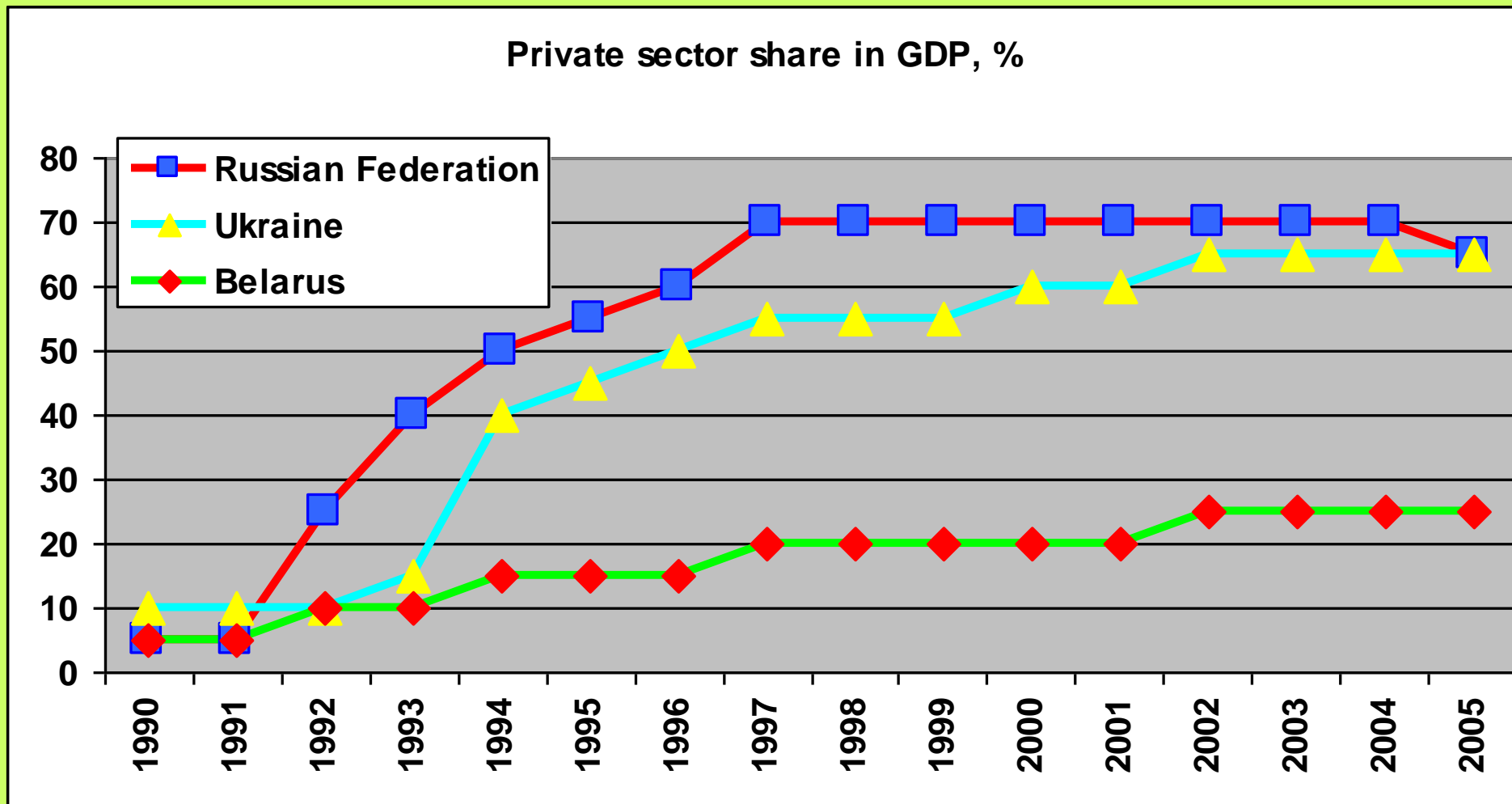


Source: EBRD, World Bank.

Fig. 3. Indices of economic freedom and GDP growth in Russia and China

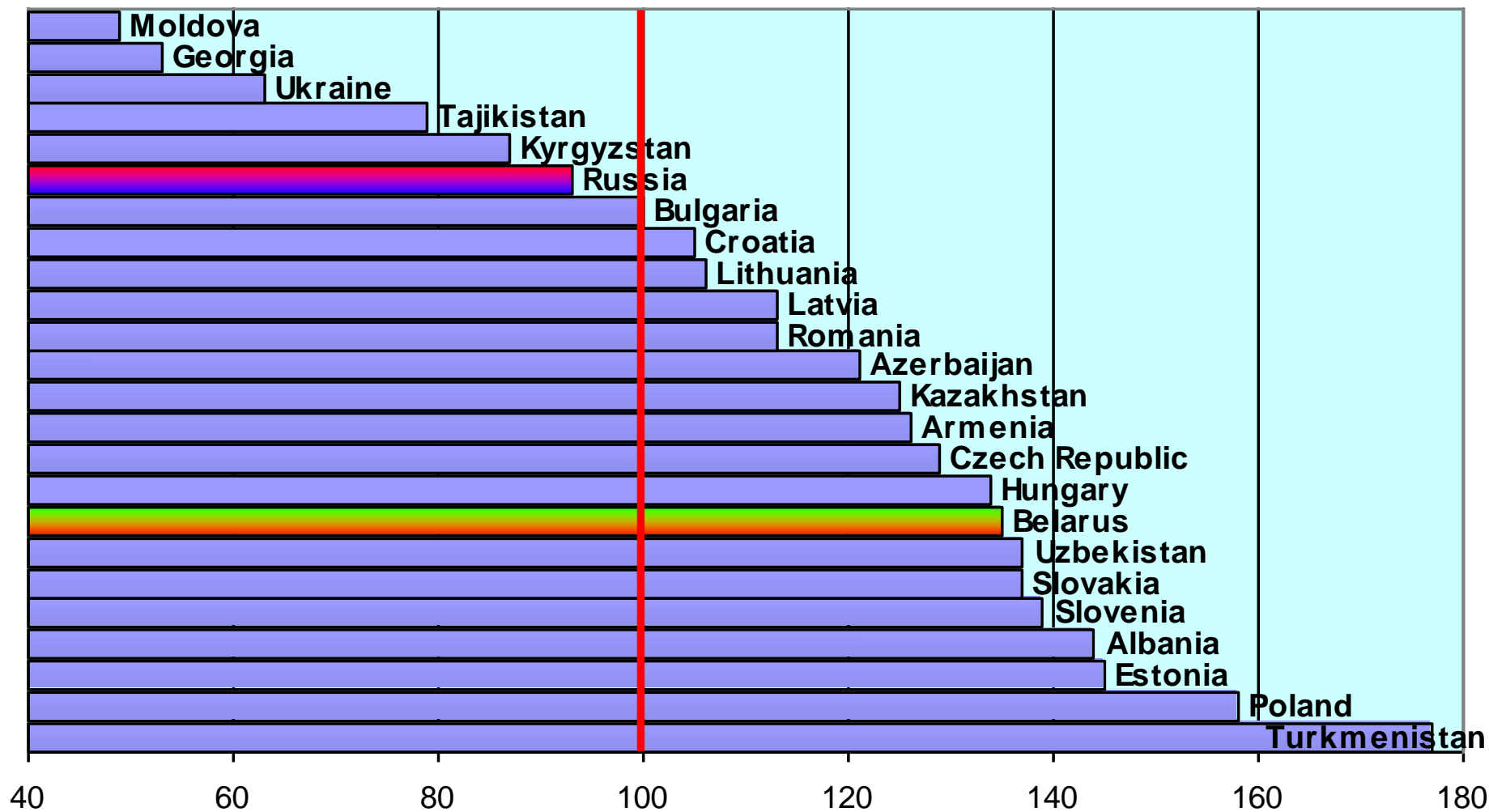


# Russia was leading in economic liberalization, while Belarus was lagging



**But Belarus and Uzbekistan are doing better (even though they are net importers of fuel), not to mention net exporters like Azerbaijan, Kazakhstan, Turkmenistan**

**GDP in 2006 as a % of 1989**



# Does liberalization matter?

- Vietnam and China are similar in initial conditions and in transition results (immediate growth of output without transformational recession) despite different reform strategies:
  - Chinese reforms are the classical example of gradualism
  - Vietnamese reformers introduced shock therapy treatment (instant deregulation of most prices and introduction of convertibility of dong) in 1989
- Differing performance of the former Soviet Union (FSU) states:
  - Baltic states are the champions of liberalization and stabilization in the region. In the Baltics, however, output fell in the early 1990s by 36-60% and even in 2005, 10 years after the bottom of the recession was reached, was still below the pre-recession maximum.
  - Uzbekistan is commonly perceived to be one of the worst procrastinators. However in Uzbekistan the reduction of output in 1990-95 totaled only 18% and the economy started to grow again in 1996
  - By 2005 only two former Soviet republics - Uzbekistan and Turkmenistan - surpassed the pre-recession level of 1989

**Best performance: low distortions, strong institutions**

**Worst performance: high distortions, weak institutions**

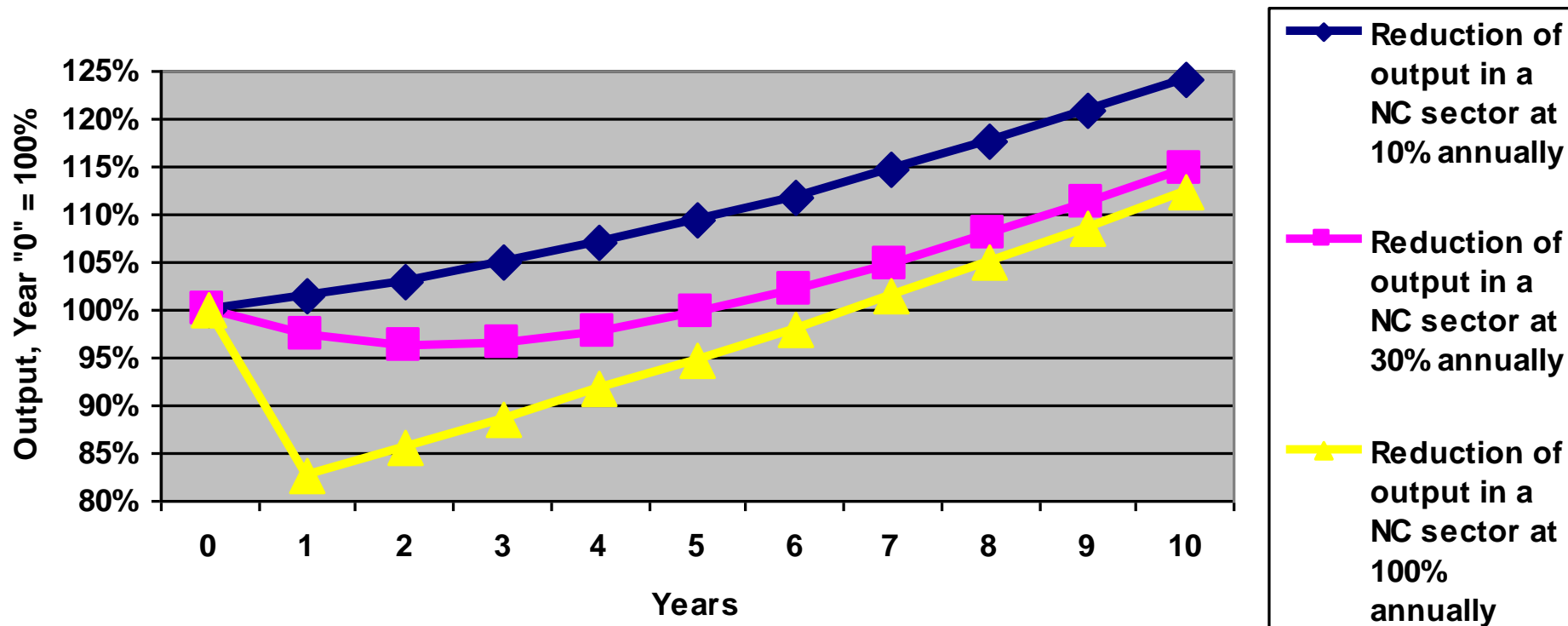
## INITIAL CONDITIONS (DISTORTIONS) AND INSTITUTIONS – CLASSIFICATION OF COUNTRIES

<b>INSTITUTIONAL CAPACITY</b>	<b>DISTORTIONS</b>	<b>LOW</b>	<b>HIGH</b>
<b>HIGH</b>		CHINA, VIETNAM	EASTERN EUROPE
<b>LOW</b>		ALBANIA, MONGOLIA	FSU



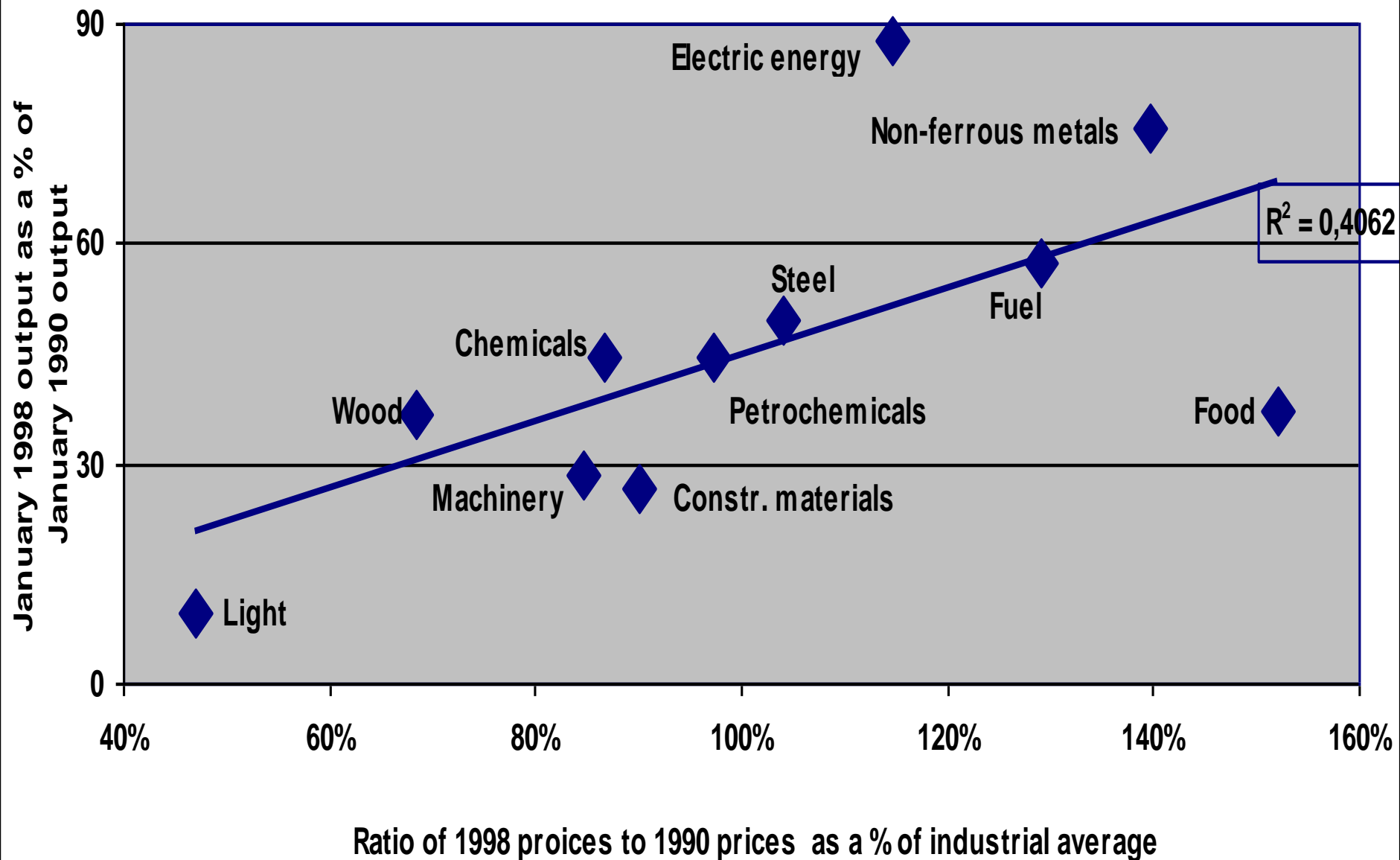
# Conclusions

Fig. 5. Hypothetical trajectories of output (Year "0" = 100%) assuming gradual and instant liberalization



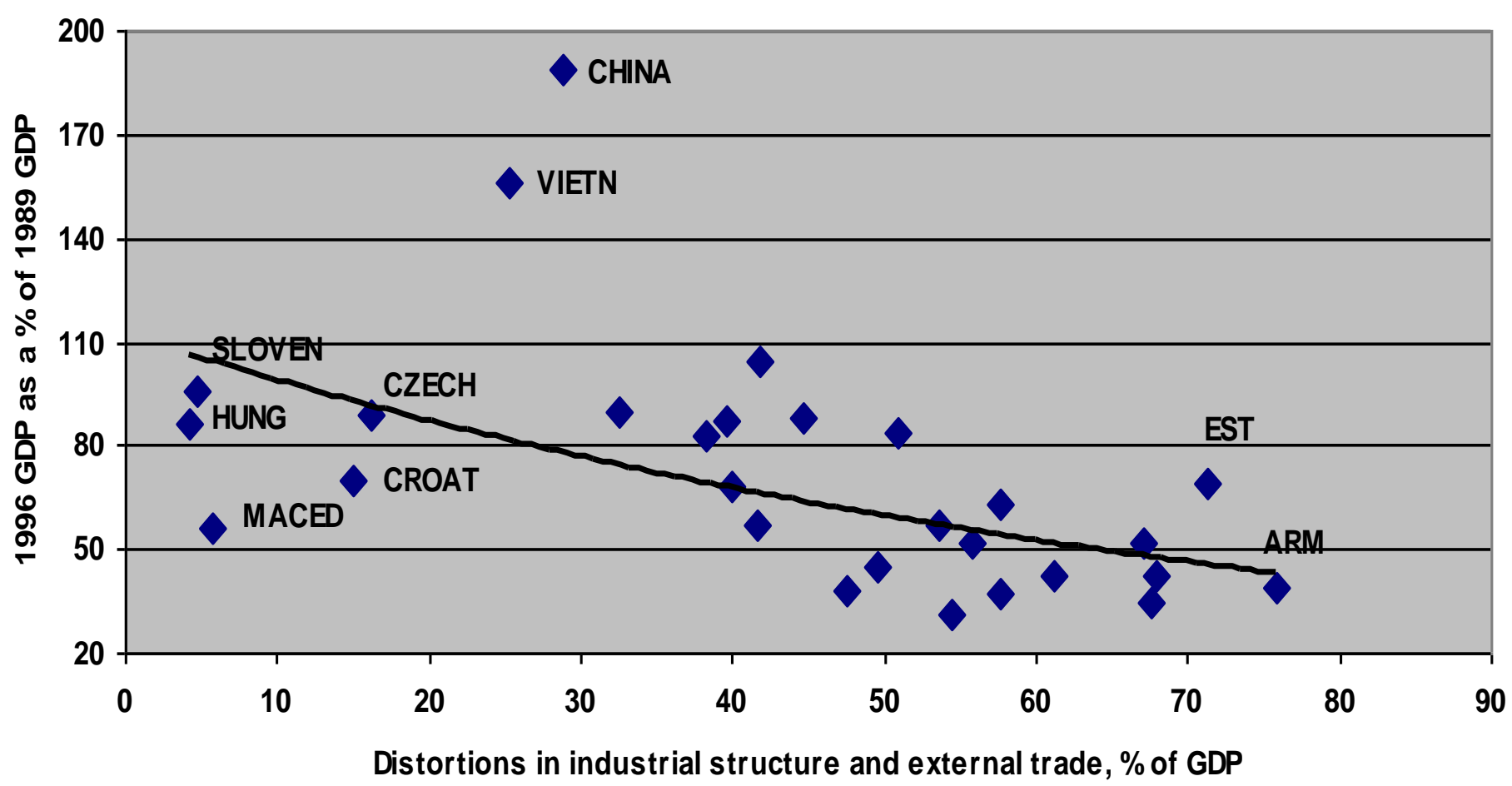
Assumptions: size of non-competitive sector (NC) in the initial year = 20% of total output; net investment (s) = 10% of total output; marginal capital productivity, output increase per unit of net investment ( $a$ ) =  $1/3$ .

Fig. 4. Change in relative prices and output in 1990-98 in Russian industry



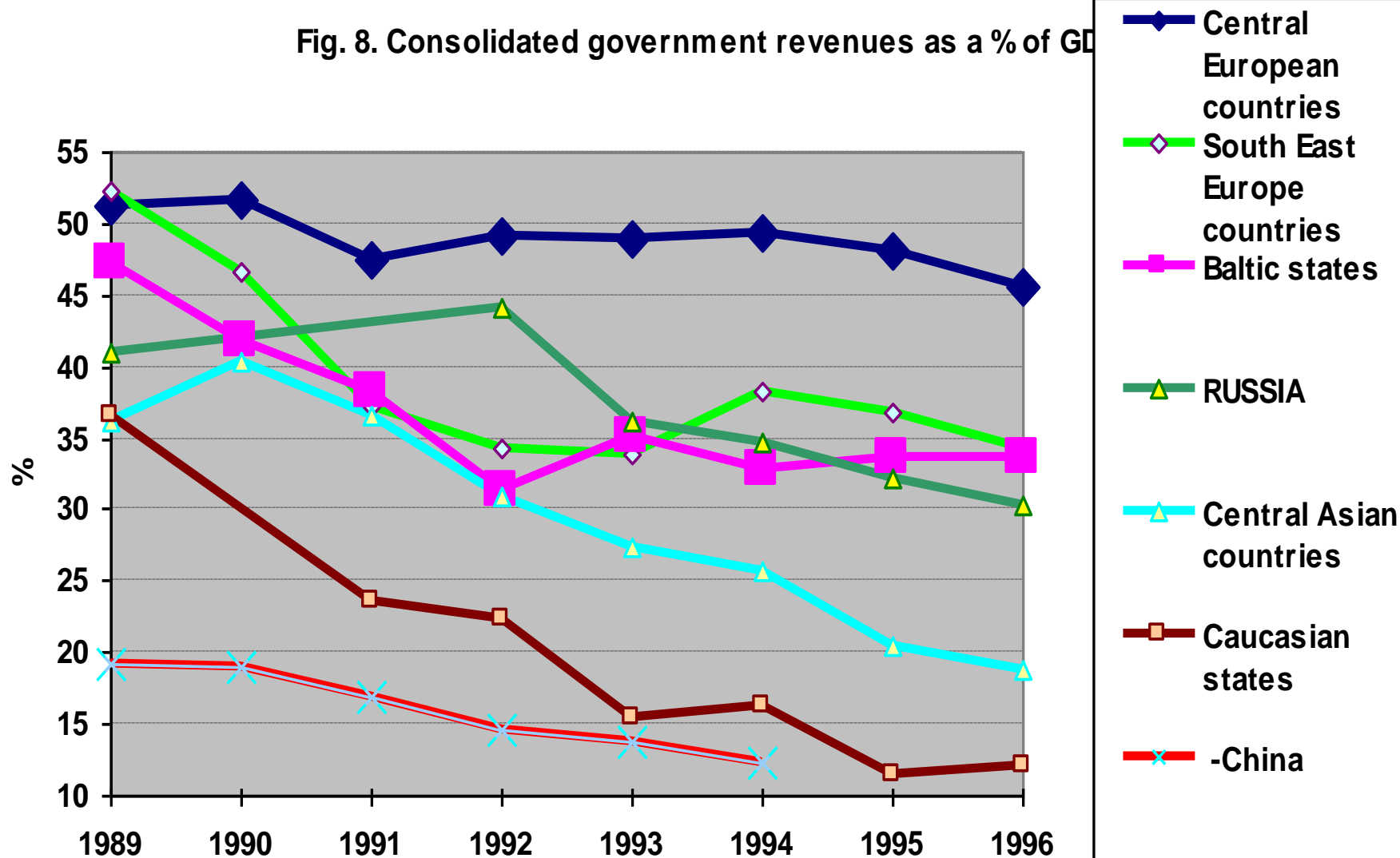
# Distortions in industrial structure and external trade and GDP change in 1989-96

Fig. 4. Aggregate distortions in industrial structure and external trade before transition and GDP change during transition



# Size of government: post-communist economies

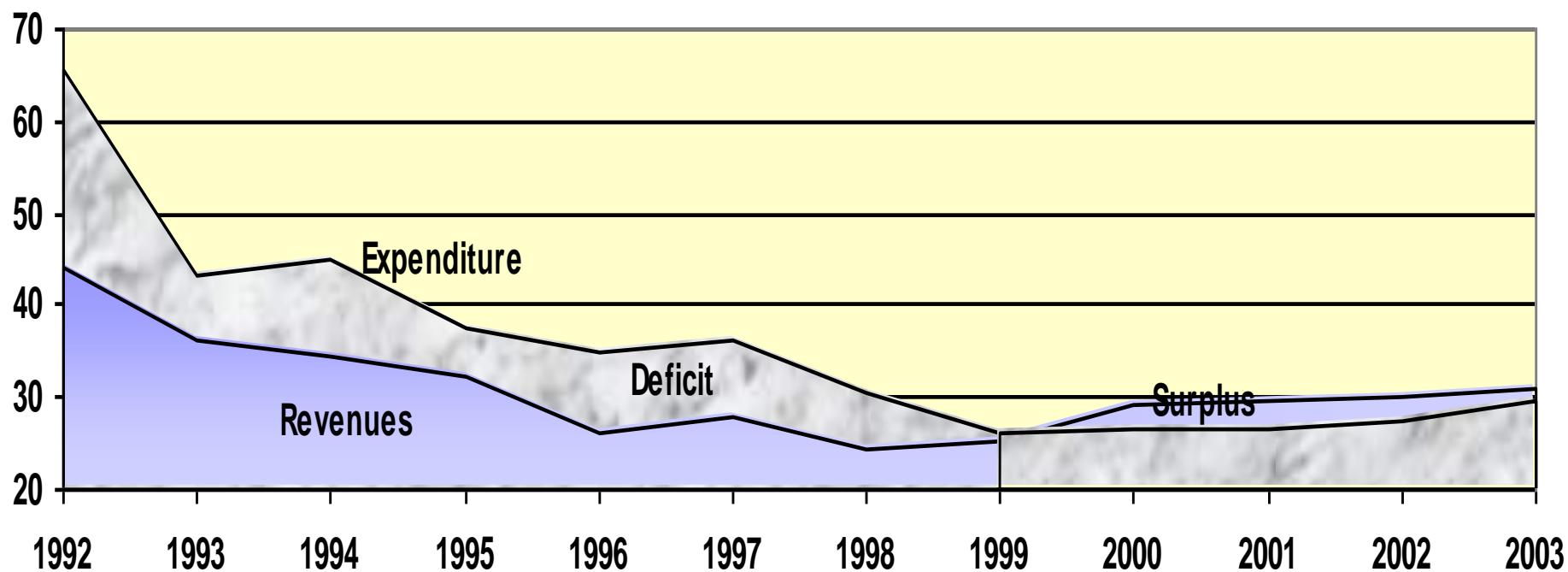
Fig. 8. Consolidated government revenues as a % of GDP



Source: (Popov, 2000).

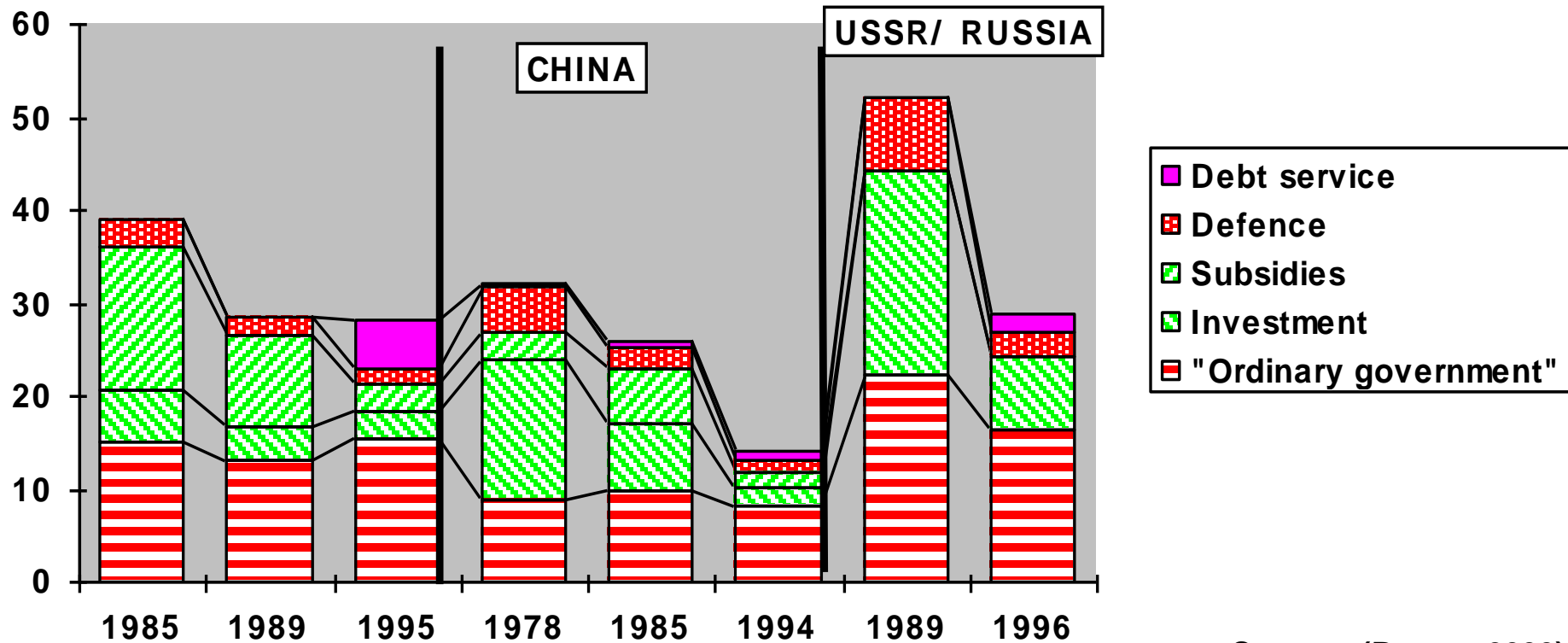
# Government spending collapsed in Russia in 1992-99 and did not recover even when economic growth started

Figure 2. Consolidated government revenues and expenditure, % of GDP



# Size of government: post-communist economies: the expenditure for the “ordinary government” did not fall in China and in Poland

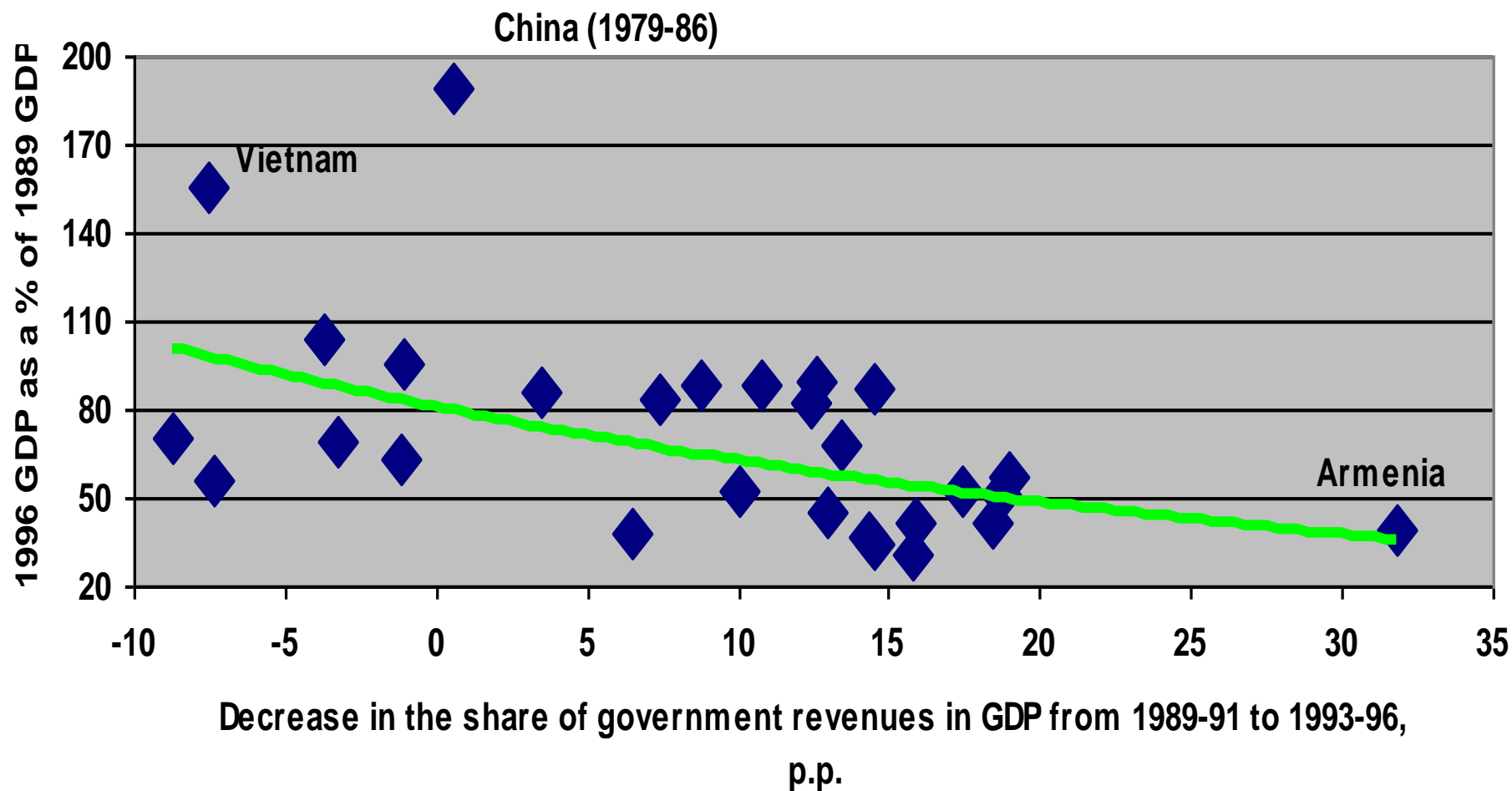
Fig. 9. Government expenditure, % of GDP



Source: (Popov, 2000).

# Size of government: post-communist economies

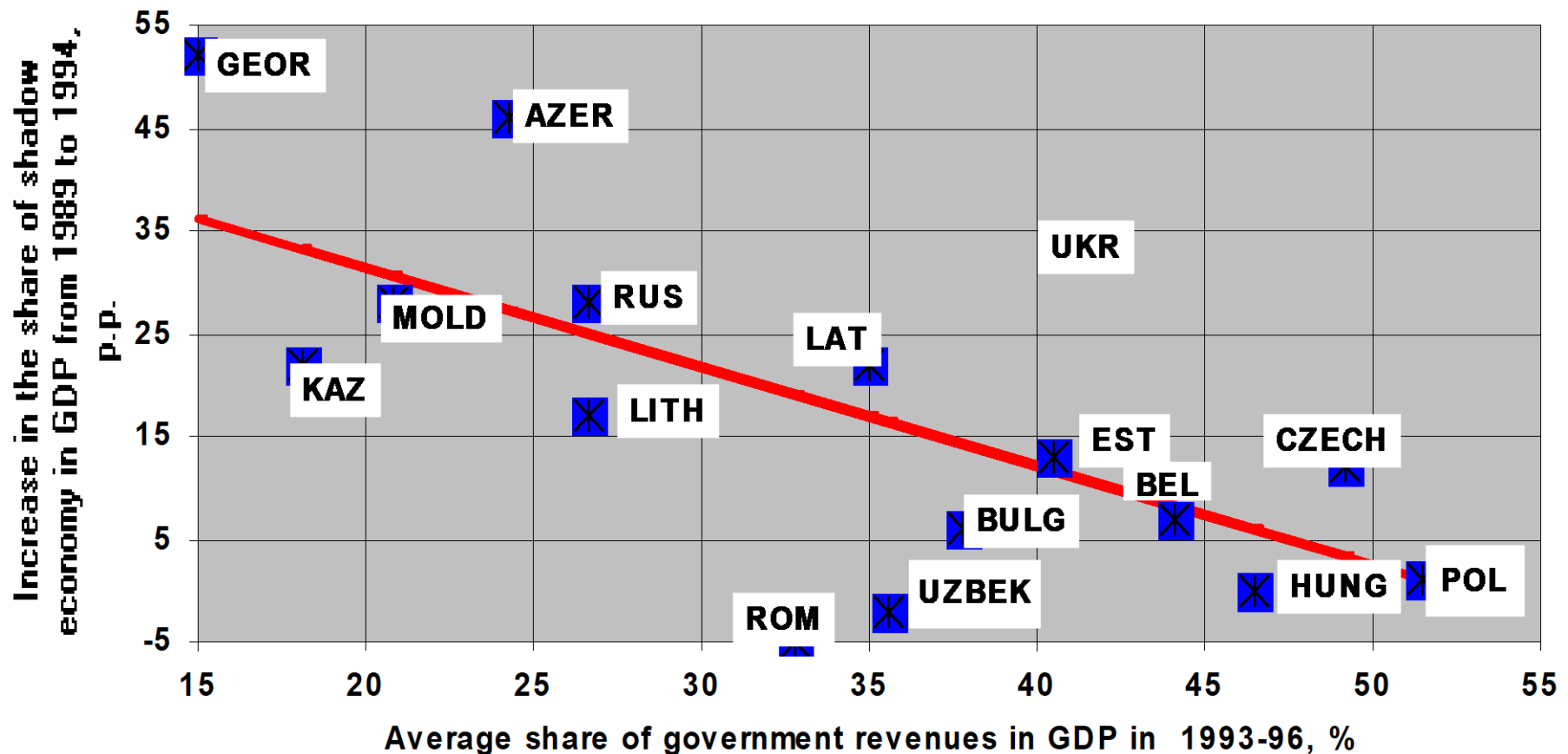
Fig. 11. Change in government revenues and GDP



Source: (Popov, 2000).

# Size of government: post-communist economies

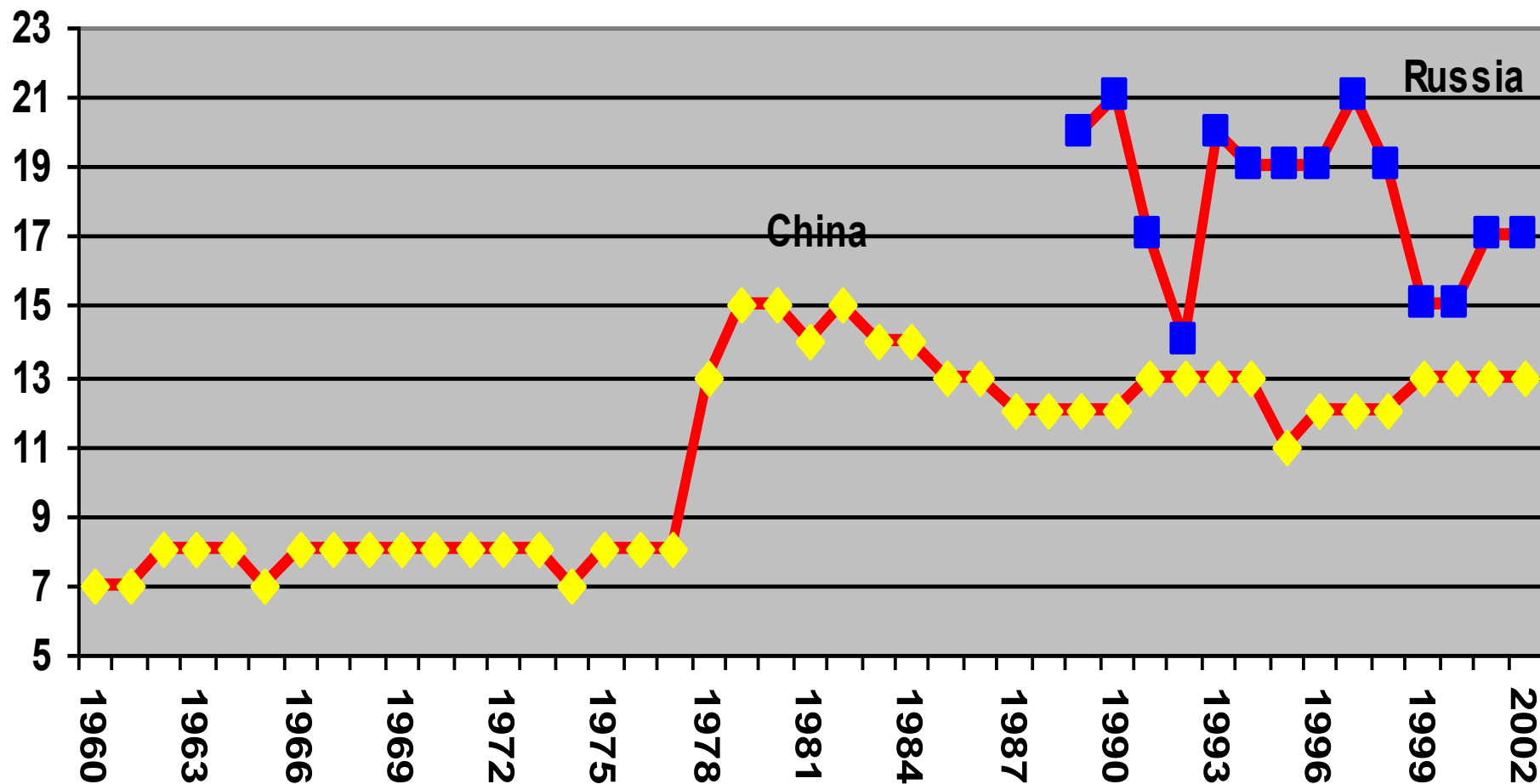
Fig. 4. Government revenues and shadow economy, % of GDP, 1989-96



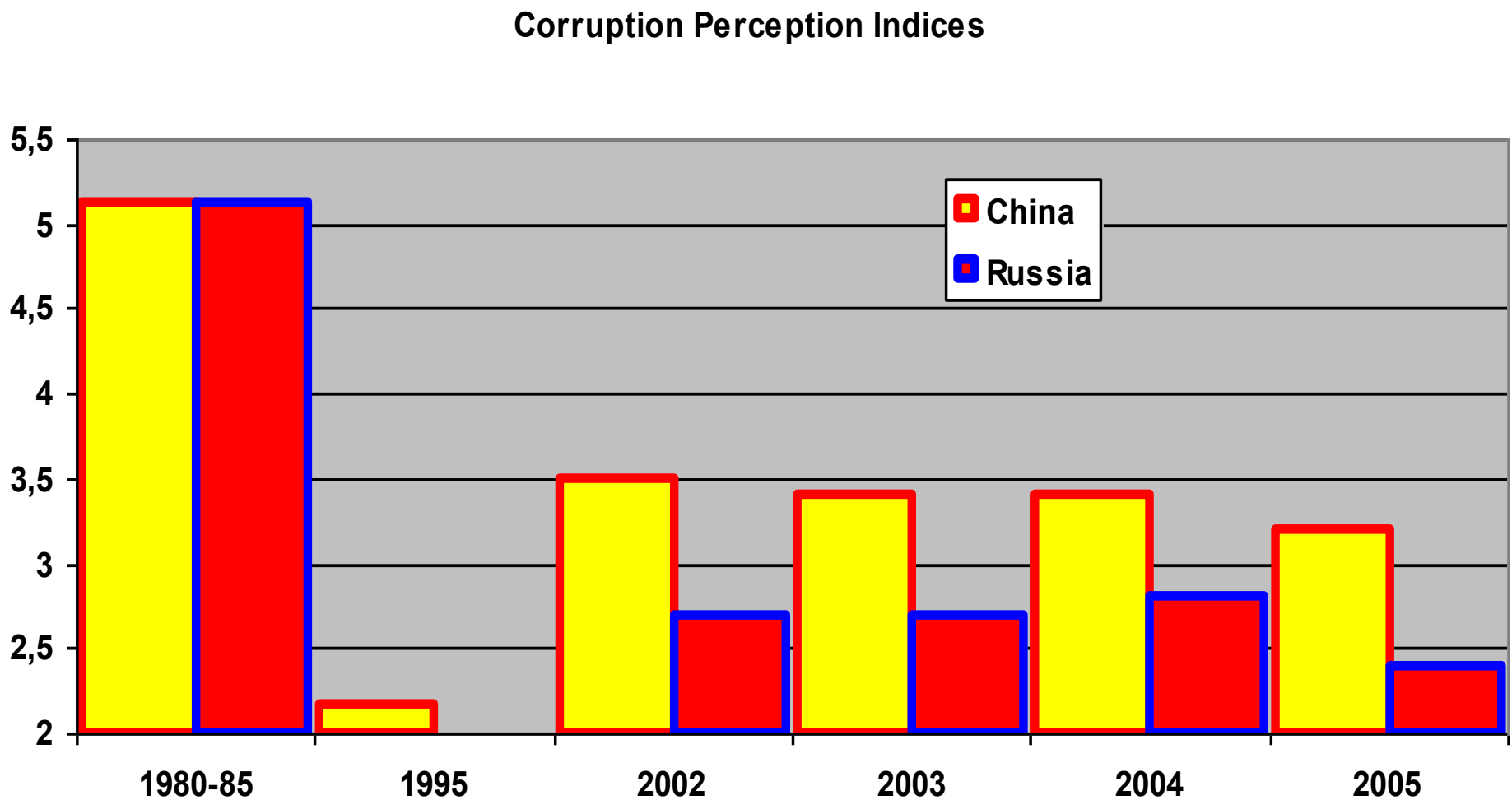
Source: (Popov, 2000).



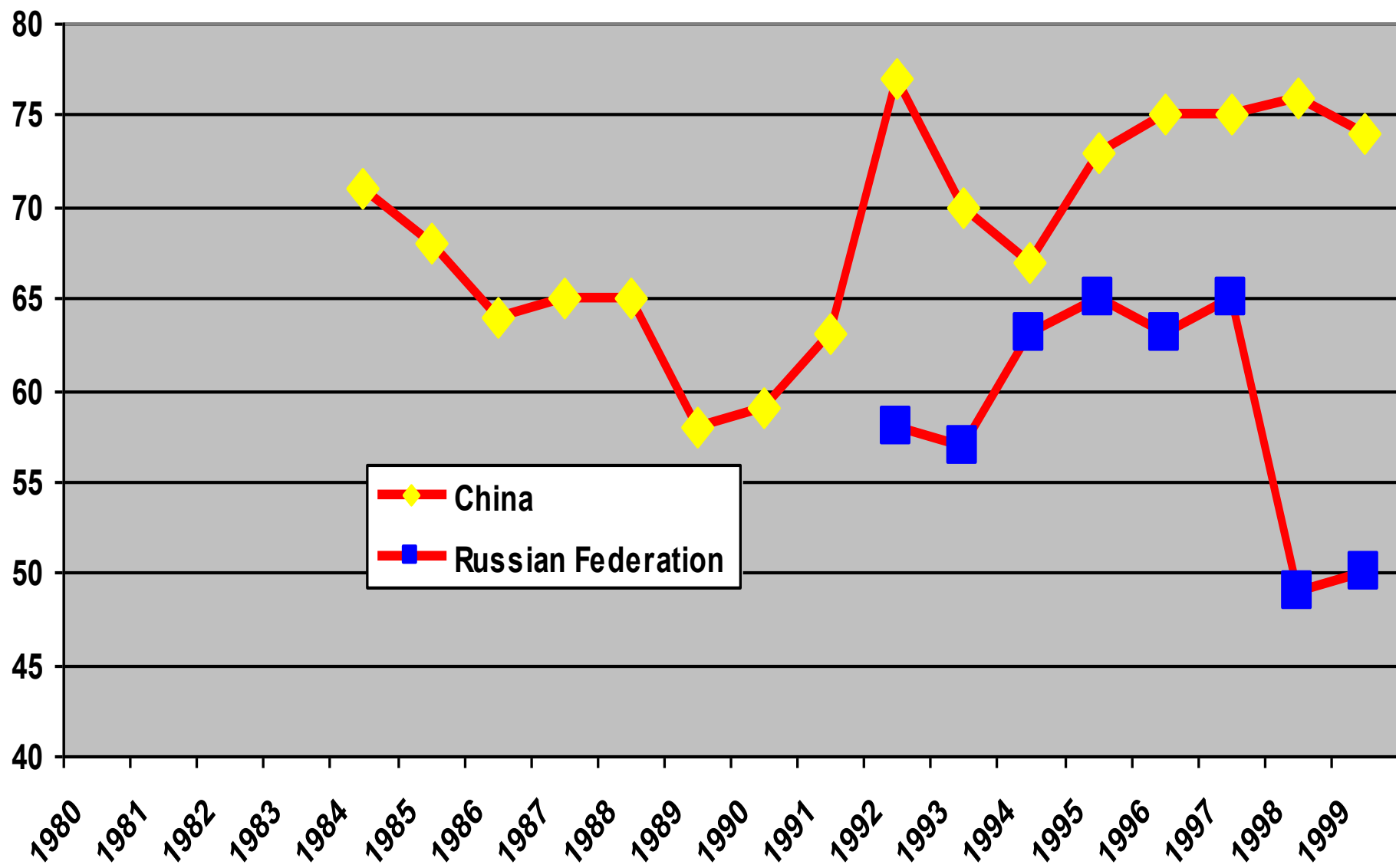
# Share of government expenditure on goods and services in GDP in Russia and China, %



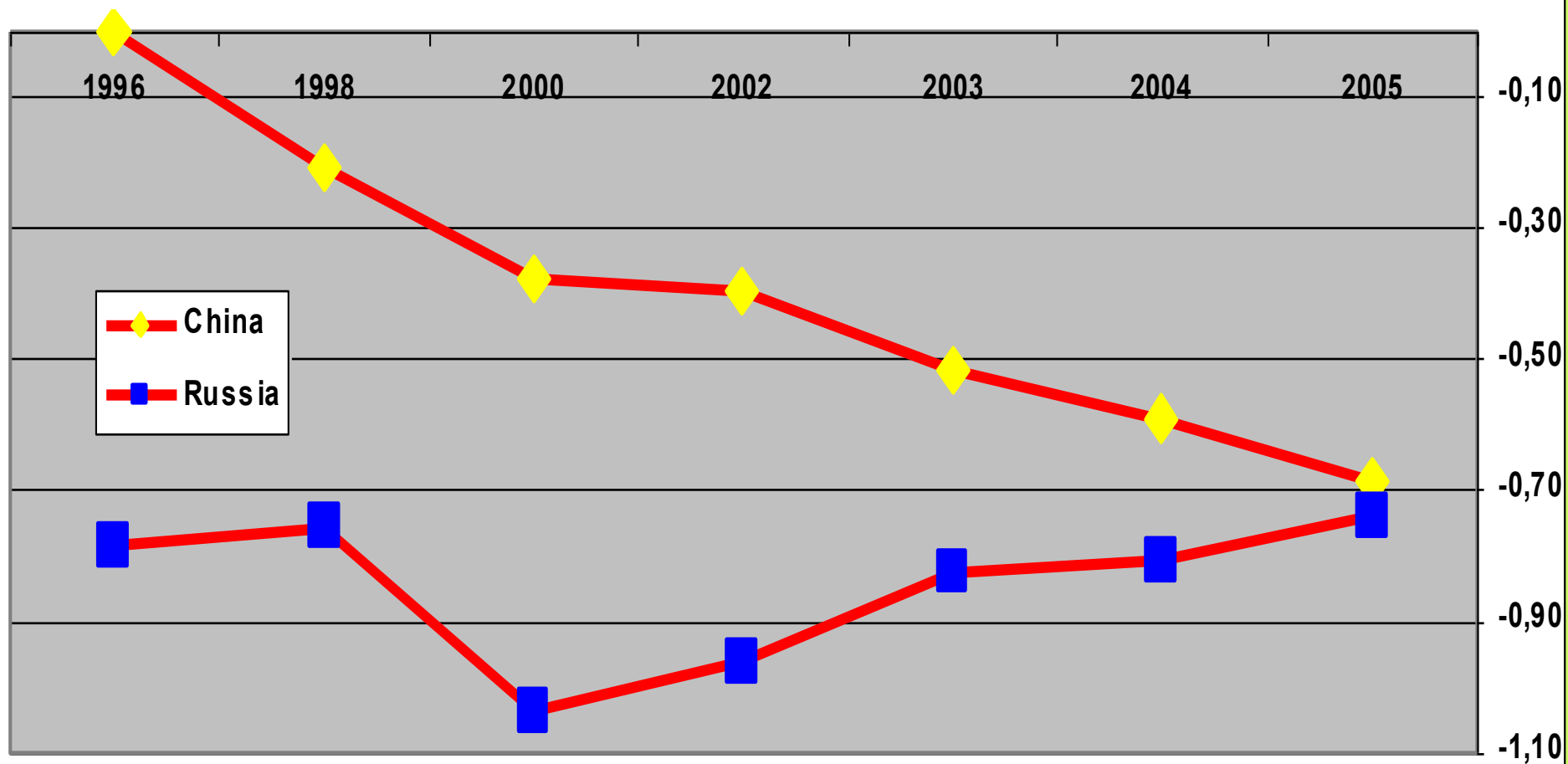
# Corruption today is much higher in China, but especially in Russia than on the eve of/before transition



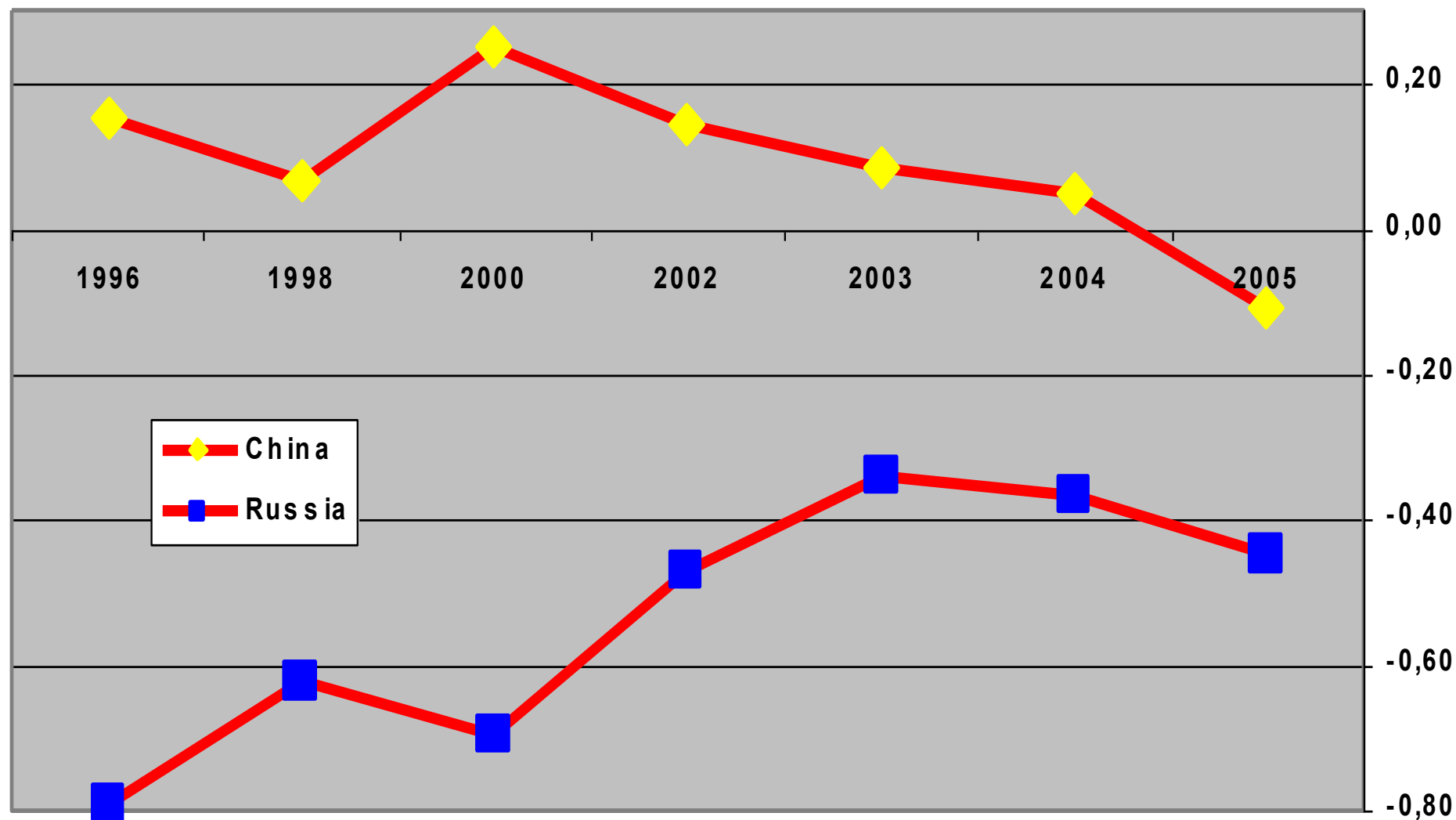
Investment climate indices (International country risk guide), %



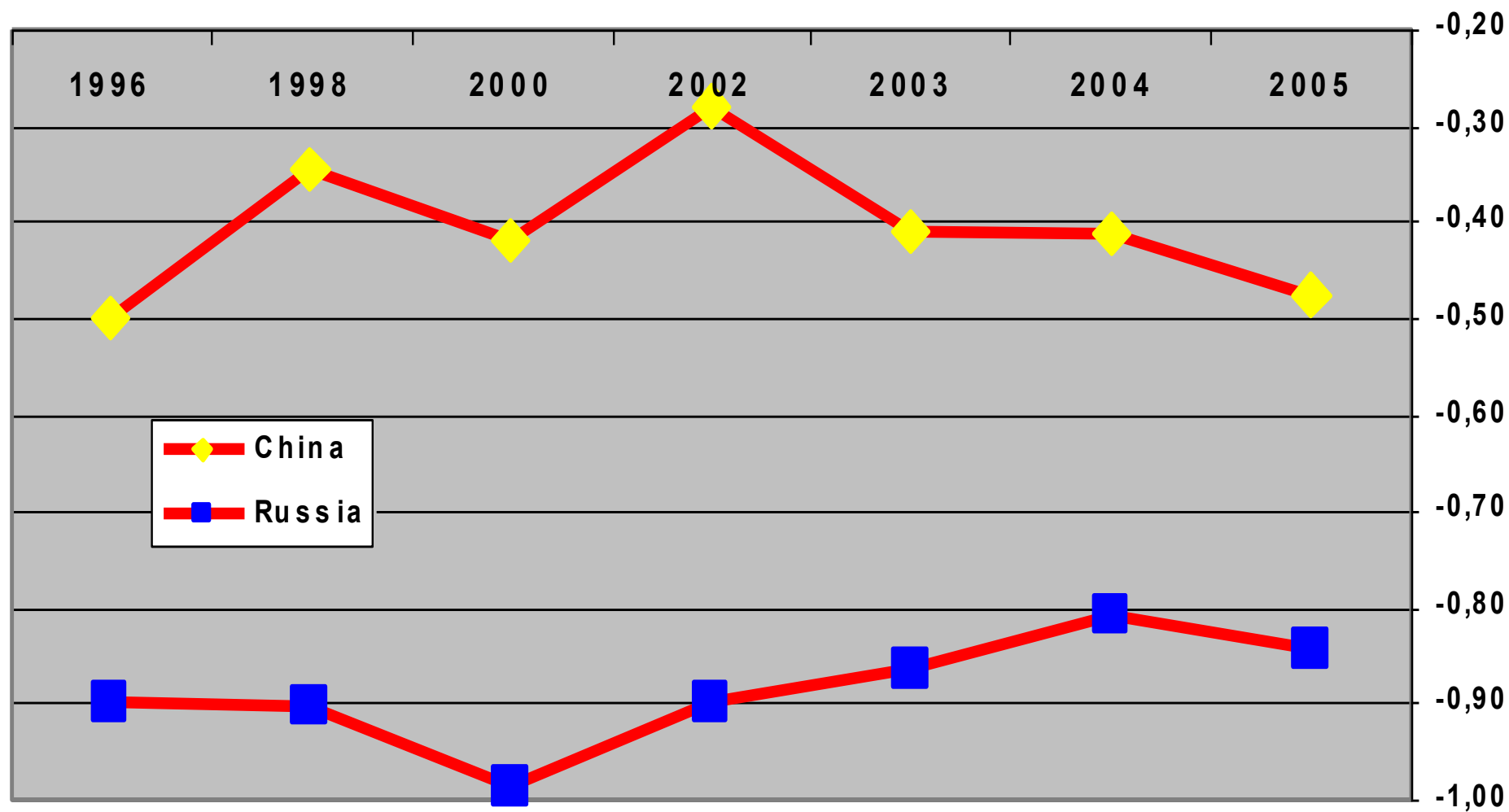
World Bank control over corruption indices in Russia and China (points, ranges from -2.5 to +2.5)



World Bank government effectiveness indices in Russia and China (points, ranges from -2.5 to +2.5)

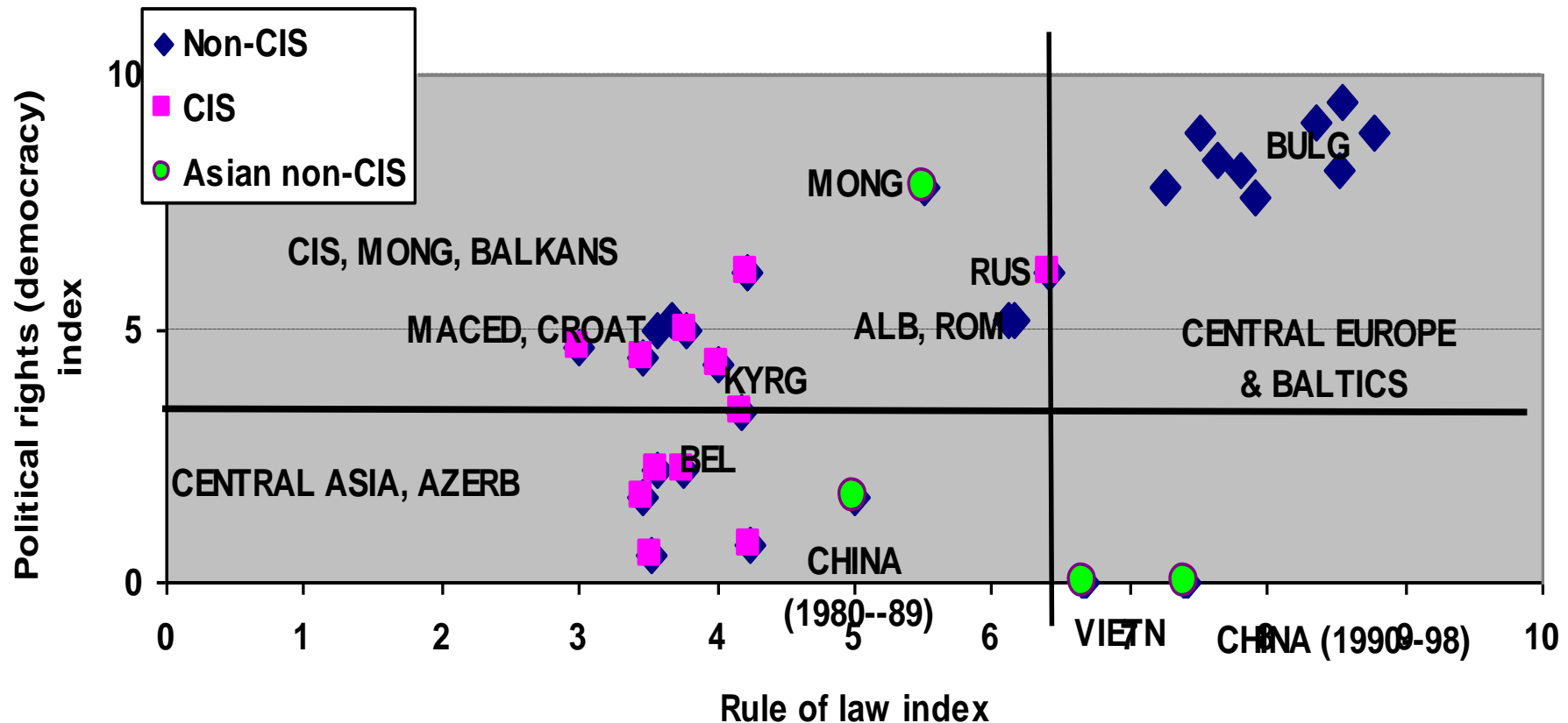


World Bank rule of law indices in Russia and China (points, ranges from -2.5 to +2.5)



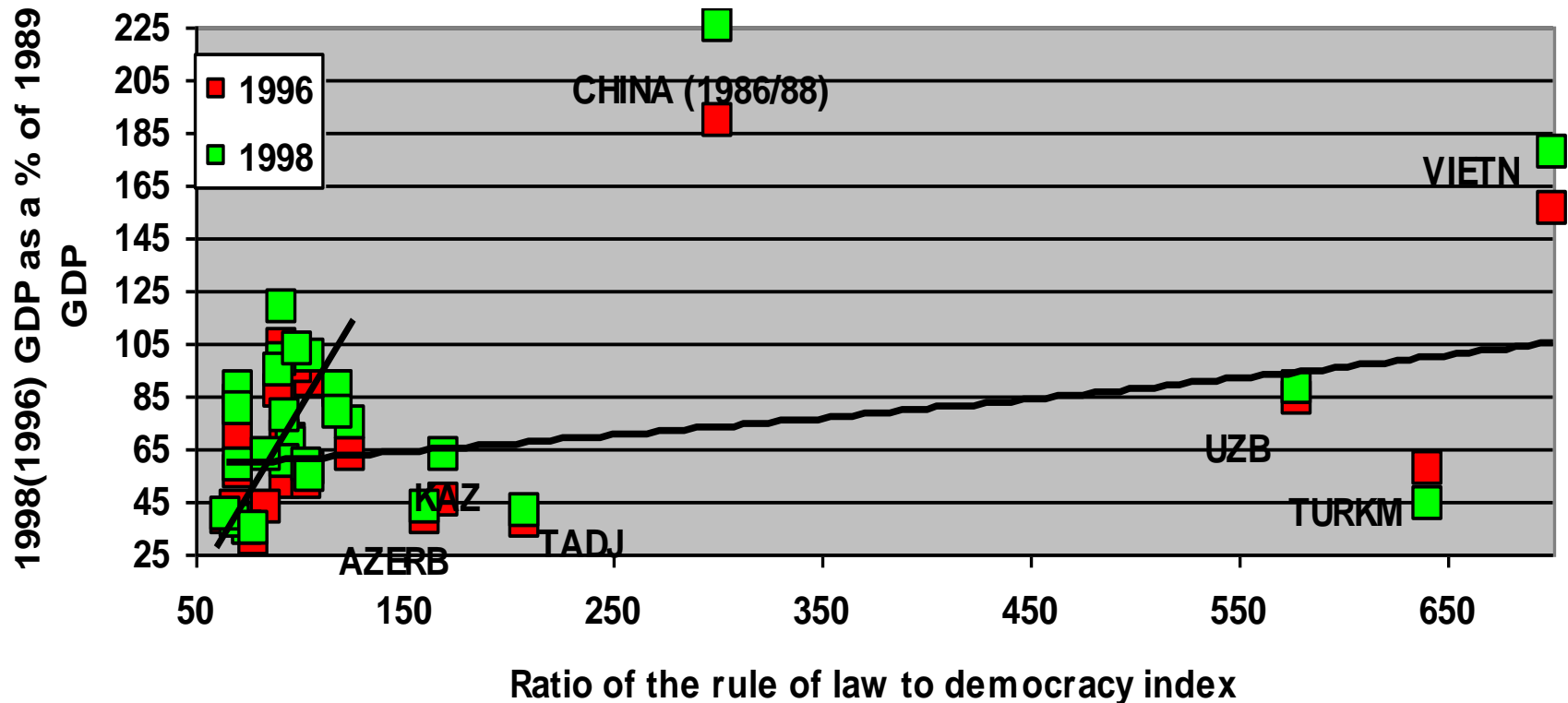
# Democratization in countries with poor rule of law produces poor results

Fig. 5. Indices of the rule of law and political rights (democracy), 0-10 scale, higher value represent stronger rule of law and democracy



# Rule of law is crucial for growth, democracy is not and can have even a negative impact

Fig. 6. Ratio of the rule of law to democracy index and output change





**Victor Polterovich, Vladimir Popov (2005),  
DEMOCRATIZATION, QUALITY OF INSTITUTIONS AND  
ECONOMIC GROWTH**

**(1) in countries where law and order is strong enough, democratization stimulates economic growth, whereas in countries with poor law and order democratization undermines growth;**

**(2) if democratization occurs under the conditions of poor law and order (so that illiberal democracy emerges), then shadow economy expands, quality of governance worsens, and macroeconomic policy becomes less prudent.**

$$y = 5.03 - 0.001 Y + 0.160 I - 1.55 n - 0.859 \Delta + 0.156 \Delta CPI =$$

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

# Empirical evidence:

**Table 1. Typology of democracies and autocracies (in brackets – former communist countries)**

<b>LAW AND ORDER // DEMOCRACY</b>	<b>WEAK LAW AND ORDER</b>	<b>STRONG LAW AND ORDER</b>
<b>MORE DEMOCRATIC</b>	<b>WEAK (ILLIBERAL) DEMOCRACIES:</b> Sub-Sahara Africa, South Asia, Latin America (most CIS, Mongolia, Balkans)	<b>STRONG (LIBERAL) DEMOCRACIES:</b> OECD countries, S. Korea, Taiwan, Philippines, Argentina, Brazil, Mexico, Uruguay (Central Europe, Baltics)
<b>LESS DEMOCRATIC</b>	<b>WEAK (ILLIBERAL) AUTOCRACIES:</b> MENA (Central Asia, Azerbaijan, Belarus)	<b>STRONG (LIBERAL) AUTOCRACIES:</b> XIX century Europe, East Asia before the 1990s (China, Vietnam)

## **The growth rates of GDP per capita in 1960-2000:**

- 2.5% in industrialized countries,
- 4.5% in East Asia,
- 1.7% in MENA,
- 1.6% in LA,
- 1.8% in South Asia,
- 0.3% in SSA.

$$\text{Log}(Y_{98/89})=5.8-0.006\text{DIST}-0.005Y_{\text{cap}87}-0.39\text{WAR}-0.01\text{GOVREV}_{\text{decline}}-0.17\text{logINFL}-0.003\text{DEM}$$

(-2.48)

(-0.09)

(-3.22)

(-2.94)

(-4.60)

(-1.74)

(N= 28, Adjusted R2 = 82%, T-statistics in brackets, all variables are shown in the same order as in equation 7 from table 1, liberalization variable is omitted).

**Table 1. Regression of change in GDP in 1989-96 on initial conditions, policy factors, and rule of law and democracy indices, robust estimates**  
**Dependent variable = log (1996 GDP as a % of 1989 GDP)**  
 For China - all indicators are for the period of 1979-86 or similar

Equations, Number of Observations / Variables	1, N=28	2, N=28	3, N=28	4, N=28	5, N=28	6, N=28	7, N=28
Constant	5.3***	5.4***	5.2***	5.4***	5.4***	5.5***	5.7***
Distortions, % of GDP <sup>a</sup>	-.005**	-.005**	-.003	-.006**	-.007***	-.007***	-.007***
1987 PPP GDP per capita, % of the US level	-.009**	-.006*	-.007**	-.007**	-.009***	-.008***	-.008***
War dummy <sup>b</sup>				-.19 <sup>c</sup>	-.36***	-.37***	-.45***
Decline in government revenues as a % of GDP from 1989-91 to 1993-96					-.011***	-.011***	-.011***
Liberalization index			.05			-.02	.03
Log (Inflation, % a year, 1990-95, geometric average)	-.16***	-.20***	-.18***	-.17***	-.13***	-.13***	-.14***
Rule of law index, average for 1989-97, %	.008***						
Democracy index, average for 1990-98, %	-.005***						-.003**
Ratio of the rule of law to democracy index		.07***	.07***	.06***	.05***	.05***	
Adjusted R <sup>2</sup> , %	82	83	83	85	91	91	90

# Impact of initial conditions, institutions, liberalization

**Table 2. Regression of change in GDP in 1995-2003 on initial conditions, institutional capacity, liberalization and rule of law and democracy indices, robust estimates**

**Dependent variable = 2003 GDP as a % of 1995 GDP**

For China - all indicators are for the period of 1979-86 or similar

Equations, Number of Observations / Variables	1, N=28	2, N=28	3, N=28	4, N=28	5, N=28
Constant	105***	91***	99***	78***	99***
1996 GDP as a % of 1989 GDP	.33***	.45***	.46***	.24**	
1987 PPP GDP per capita, % of the US level					
War dummy <sup>a</sup>		22.9**	42.3***	32.0***	19.4*
Liberalization index in 1995			-19.9***		
Increase in the liberalization index in 1995-2003	15.3***	16.7***		17.6***	17.6***
Decline in government revenues as a % of GDP from 1989-91 to 1993-96 <sup>a</sup>				-.8***	
Rule of law index, average for 1989-97, %			.8**	1.0***	1.2***
Democracy index, average for 1990-98, %				-.6***	-.8***
Adjusted R <sup>2</sup> , %	25	38	45	52	55

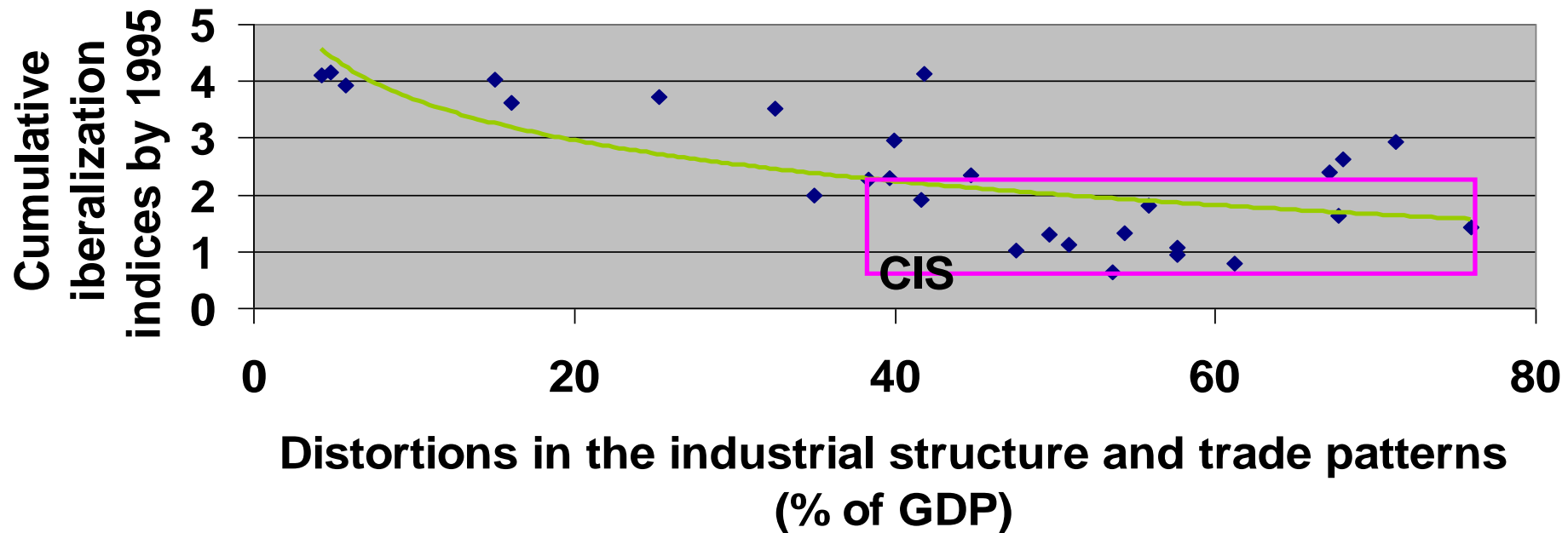
\*, \*\*, \*\*\* - Significant at 1, 5 and 10% level respectively.

<sup>a</sup>Equals 1 for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan and 0 for all other countries.

## OBJECTION:

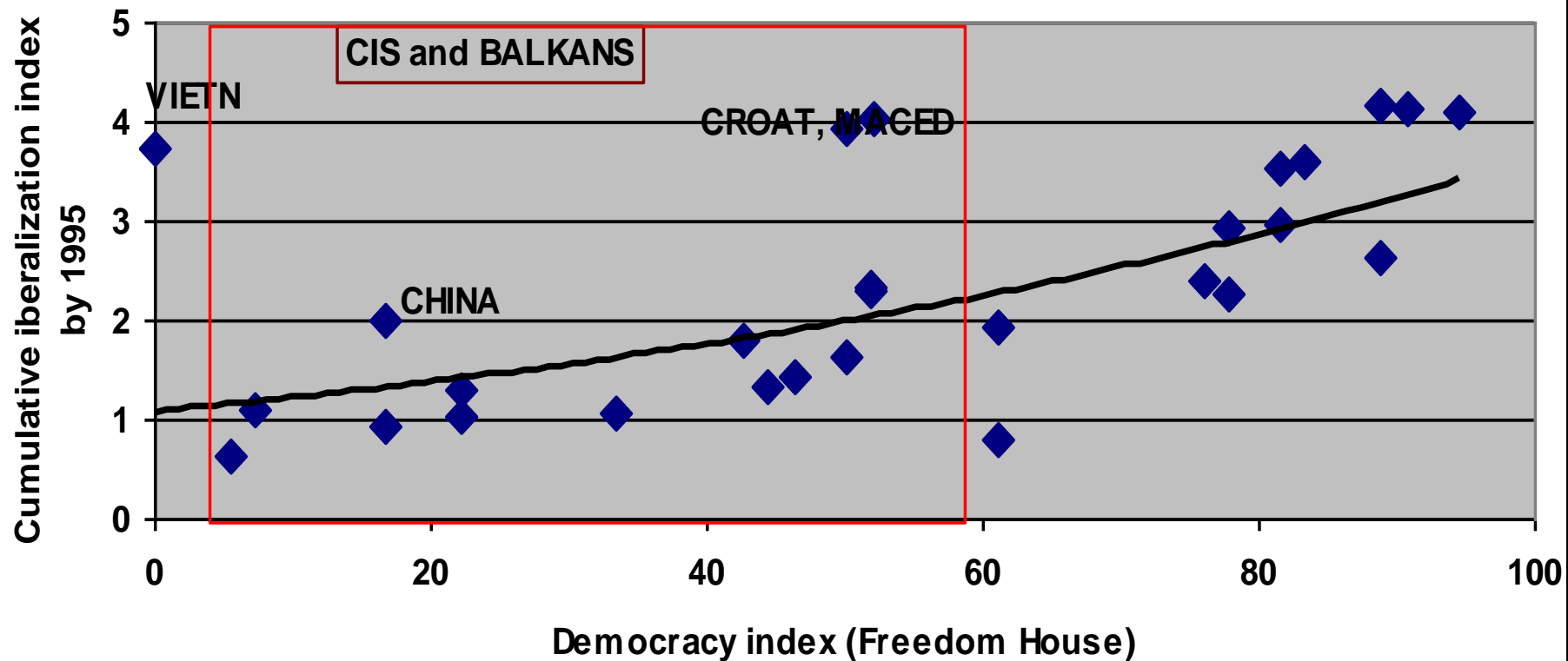
Speed and extent of liberalization may be endogenous

**Fig. 3. Liberalization indices and distortions in industrial structure and trade patterns**



# Economic liberalization and democratization go hand in hand

Fig. 4. Democracy index (1990-98, average) and economic liberalization index by 1995



# Instrumenting liberalization stock with democracy level variable: 1989-96

**Table 3. 2SLS robust estimates – regression of change in GDP in 1989-96 on initial conditions, institutional capacity, liberalization and rule of law and democracy indices (Liberalization index instrumented with the democracy level variable)**

**Dependent variable = Log (1996 GDP as a % of 1989 GDP)**

For China - all indicators are for the period of 1979-86 or similar

Equations, Number of Observations / Variables	1, N=28	2, N=28	3, N=17	4, N=17
Constant	6.4***	6.3***	6.0***	6.0***
Pre-transition distortions, % of GDP	-.01***	-.02***		-.004
1987 PPP GDP per capita, % of the US level	-.007**	-.01***		
War dummy <sup>a</sup>	-.45***	-.29 <sup>b</sup>		
Liberalization index in 1995	-.18**	-.39*	-.19***	-.19***
Decline in government revenues as a % of GDP from 1989-91 to 1993-96	-.02***	-.02***		
Log (Inflation, % a year, 1990-95, geometric average)	-1.7***	-.22***	-.22***	-.19***
Rule of law index, average for 1989-97, %		-.01 <sup>c</sup>		
Increase in the share of shadow economy in GDP in 1989-94, p.p.			-.02***	-.015***
R <sup>2</sup> , %	86	77	88	90

\*, \*\*, \*\*\* - significant at 1, 5 and 10% level respectively.

<sup>a</sup>Equals 1 for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan and 0 for all other countries.

<sup>b</sup>Significant at 12% level.

<sup>c</sup>Significant at 16% level.

# Instrumenting liberalization change with liberalization stock and FSU dummy variables:1995-2003

**Table 4. 2SLS robust estimates – regression of change in GDP in 1995-2003 on initial conditions, institutional capacity, liberalization and rule of law and democracy indices**

**Dependent variable = 2003 GDP as a % of 1995 GDP**

For China the indicator is for the period 10 years earlier.

Equations, Number of Observations / Variables	1, N=28	2, N=28	3, N=28	4, N = 28
Instruments for liberalization change in 1995-03 variable	LIBER95	FSU	LIBER95 and FSU	LIBER95 and FSU
Constant	97.8***	95.8***	97.7***	79.5***
1996 GDP as a % of 1989 GDP				.18*
War dummy <sup>a</sup>	19.5*	19.8**	19.5*	25.0**
Increase in liberalization index in 1995-2003	18.2***	19.2**	18.3***	22.9***
Decline in government revenues as a % of GDP from 1989-91 to 1993-96	-.76***	-.78**	-.76***	-.65***
Rule of law index, average for 1989-97, %	1.24***	1.28***	1.25***	1.13***
Democracy index, average for 1990-98, %	-.76***	-.76***	-.76***	-.62***
R <sup>2</sup> , %	55	54	55	56

\*, \*\*, \*\*\* - significant at 1, 5 and 10% level respectively.

<sup>a</sup>Equals 1 for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan and 0 for all other countries.



# Conclusions

- The impact of the speed of liberalization at the initial stage of transition, i.e. during the transformational recession, appears to be negative, if any.
- The reason for the negative impact is most probably associated with limited ability of the economy to adjust to new price ratios

# Conclusions

- At the recovery stage liberalization starts to affect growth positively, whereas the impact of pre-transition distortions disappears. Institutional capacity and macroeconomic policy continue to be important prerequisites for successful performance.
- Liberalization at the recovery stage influences performance positively because it creates market stimuli without causing rapid collapse of output of inefficient industries, which cannot be compensated fully by the rise of efficient industries due to investment constraints.

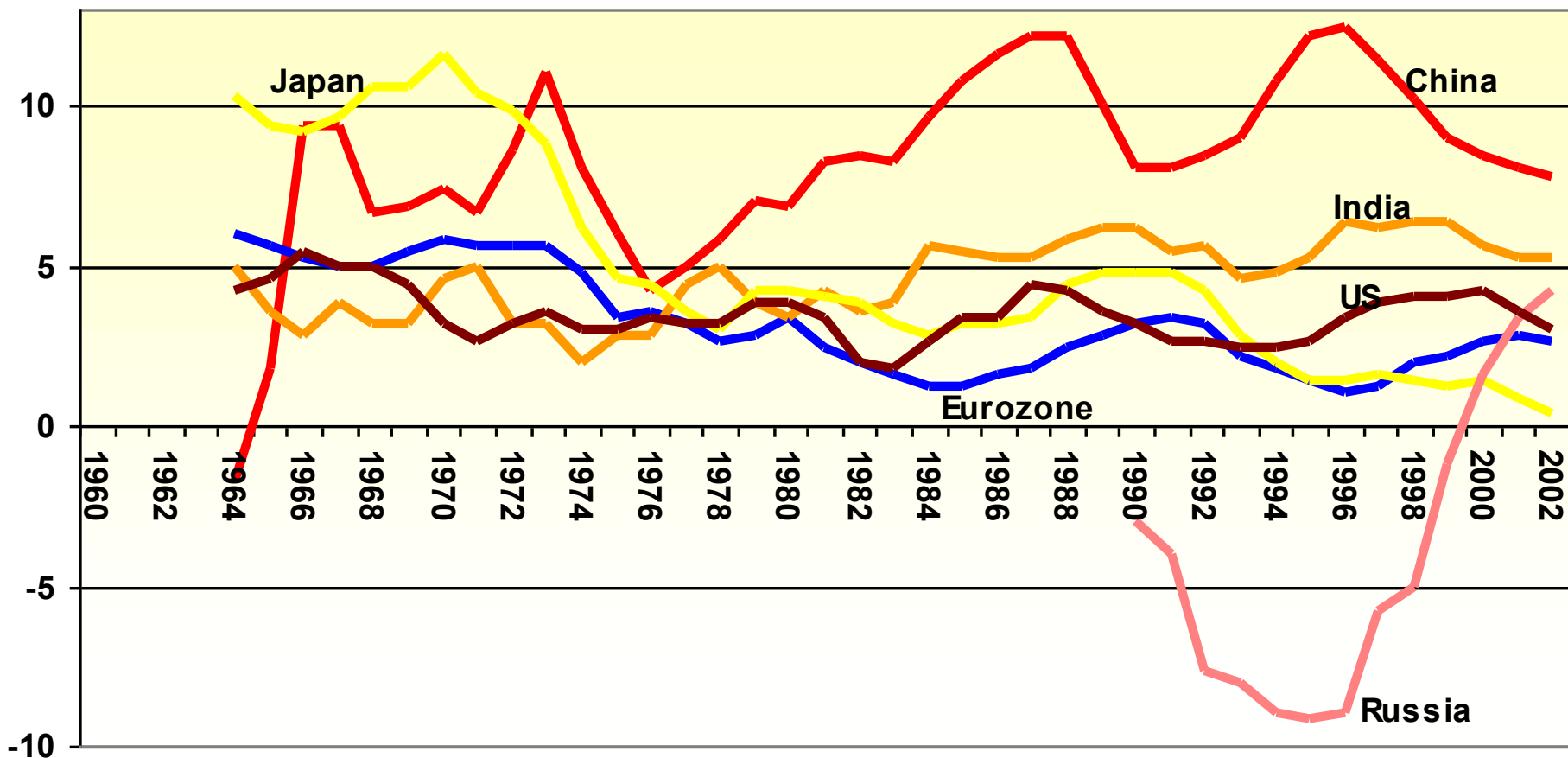
# **Medium term perspective – since 1949: Beijing consensus versus Washington consensus**

The catch-up development of China since 1949 looks extremely impressive:

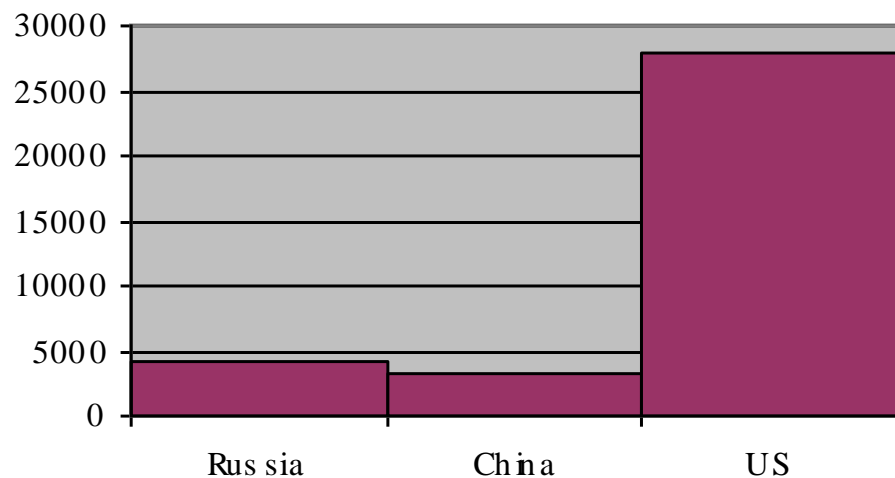
- not only the growth rates in China were higher than elsewhere after the reforms (1979-onward),
- even before the reforms (1949-79), despite temporary declines during the Great Leap Forward and the Cultural Revolution, the Chinese development was quite successful.

# China was growing rapidly even before the reforms

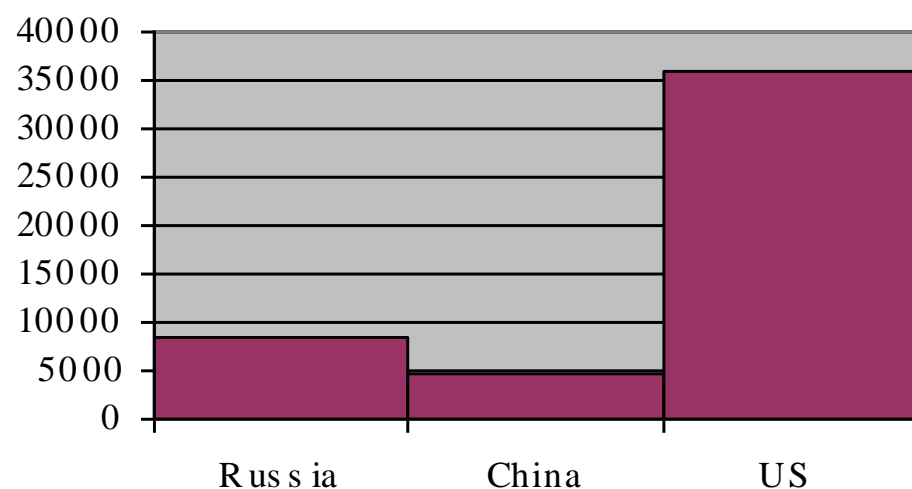
Average annual GDP growth rates (5-year moving averages), 1960-2002rr., %



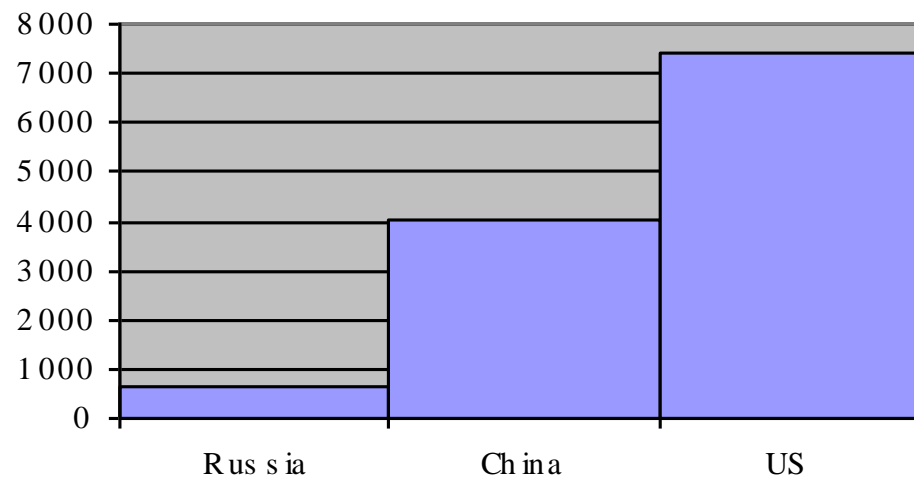
**PPP GDP per capita, \$ -  
comparison for 1996 (WDI, 1998)**



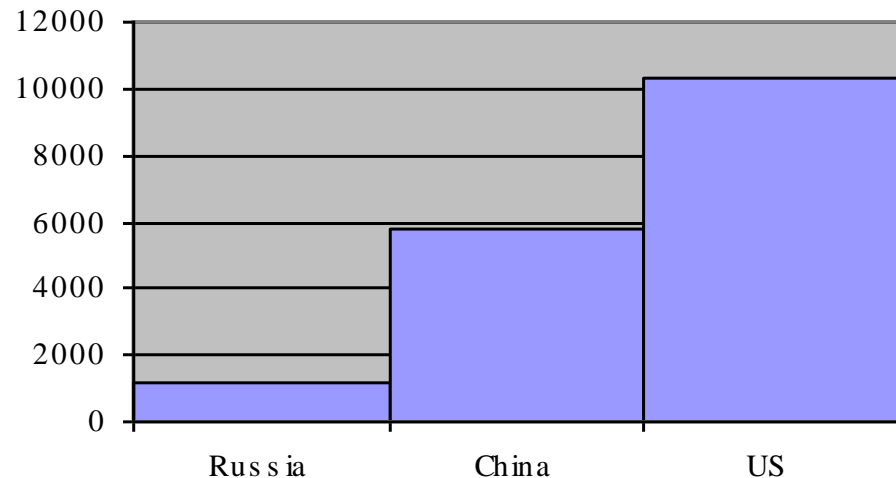
**PPP GDP per capita, \$ - comparison  
for 2002 (WDI, 2004)**



**PPP GDP, billion \$ - comparison for  
1996 (WDI, 1998)**

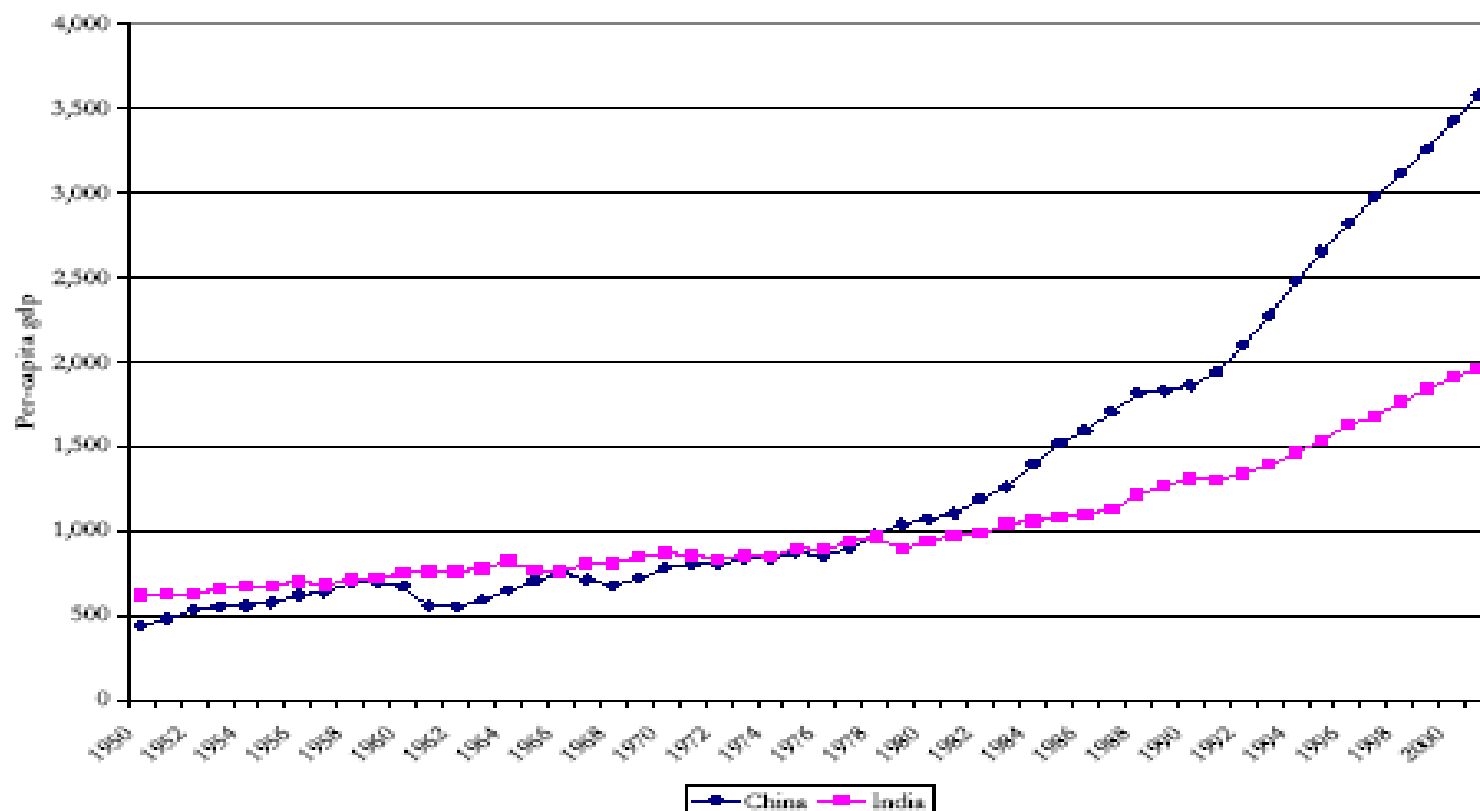


**PPP GDP, billion \$ - comparison for  
2002 (WDI, 2004)**



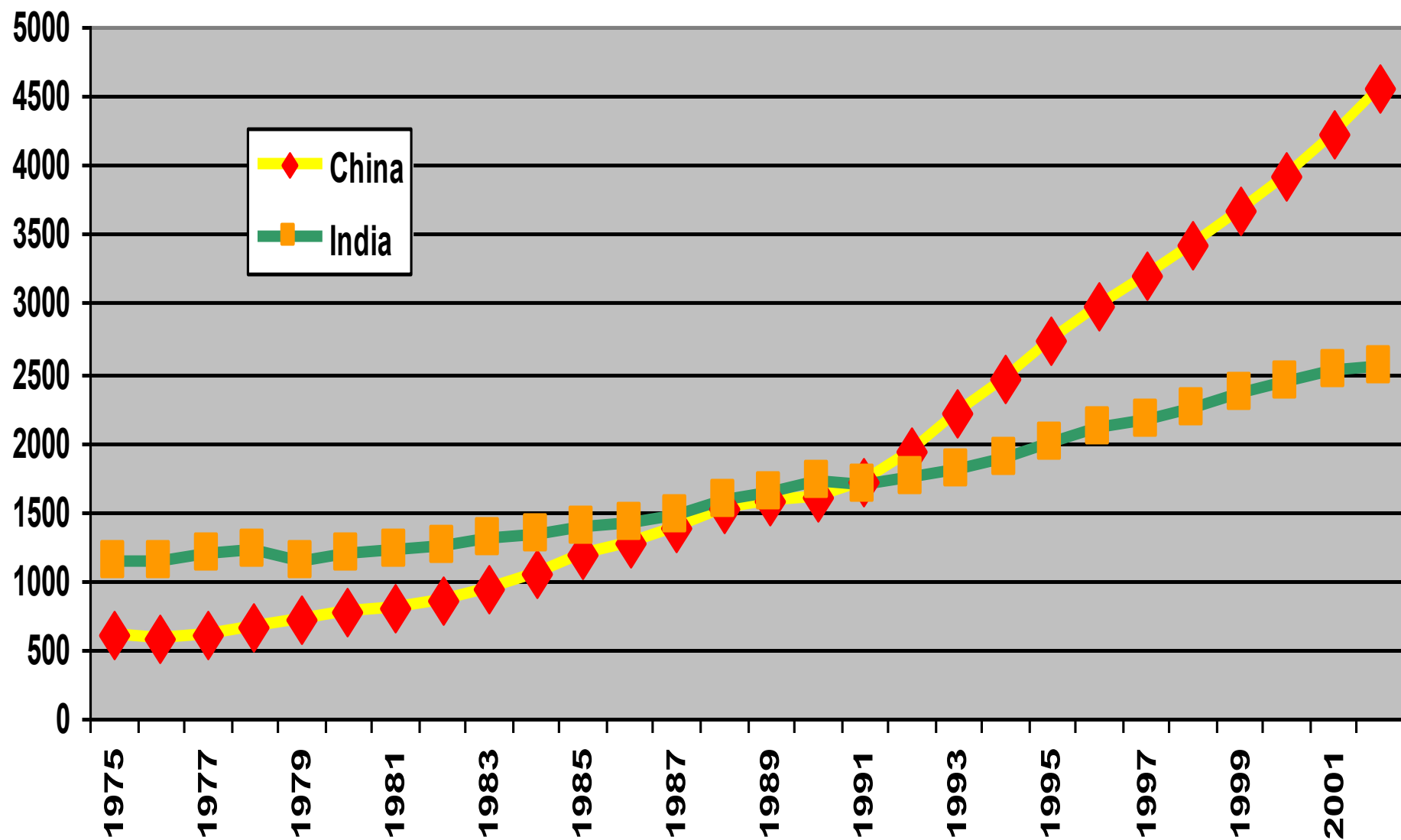
## India and Chinese per-capita GDP

Source: Maddison, *The World Economy: Historical Statistics*, table 3.

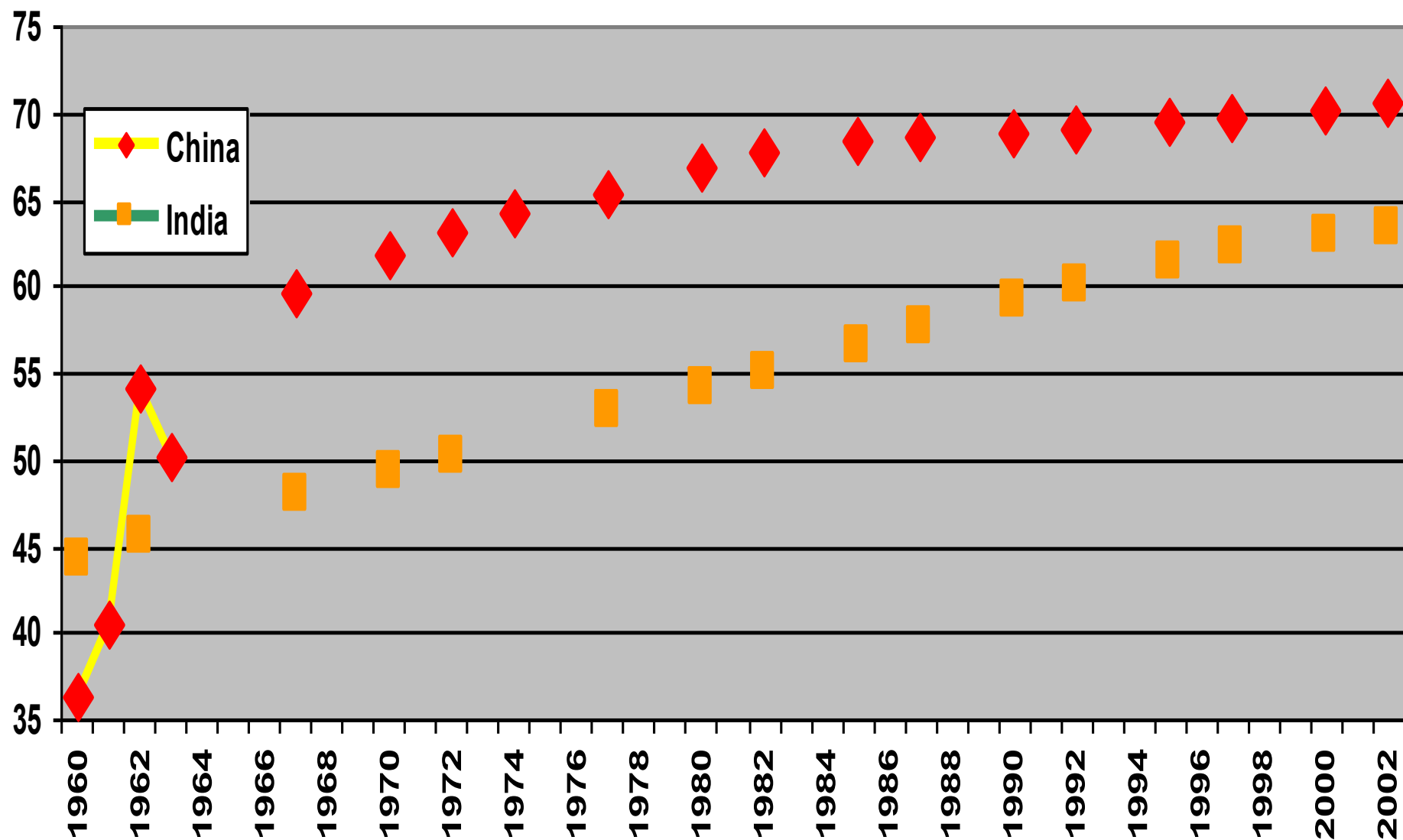


Here is the ratio plotted. What is interesting is that China practically catches up to India by 1958, the Great Leap and the Cultural Revolution together lead to China falling behind, and it takes till 1978 for China to permanently surpass India.

PPP GDP per capita in current int'l dollars, China and India, 1975-2002 (WDI)



Life expectancy at birth, years, China and India, 1960-2002 (WDI)



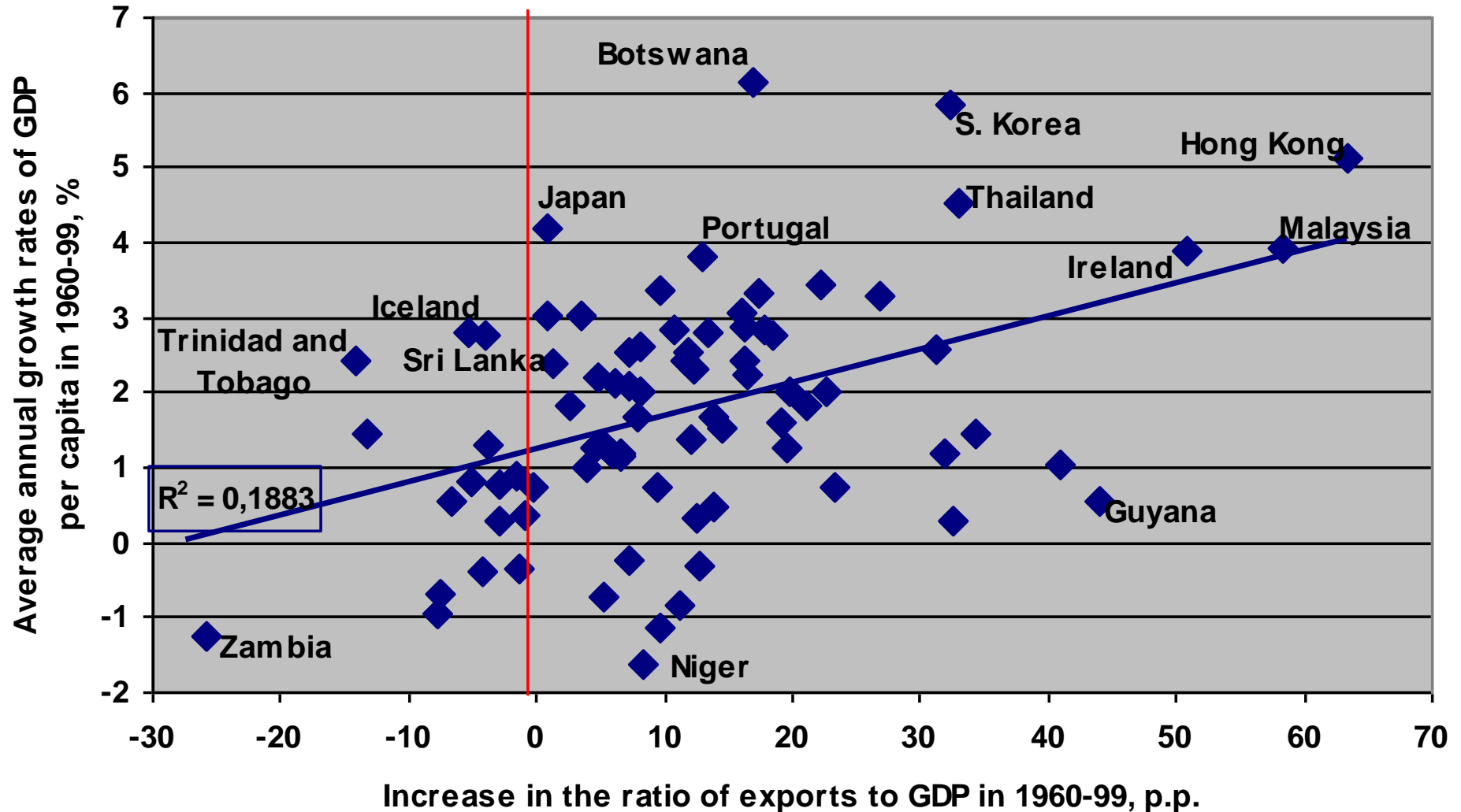


# Since 1979 Chinese economic model is based on:

- Gradual democratization and the preservation of the one party rule in China allowed to avoid institutional collapse, whereas in Russia institutional capacity was adversely affected by the shock-type transition to democracy (Polterovich, Popov, 2006);
- Gradual market reforms – “dual track price system” (co-existence of the market economy and centrally planned economy for over a decade), “growing out of socialism” (no privatization until 1996, but creation of the private sector from scratch), non-conventional forms of ownership and control (TVEs);
- Industrial policy – strong import substitution policy in 1949-78 and strong export-oriented industrial policy afterwards with such tools as tariff protectionism (in the 1980s import tariffs were as high as up to 40% of the value of import) and export subsidies (Polterovich, Popov, 2005);
- Macroeconomic policy – not only in traditional sense (fiscal and monetary policy), but also exchange rate policy: rapid accumulation of foreign exchange reserves in China (despite positive current and capital account) led to the undervaluation of yuan, whereas Russian ruble became overvalued in 1996-98 and more recently – in 2000-07. Undervaluation of the exchange rate via accumulation of reserves became in fact the major tool of export-oriented industrial policy (Polterovich, Popov, 2004).

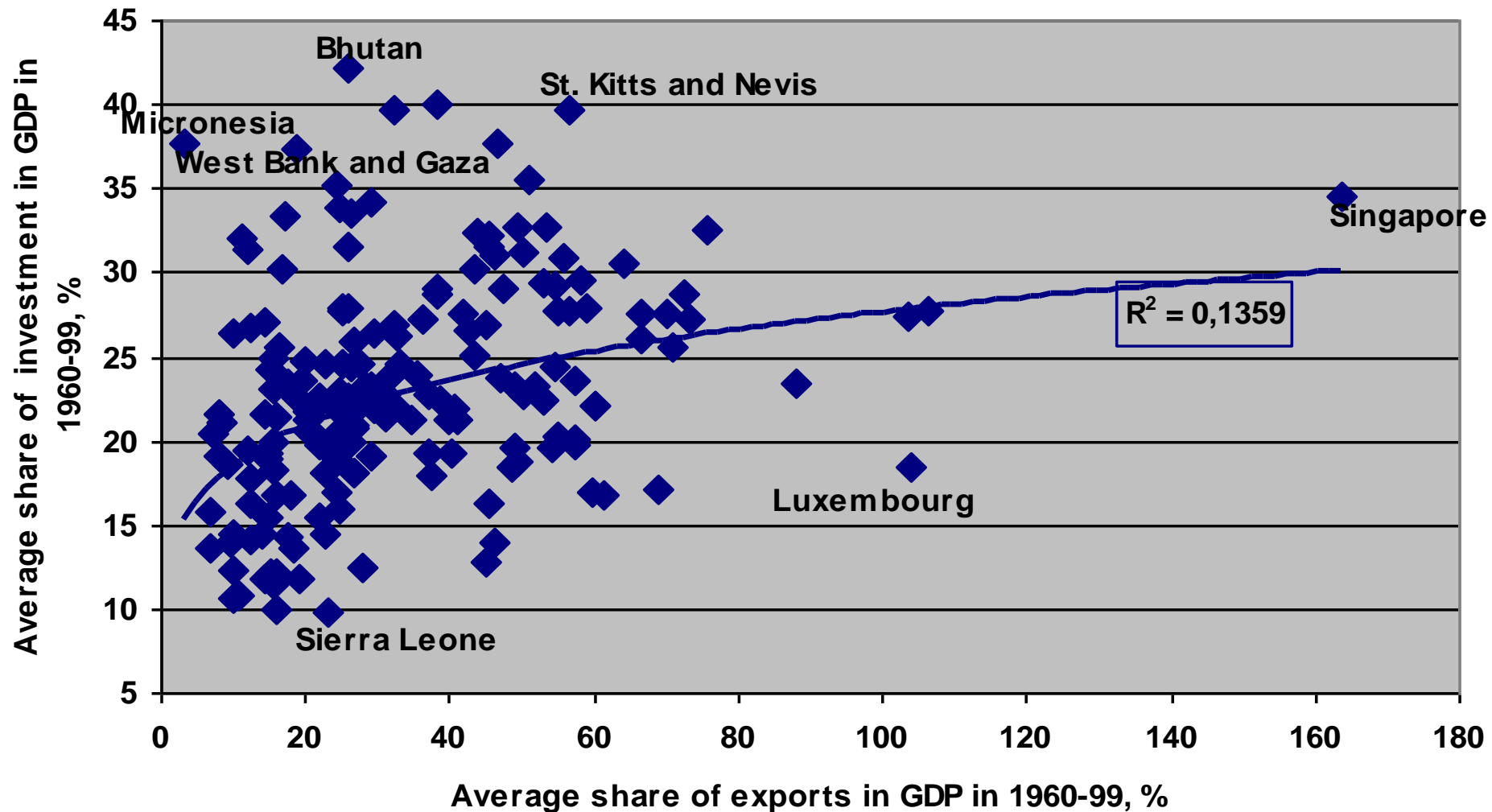
# TARIFFS

Fig. 1. Increase in the ratio of exports to GDP and average annual growth rates of GDP per capita in 1960-99, %



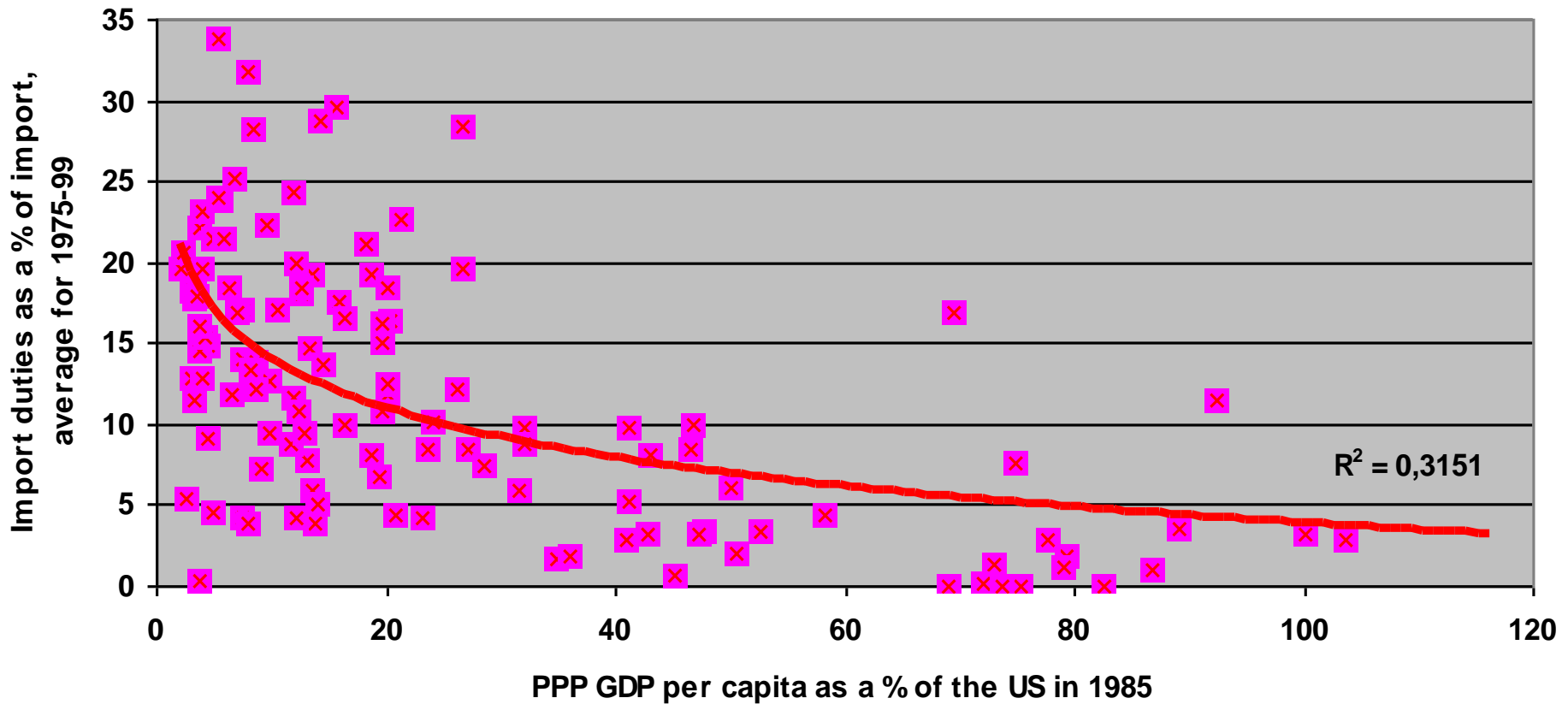
# TARIFFS

Fig. 2. Average share of exports and investment in GDP in 1960-99, %



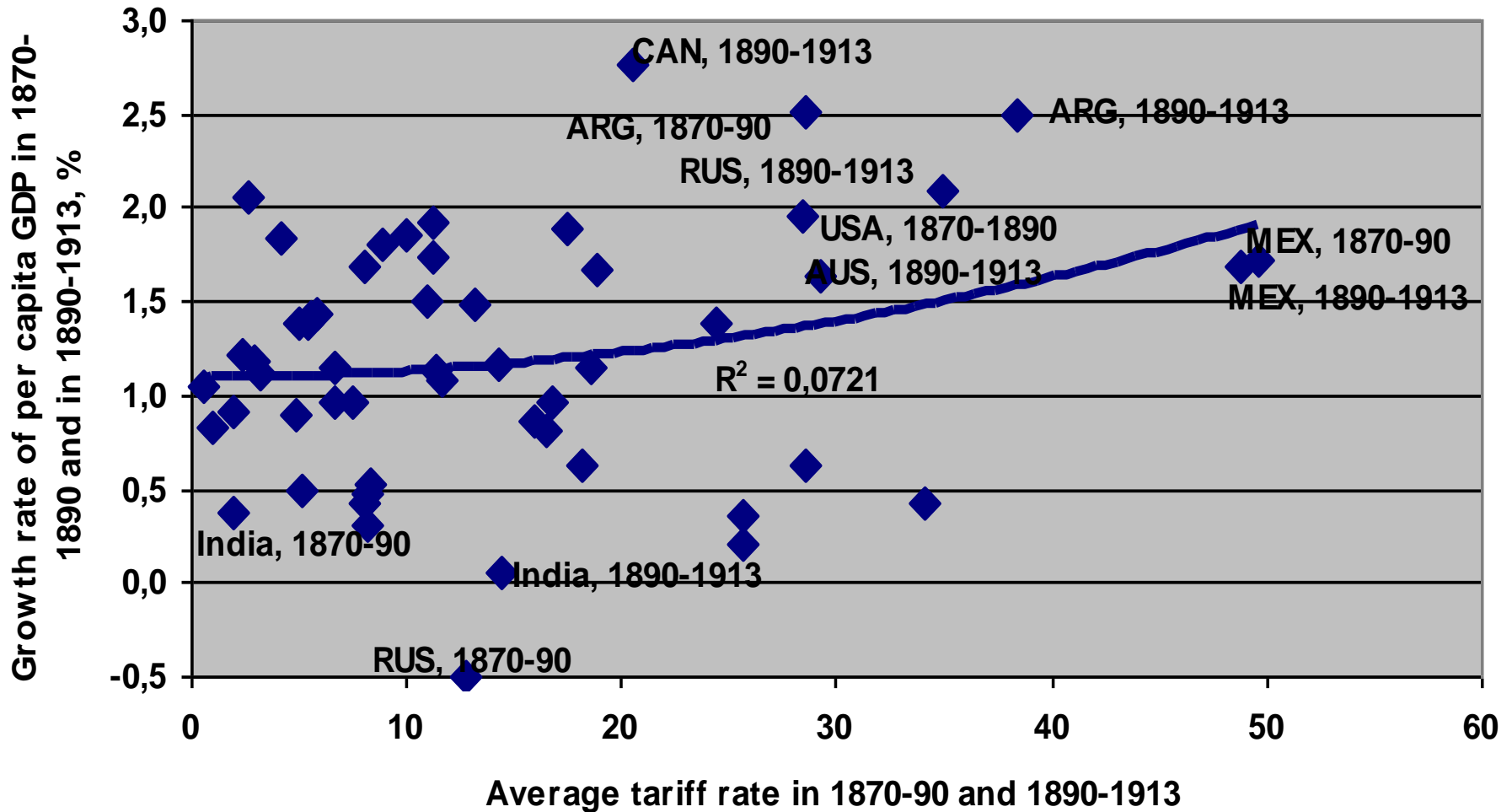
# TARIFFS

Import duties as a % of import, average for 1975-99, and PPP GDP per capita as a % of the US in 1985



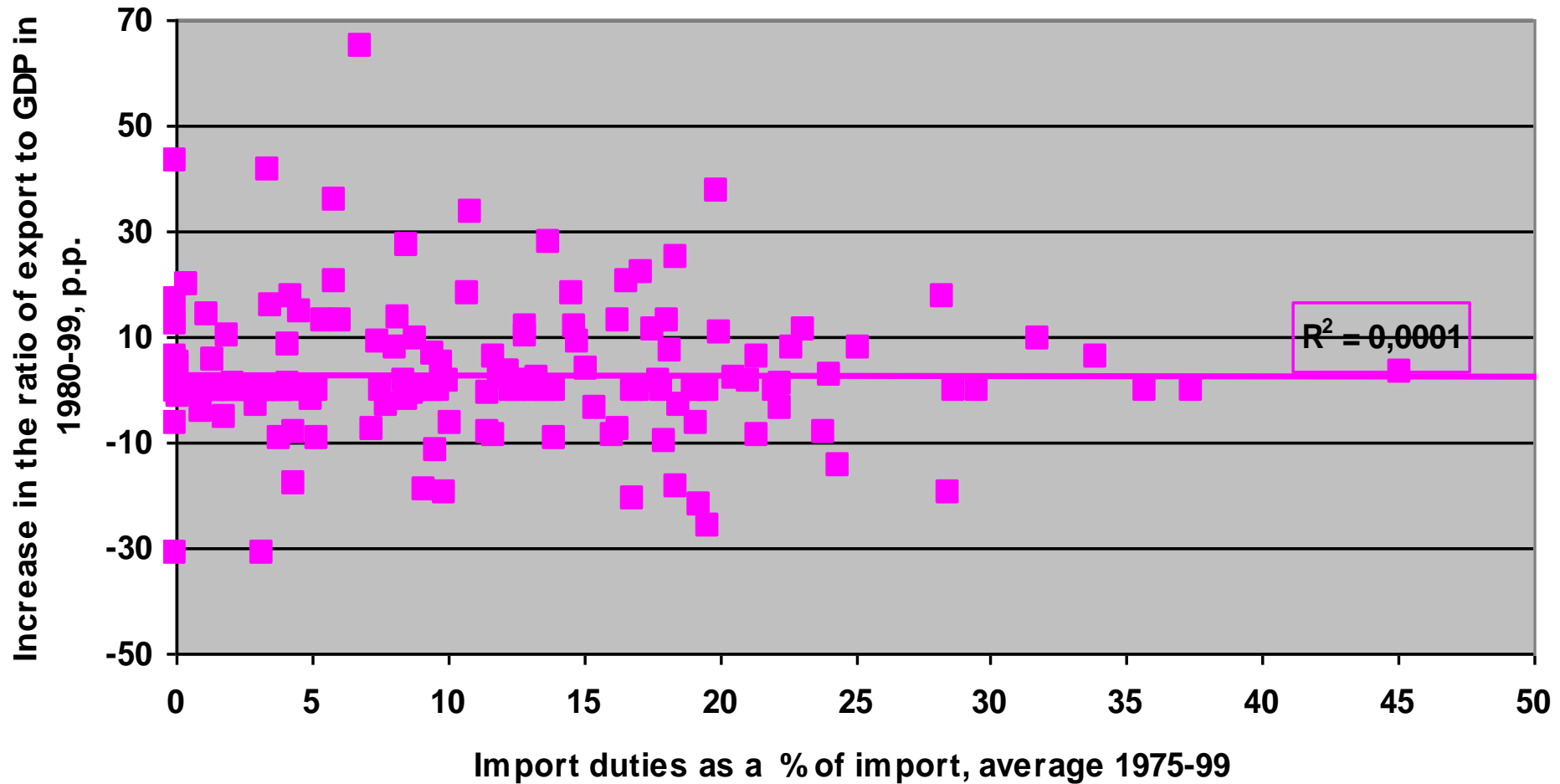
# TARIFFS

Average tariff rate (% of import) and growth rate of per capita GDP (%) in 1870-90 and 1890-1913



# TARIFFS

Fig. 3. Import duties as a % of import in 1975-99 and the increase in export as a % of GDP in 1980-99, p.p.



# TARIFFS

- **$GROWTH = CONST. + CONTR.VAR. + Tincr.(0.06 - 0.004Ycap75us - 0.004CORRpos - 0.005T)$**
- **GROWTH**, is the annual average growth rate of GDP per capita in 1975-99,
- the control variables are population growth rates during the period and net fuel imports (to control for “resource curse”),
- **T** – average import tariff as a % of import in 1975-99,
- **Tincr.** – increase in the level of this tariff (average tariff in 1980-99 as a % of average tariff in 1971-80),
- **Ycap75us** – PPP GDP per capita in 1975 as a % of the US level,
- **CORR pos** – positive residual corruption in 1975, calculated as explained earlier.
- **R<sup>2</sup>=40%, N=39**, all coefficients are significant at 5% level, except the last one (33%), but exclusion of the last variable (a multiple of T by Tincr.) does not ruin the regression and the coefficients do not change much.

# TARIFFS

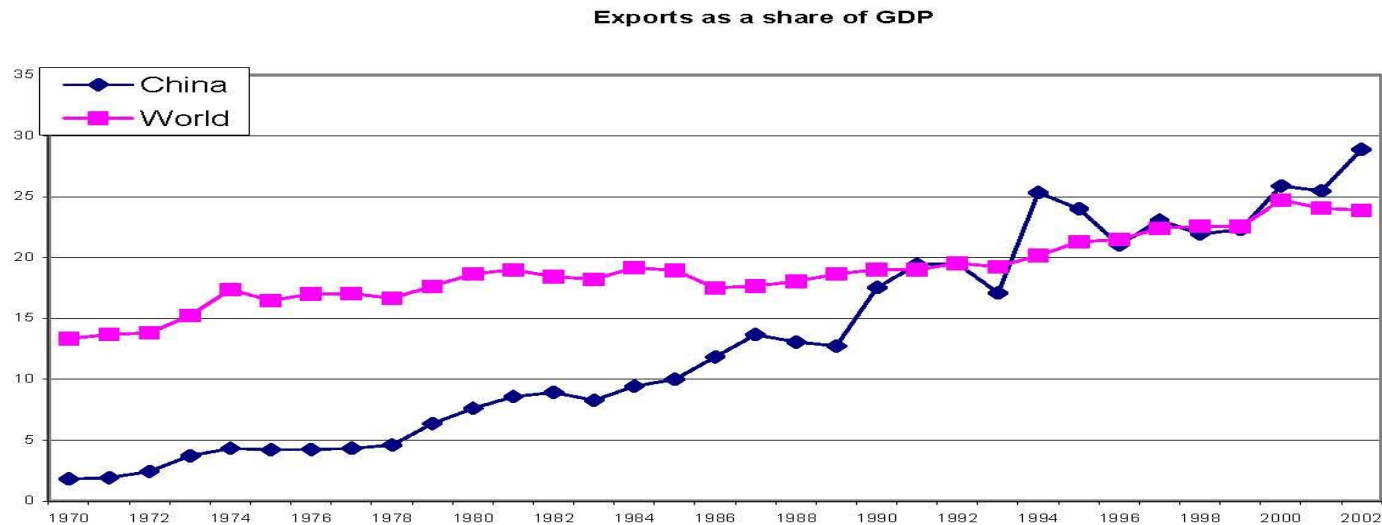
$$\text{GROWTH} = \text{CONST} + \text{CONTR.VAR.} + T(0.005\text{RISK} - 0.002Y_{\text{cap75us}} - 0.3)$$

- (N= 87,  $R^2 = 42$ , all coefficients significant at 10% level or less, control variables are population growth rates, population density and total population).
- The equation implies that for a poor country (say, with the PPP GDP per capita of 20% of the US level or less) import duties stimulate growth only when investment climate is not very bad ( $\text{RISK} > 50\%$ ) – the expression in brackets in this case becomes positive.



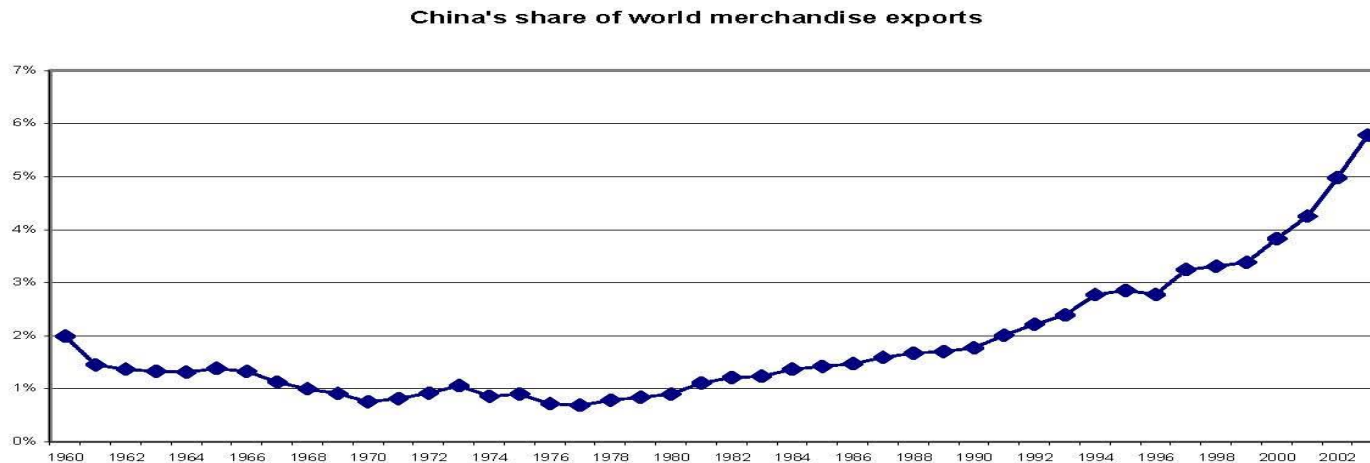
side of these figures is that China has become one of the world's biggest trading powers, accounting for 6% of global trade flows (Figure 2).

**Figure 1**



Source: World Development Indicators Database

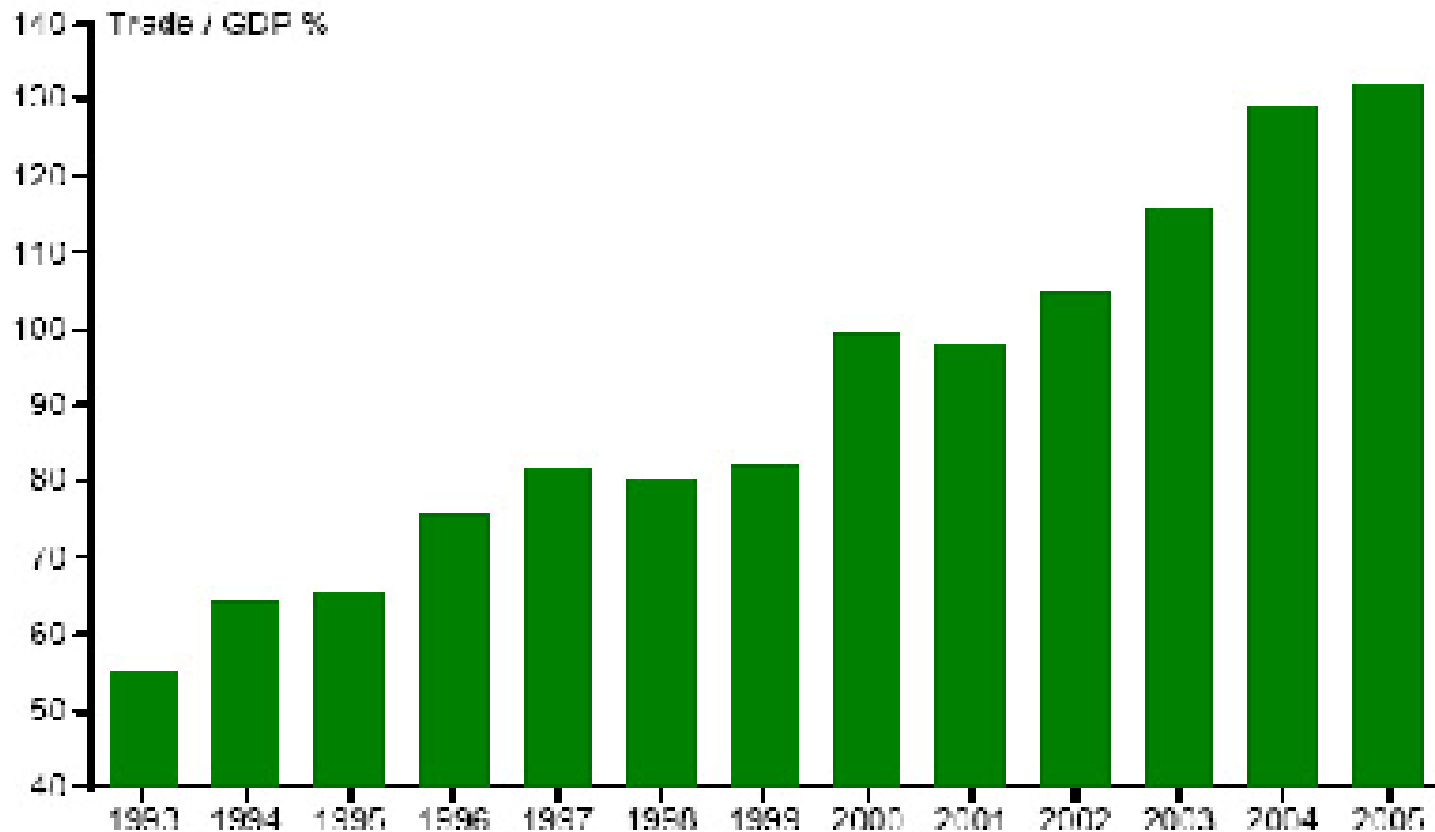
**Figure 2**



Source: World Development Indicators Database

# Vietnam – export oriented development

Chart 2: Exports + Imports over GDP



# Dani Rodrik. WHAT'S SO SPECIAL ABOUT CHINA'S EXPORTS? Harvard University, January 2006

Actual sophistication of exports as compared to predicted one (based on GDP per capita) is very informative for explaining variations in growth rates among countries

# Until recently Chinese import tariffs were extremely high

Table 1: China's import tariffs

	Unweighted average	Weighted average	Dispersion (st. dev)	Maximum
1982	55.6	..	..	..
1985	43.3	..	..	..
1988	43.7	..	..	..
1991	44.1	..	..	..
1992	42.9	40.6		220.0
1993	39.9	38.4	29.9	220.0
1994	36.2	35.5	27.9	..
1995	35.2	26.8	..	220.0
1996	23.6	22.6	17.4	121.6
1997	17.6	16.0	13.0	121.6
1998	17.5	15.7	13.0	121.6
2000	16.4	..	..	..
2001	15.3	9.1	12.1	121.6
2002	12.3	6.4	9.1	70.0

Source: Prasad (2004), p. 10.

## Appendix: Construction of *PRODY* and *EXPY*

*PRODY* is the weighted sum of the per capita GDP of countries exporting a given product, and thus represents the income level associated with each of these goods. Let countries be indexed by  $j$  and goods be indexed by  $l$ . For any given year, the value of total exports of country  $j$  equals:

$$X_j = \sum_l x_{jl}$$

Let the per-capita GDP of country  $j$  be denoted by  $Y_j$ . Then the *PRODY* index for good  $k$  is:

$$PRODY_k = \sum_j \frac{x_{jk} / X_j}{\sum_j (x_{jk} / X_j)} Y_j$$

The numerator of the weight  $x_{jk} / X_j$  is the value-share of the commodity in the country's overall export basket. The denominator of the weight,  $\sum_j (x_{jk} / X_j)$ , aggregates the value-share across all countries exporting the good. By using export share rather than export volume, the weighting scheme tries to ensure that adequate weight is given exports that are important to smaller poorer countries.

*EXPY* for country  $i$  is given in turn by:

$$EXPY_j = \sum_l \frac{x_{jl}}{X_j} PRODY_l$$

This is a weighted index of the representative income associated a country's exports, where the weight is simply the value share of the product in the country's total exports.

Figure 7: Relationship between initial level of *EXPY* and growth, controlling for initial income

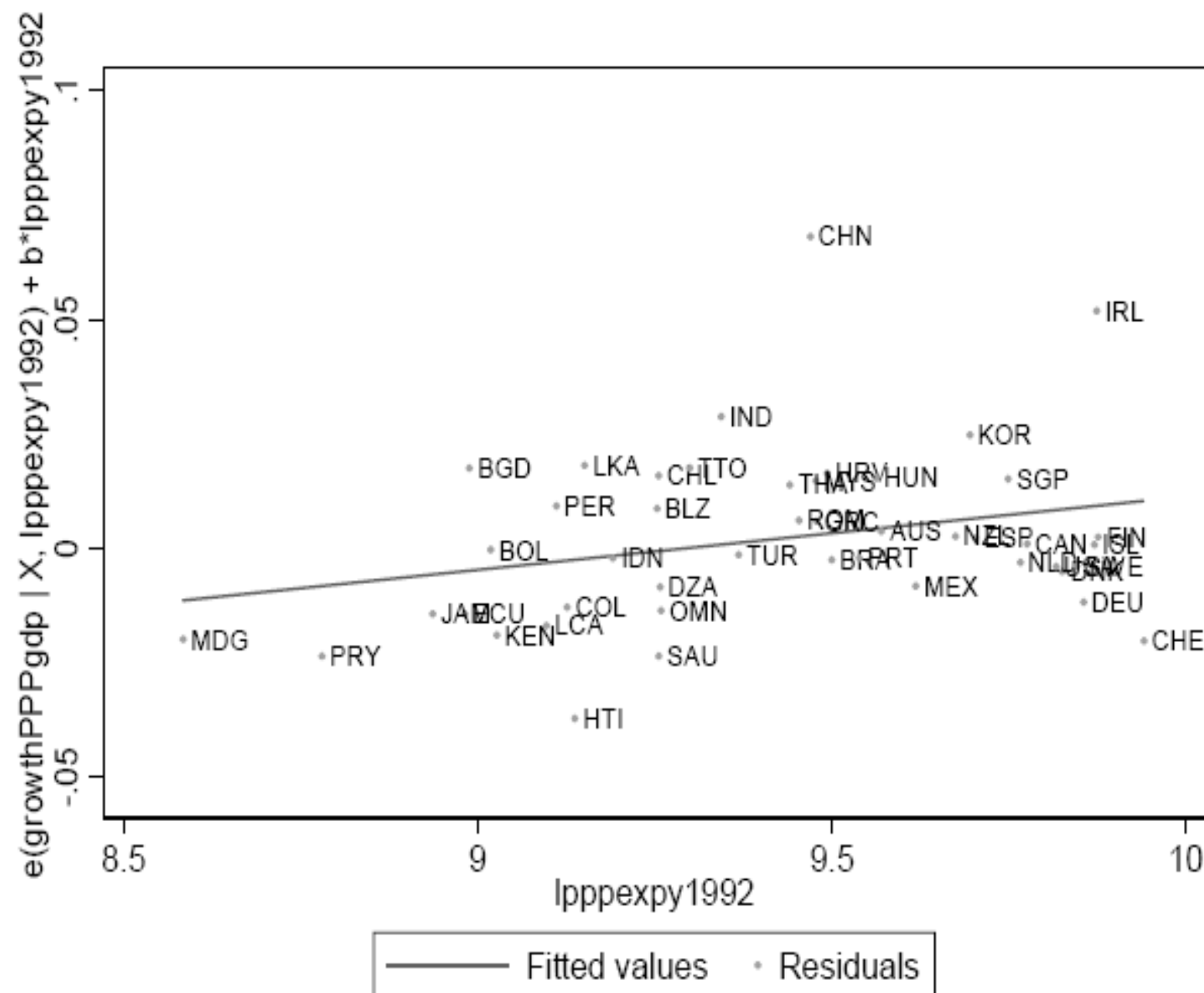
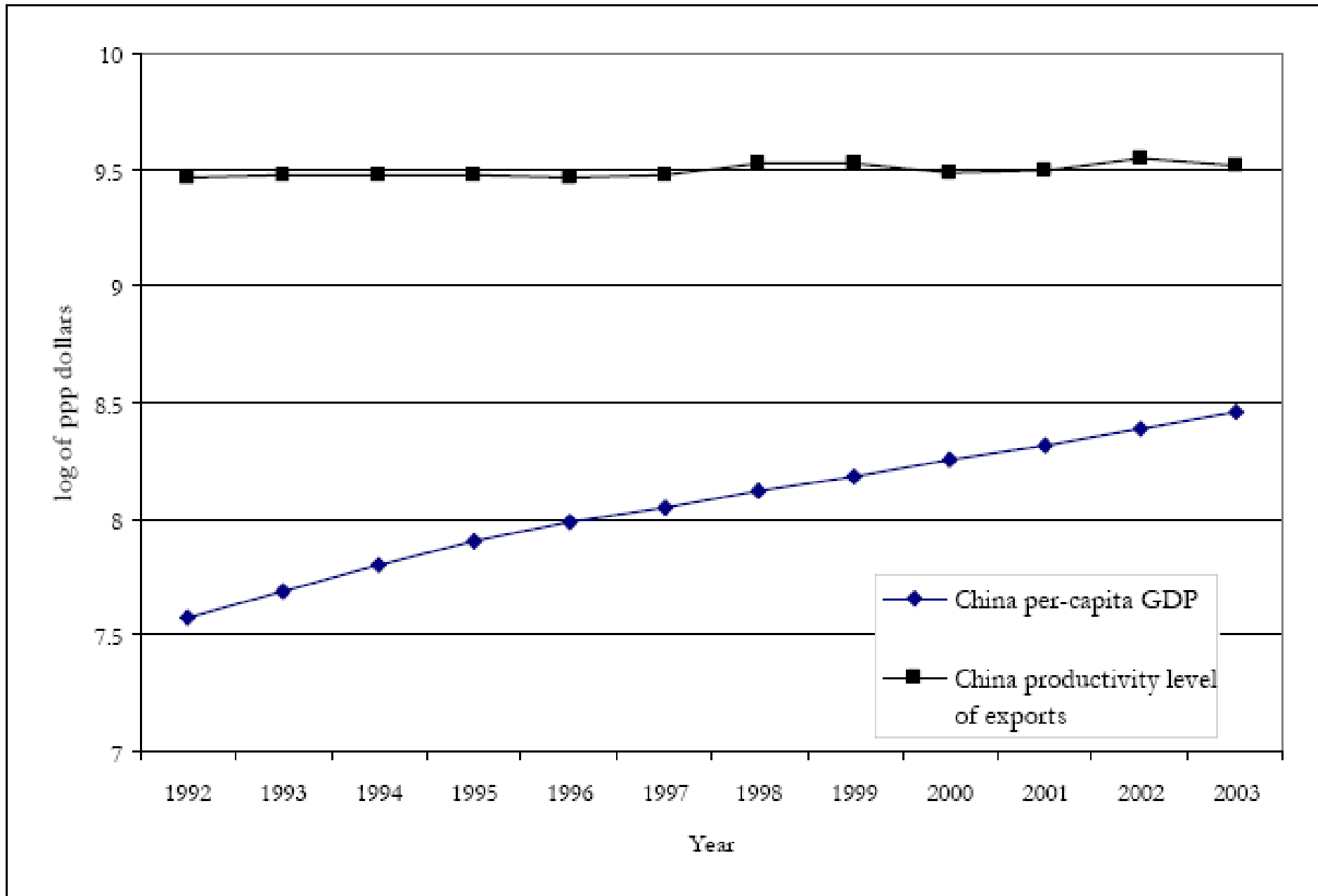
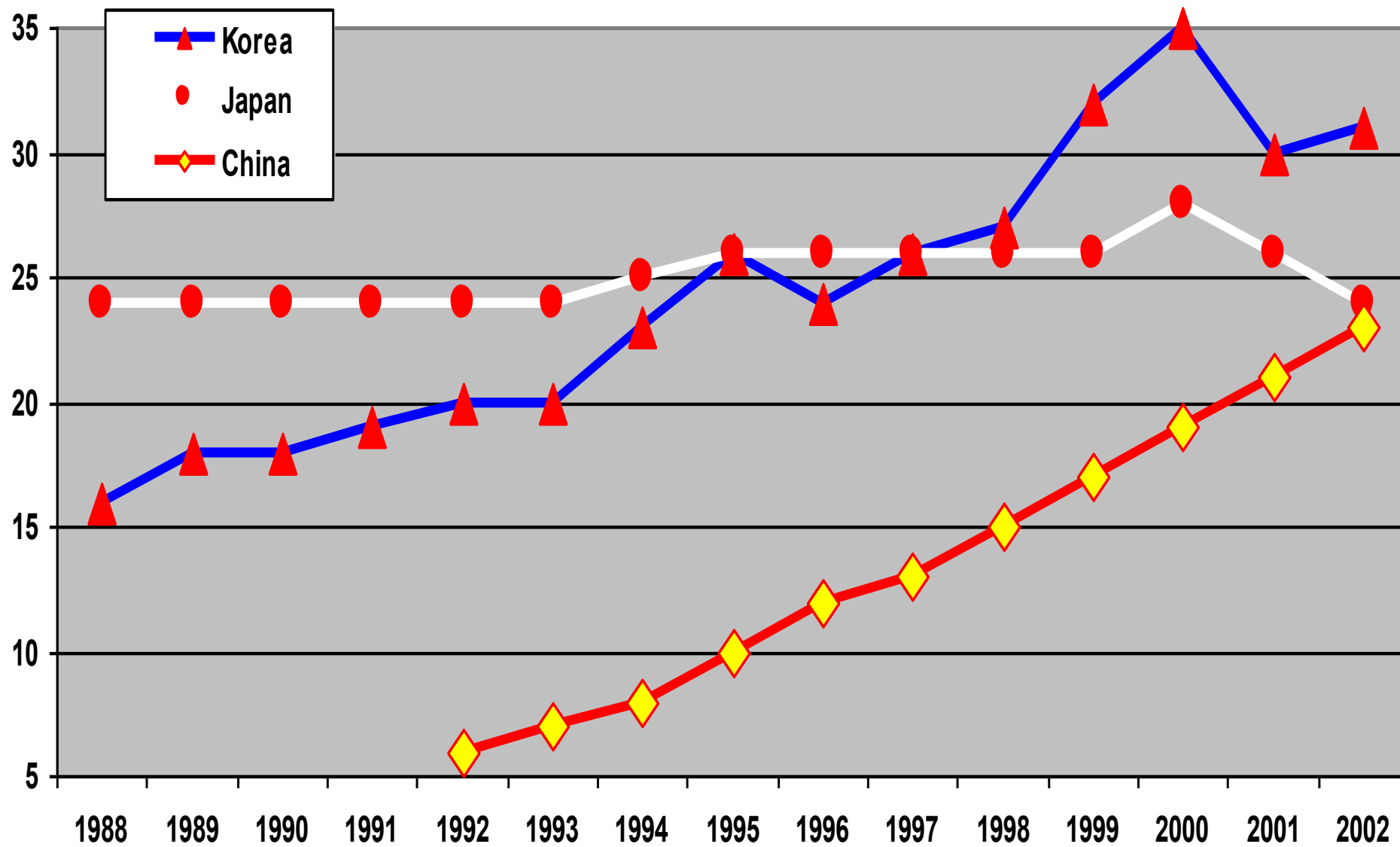


Figure 8: Productivity Level of Exports and GDP per capita (log of PPP dollars)

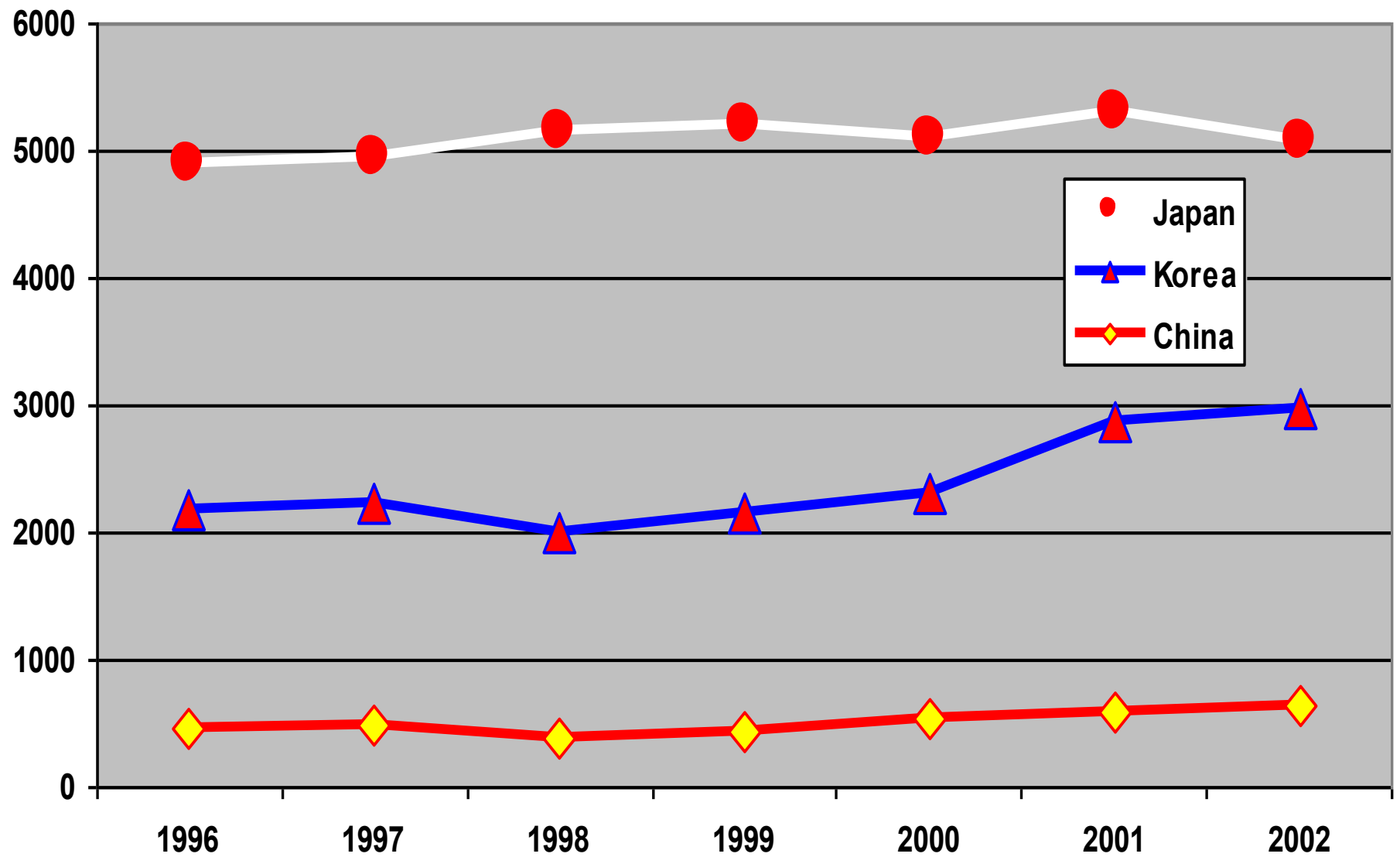


Share of high-tech goods in industrial exports, %

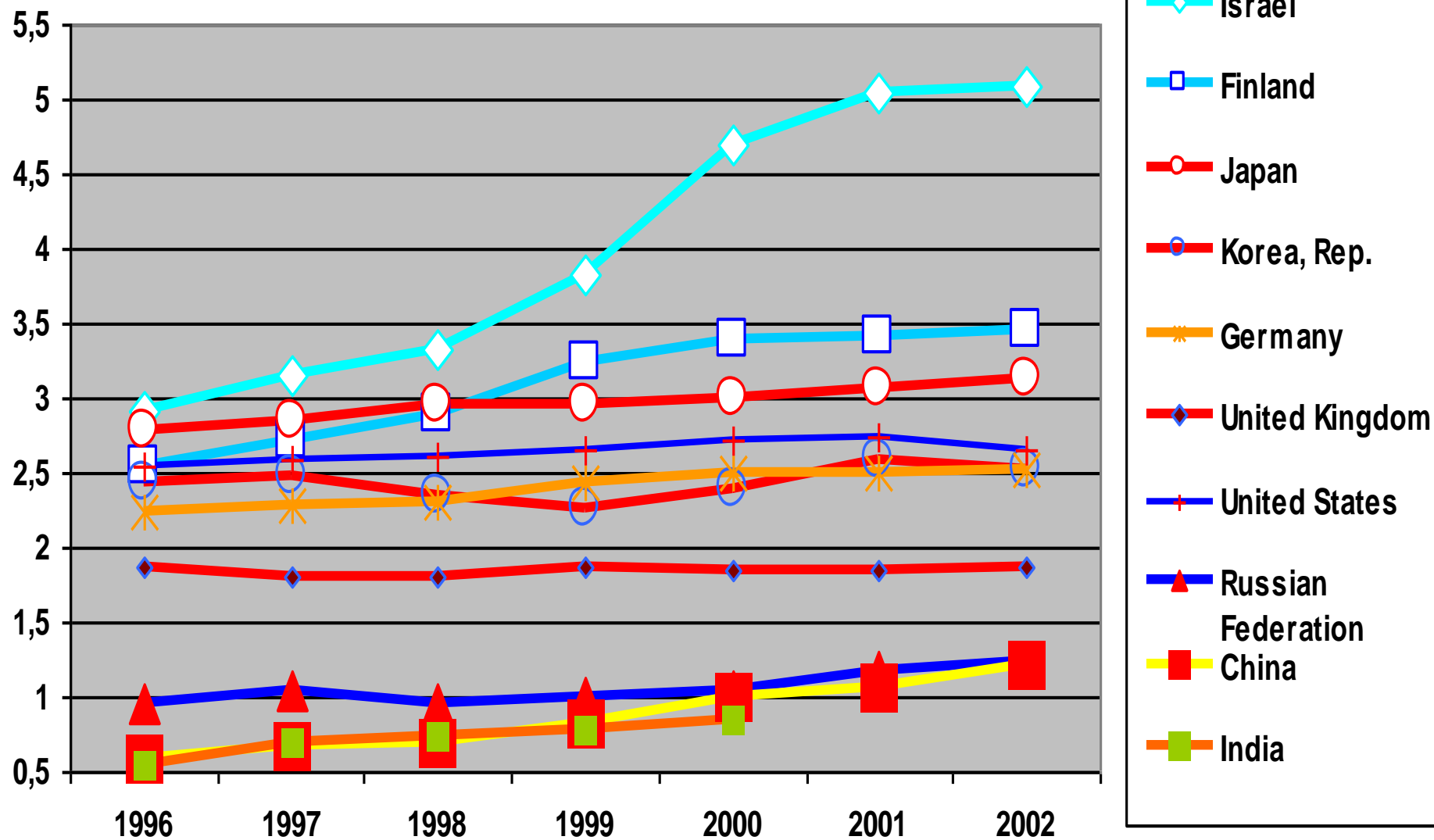




Number of R&D personel per 100,000 of inhabitants in China, Japan, Korea



# R&D expenditure in selected countries as a % of GDP



# China- success since 1949

- **Rapid growth is a complicated process that requires a number of crucial inputs – infrastructure, human capital, even land distribution in agrarian countries, strong state institutions, economic stimuli among other things.**
- **In this sense, economic liberalization in 1979 and beyond was only the last straw that broke the camel's back. The other ingredients, most important – strong institutions and human capital, have 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 and former Soviet republics in the 1990s.**

# China- success since 1949

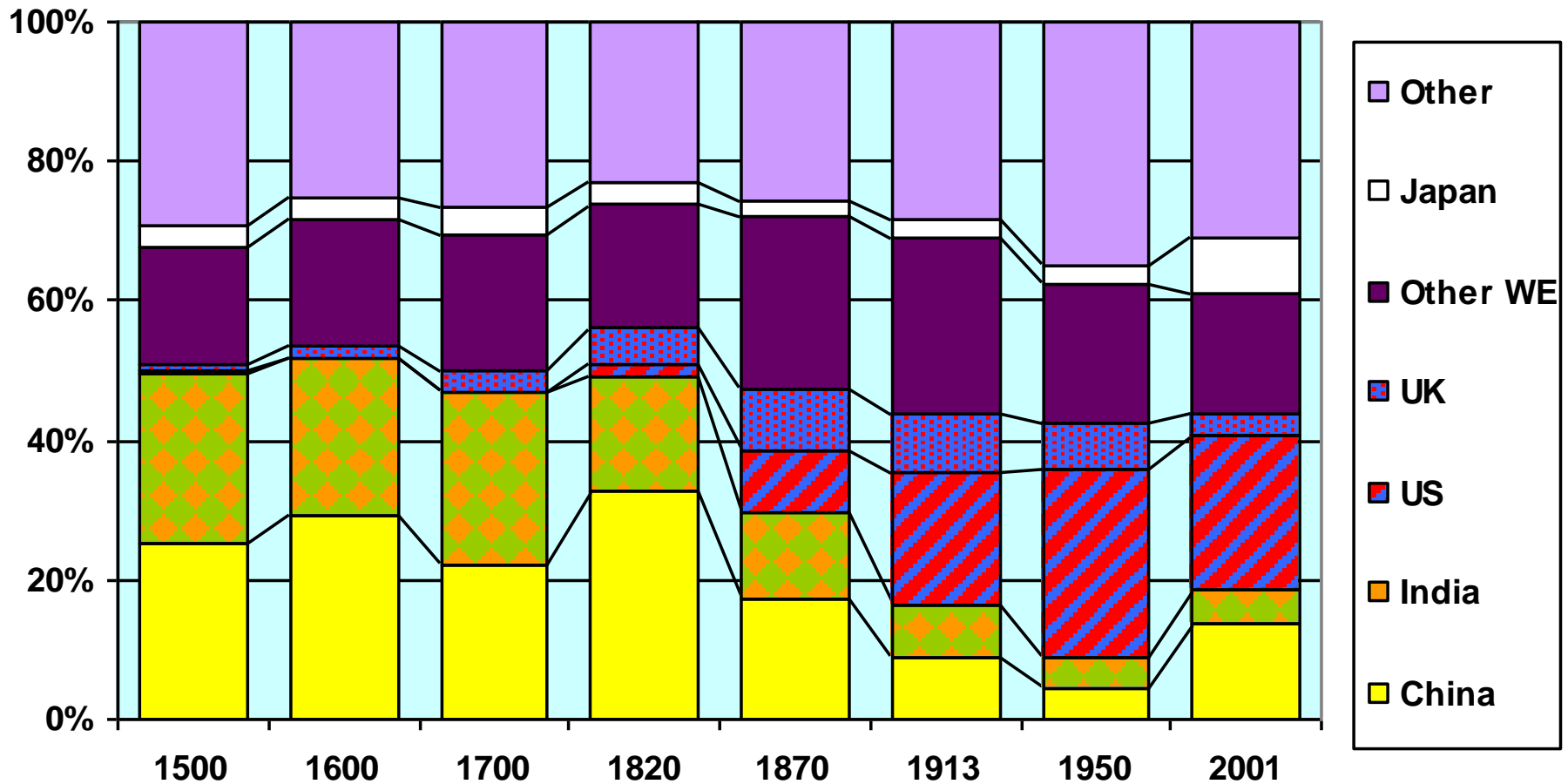
- **Market-type reforms in China in 1979 and beyond brought about the acceleration of economic growth because China already had an efficient government that was created by CPC after Liberation and that the country did not have in centuries (Lu, 1999).**
- **Through the party cells in every village the communist government in Beijing was able to enforce its rules and regulations all over the country more efficiently than any emperor, not to speak about Guomindang regime (1912-49).**

# **Chinese growth model - a hit in developing world**

- **Because Chinese growth model became so successful in ensuring catch-up development, no surprise it is extremely appealing in developing world.**
- **“Beijing consensus” may not yet be a rigorous term (Ramo, 2004), but it is clear that the Chinese growth model provides the developing world with the real alternative.**
- **Chinese model became the logical and natural heir of the Soviet model – it is no longer a centrally planned economy, but it is by no means a model of a liberalized market economy that is recommended by the advocates of Washington and even post-Washington consensus.**

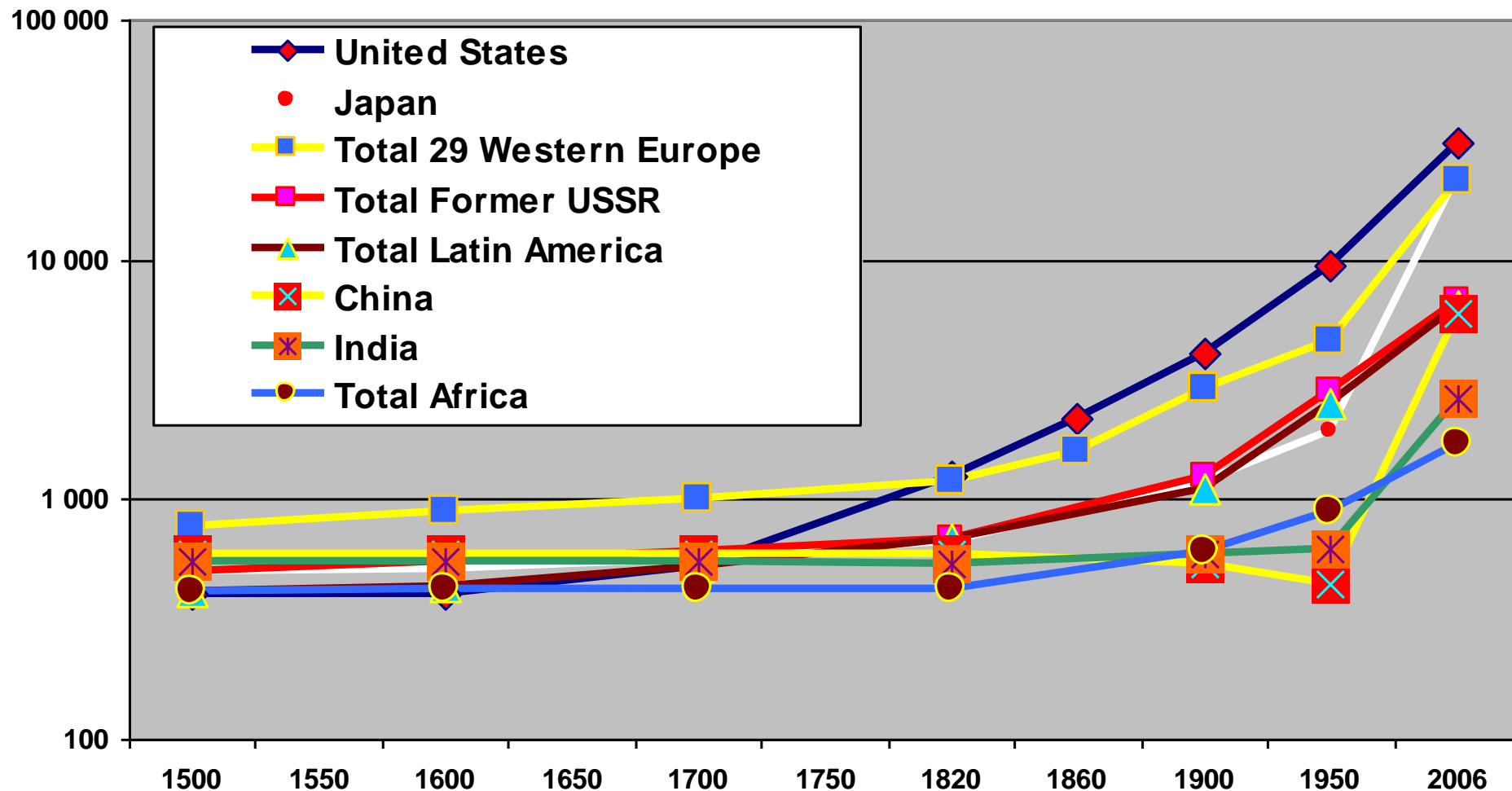
# Before 1820 China and India accounted for about half of the world GDP

Share of major countries in world's PPP GDP, 1500-2001 (Source: A. Maddison)



# 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)



# Millenium 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* and European enlightenment are said to cause openness and the
  - flow of ideas and technological innovations

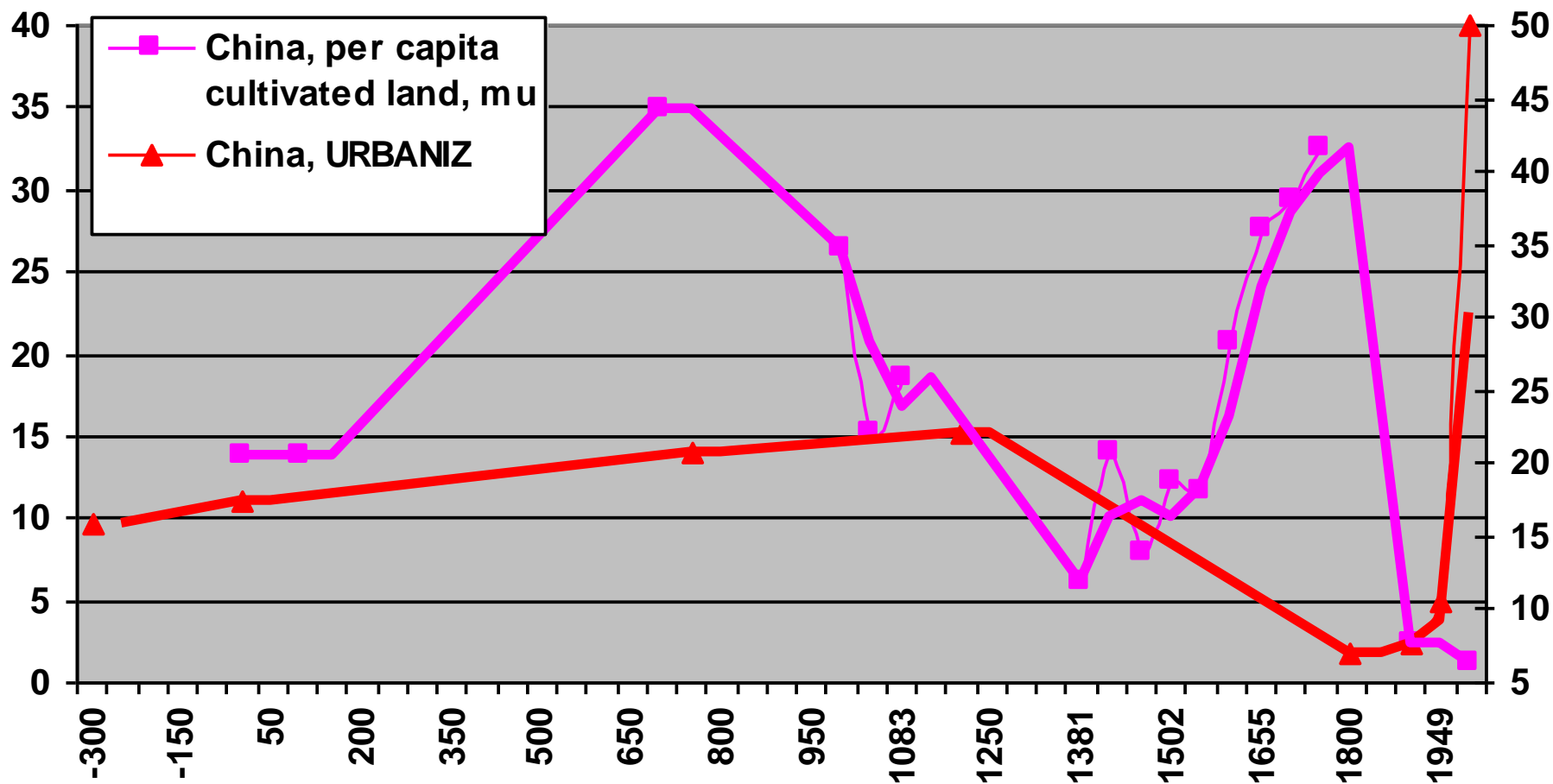


# How the West got rich?

- Another school (Dimond, 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 18<sup>th</sup> 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 15<sup>th</sup> 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

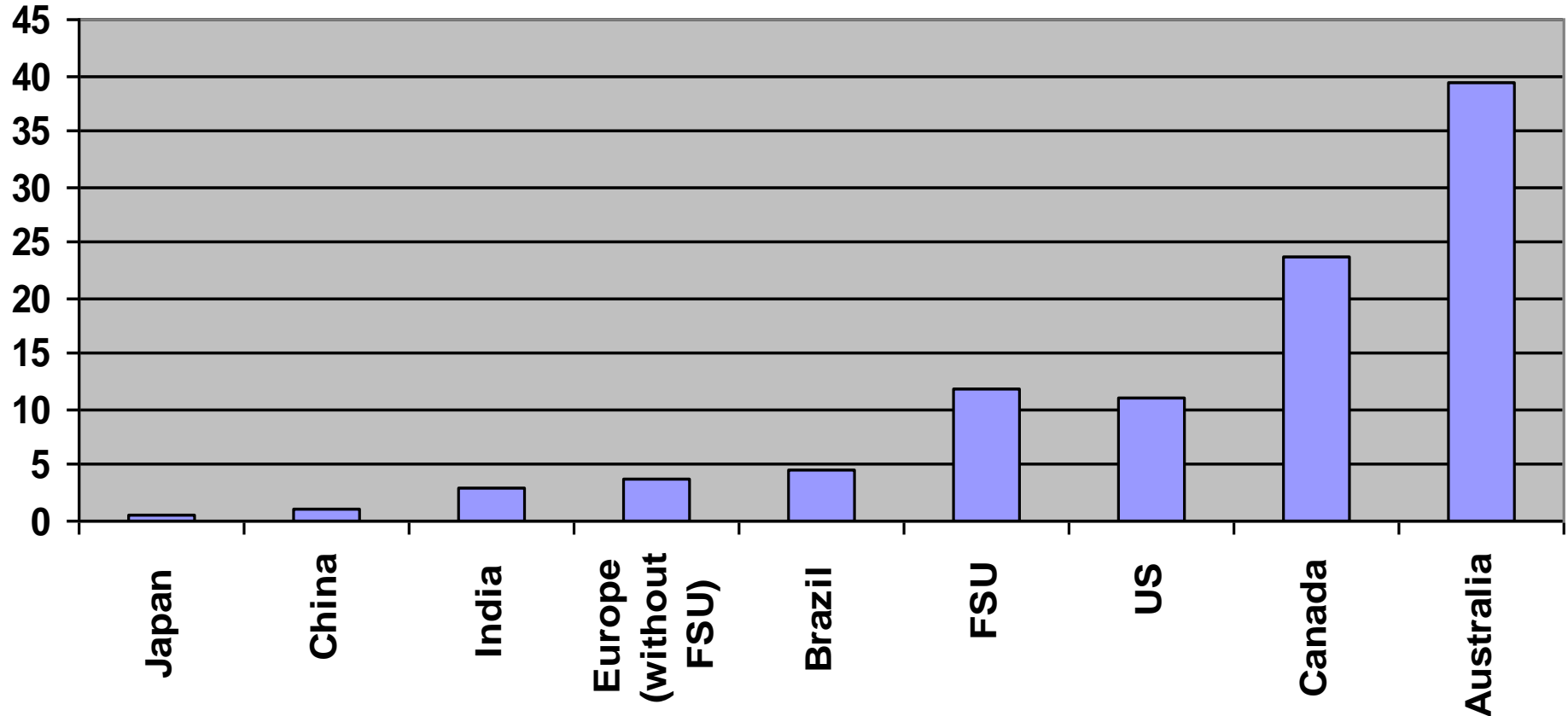
# Another view (Guandong James Wen, 2008): Land scarcity stimulates urbanization and industrialization

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



# But the example of other countries does not support the conclusion

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



# How the West got rich?

- (Acemoglu, Johnson and Robinson, 2001) -“Colonial Origins of Comparative Development”
- Instrumentation the institutions variable – mortality rate among settlers in the colonies of major European states in the 19<sup>th</sup> 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?**



# How the West got rich?- Continuity and Asian values

- A different interpretation of the genesis of the institutions in colonized and non-colonized countries is the 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 a rapid growth of productivity and allowed to overcome the limits of the two-dimensional Malthusian world (more population => more GDP).

# **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.**

# **China - preserved continuity (Asian values) more than any other region**

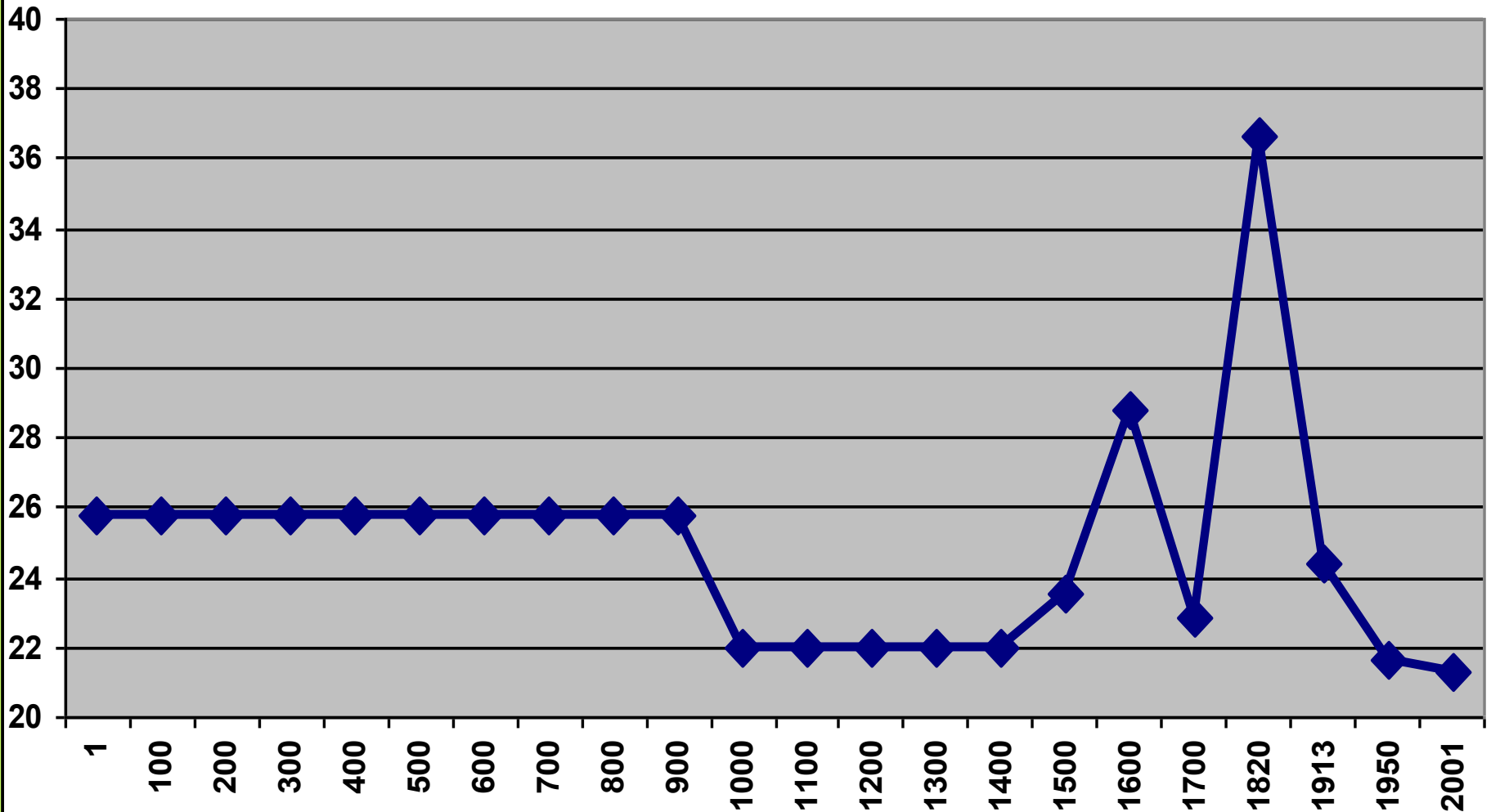
- Formally China was a non-colonized country, although after loosing the Opium wars in the middle of the XIX century it became a semi-colony of the West for nearly a century.**
- The fact is, however, that in the beginning of the XIX century China was definitely the most successful country in the framework of Malthusian growth regime**
- The share of China in total population of the world increased in the XVIII century from a long term average of 22-26% to 37% (fig. 16) – a truly remarkable achievement by the standards of the pre-industrial world.**

# Chinese continuity

- **Sinologists agree that the continuity of the Chinese civilization makes it truly unique:**
  - **all nations started with pictograms (characters), but only larger China (Japan and Korea included) preserved characters throughout all history;**
  - **the amount of ancient manuscripts and of factual information about the ancient history is at least by the order of magnitude greater than in any other nation of the world;**
  - **the respect to the ancestors, Confucian values; etc.**

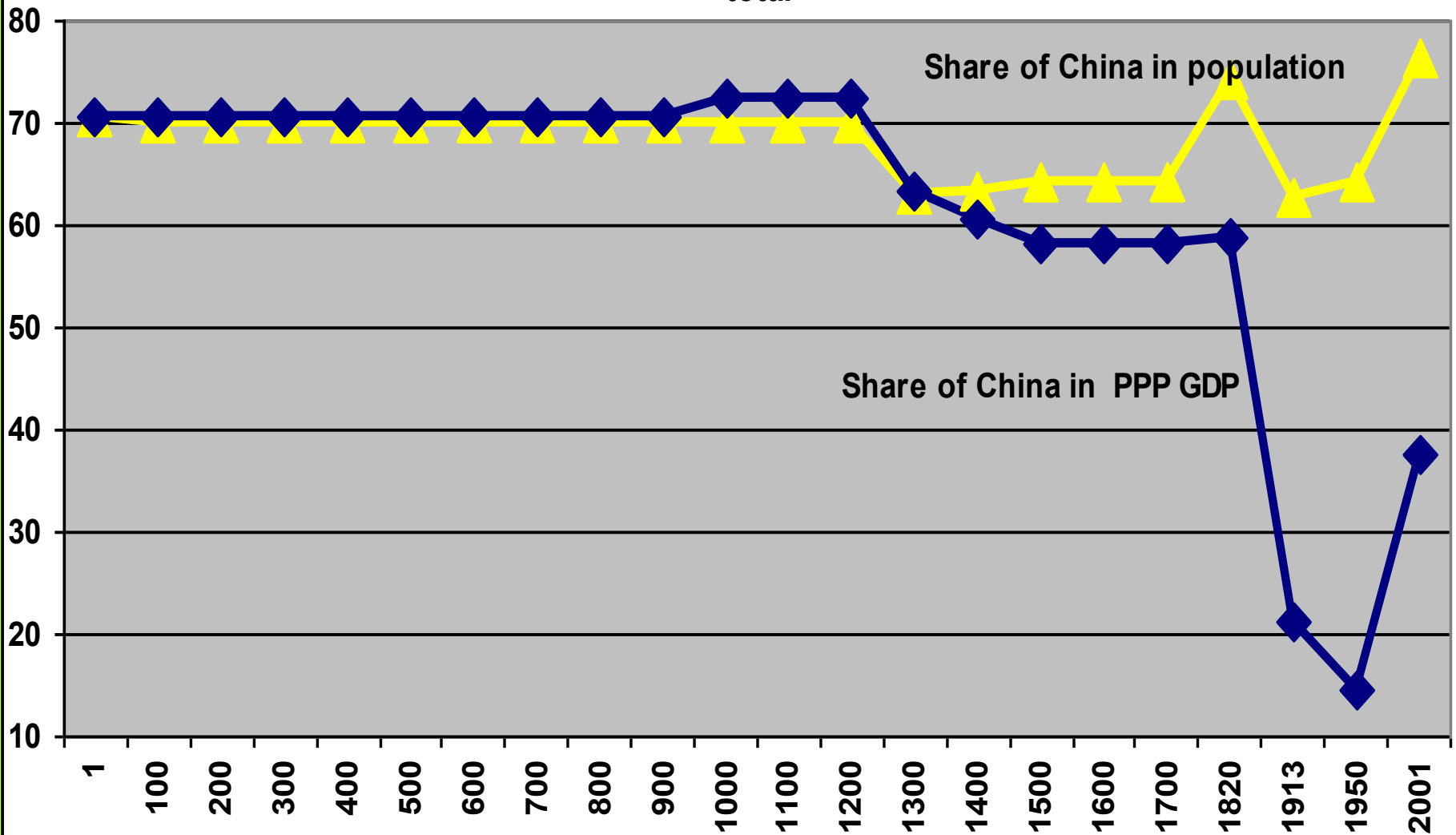
# Long Term Development: China was successful in increasing its population in 16<sup>th</sup> -18<sup>th</sup> centuries

Share of China in world population, % of total



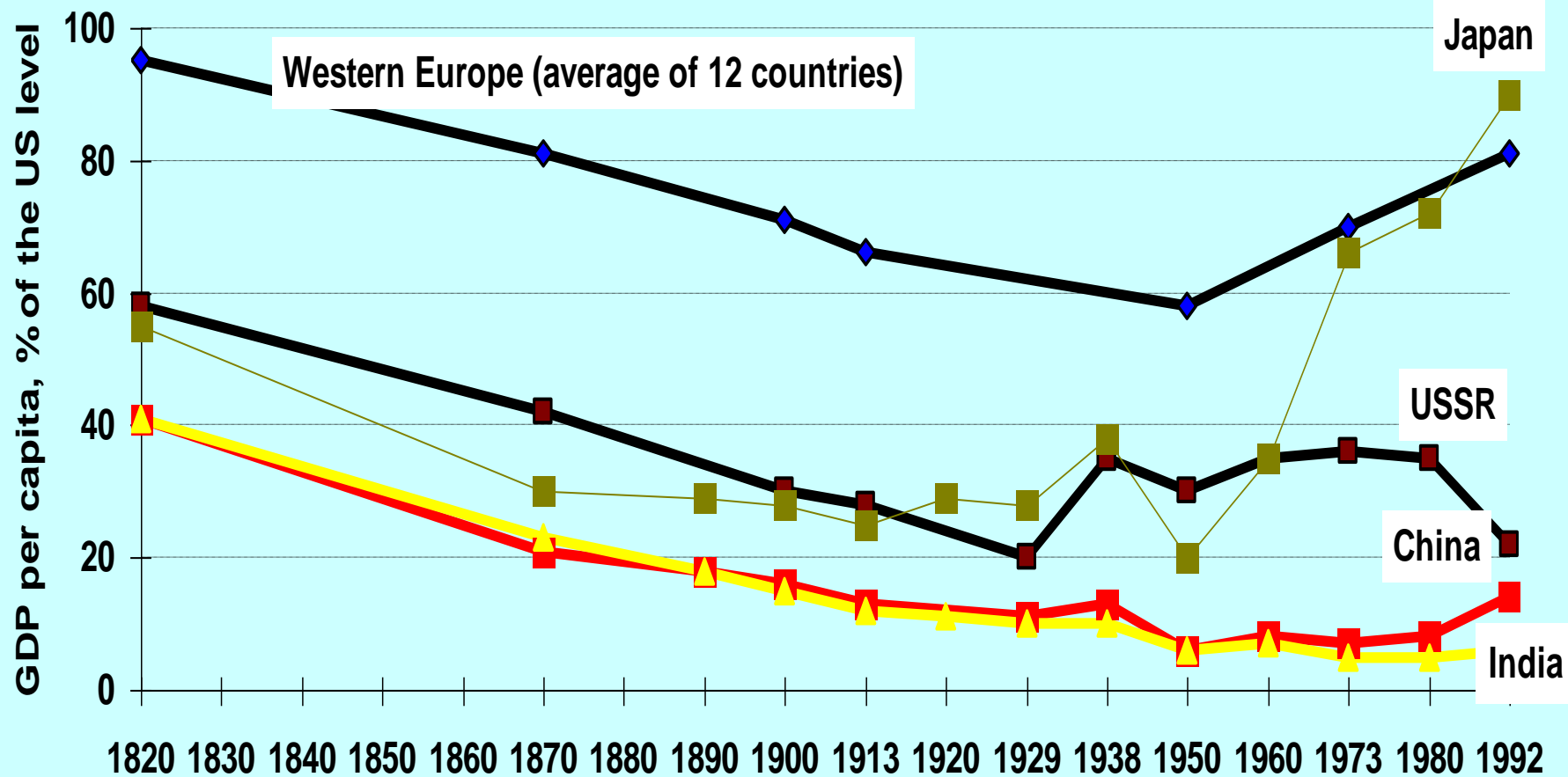
# Long Term Development

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



# Long Term Development

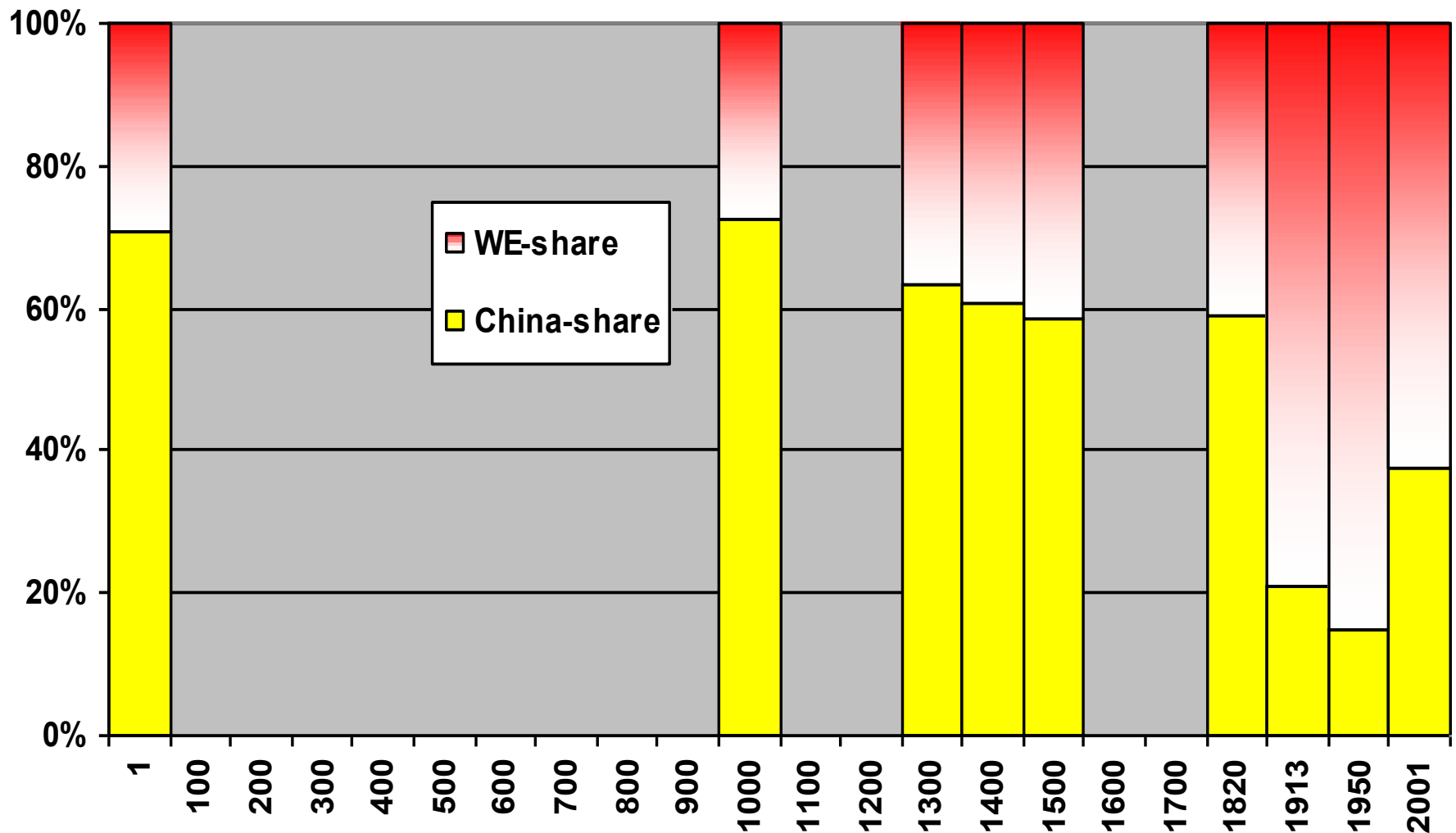
GDP per capita in 1990 international dollars as a % of the US level





# Long Term Development

Total PPP GDP of China and Western Europe in 1990 int'l dollars, % of total



# Chinese continuity

- The problem, however, was that the rules of the game in the world economy have changed: the productivity growth rates in the West increased and Malthusian growth regime came to an end.
- 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 early XIX century to a meager 5% in 1950 (fig. 18); the ratio of Chinese GDP to that of Western Europe fell from 2:1 to 1:5 in the same period (fig. 19).

# Chinese continuity

- However the subsequent Chinese development differed from that of the 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. The Liberation of 1949 has thus lead to a breakthrough: the temporary protection from foreign influence imposed by the CPC (1949-79) allowed to strengthen the traditional institutions, and to continue the development along the lines of the millenium-old trajectory.

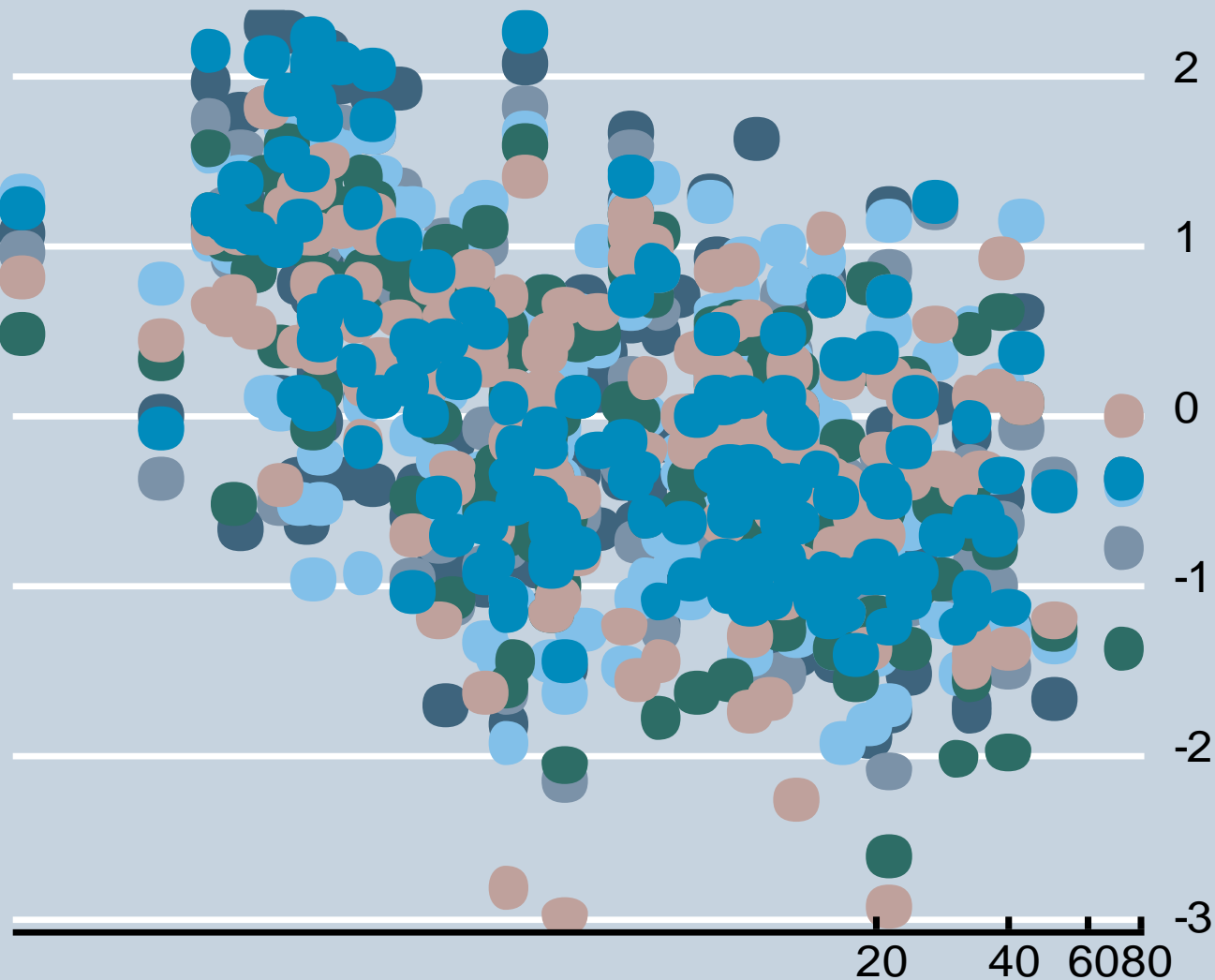
# Long term development: how the West got rich?

## Where institutions are good/bad?

**Institutional continuity vs. transplantation of foreign institutions**

- Developed countries (with the exception of the US)
- East Asia (with the exception of Philippines)
- MENA (Muslim) countries
- =====
- SSA
- LA
- FSU

GE2002   R\_of\_L   Voice&Acc  
 PolStab   RegQual   ContrCorr



Murders per 100 000 inhabitants (WHO)

**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 (ICRG) and murder rate (per 100,000 inhabitants), 2002



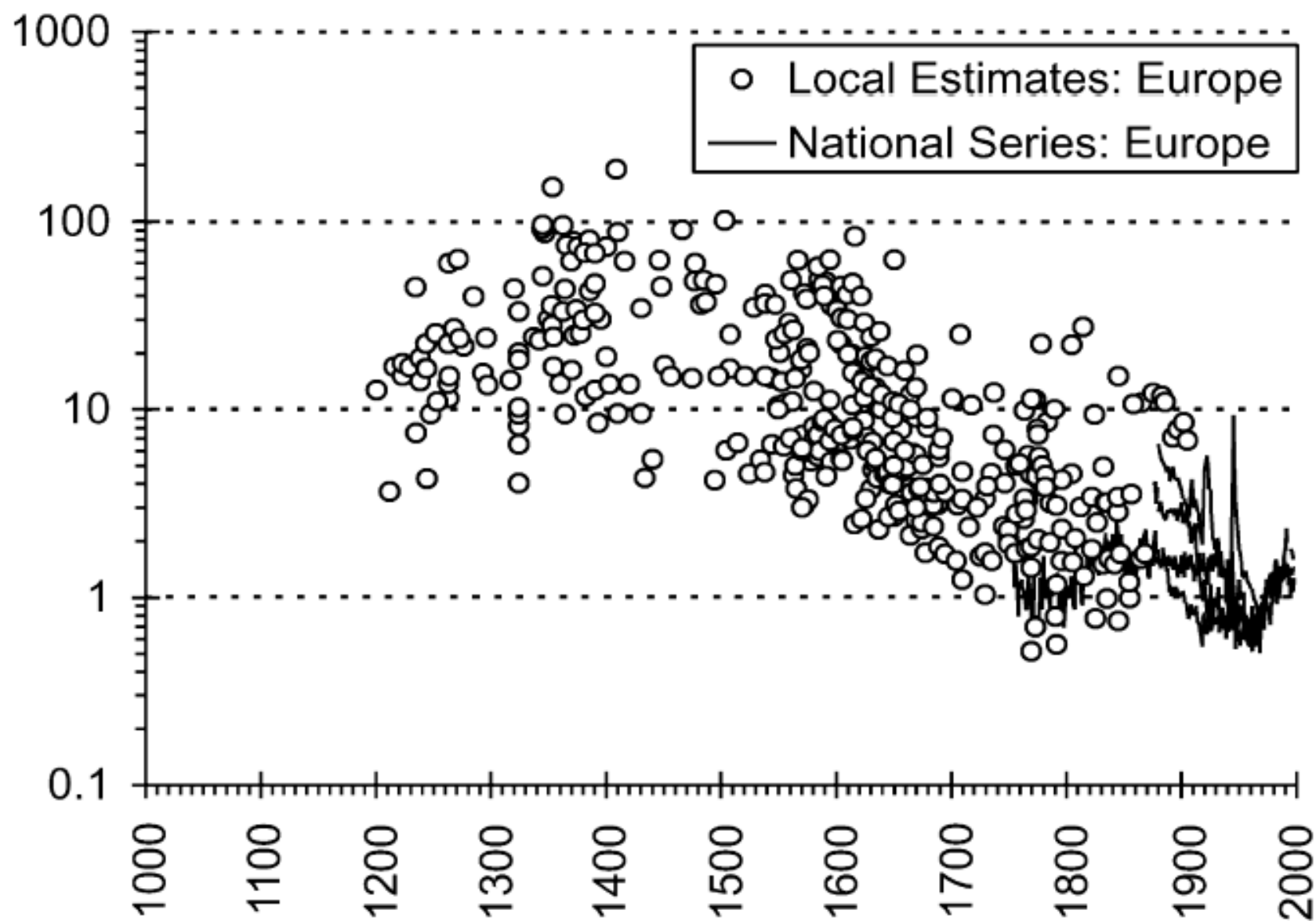
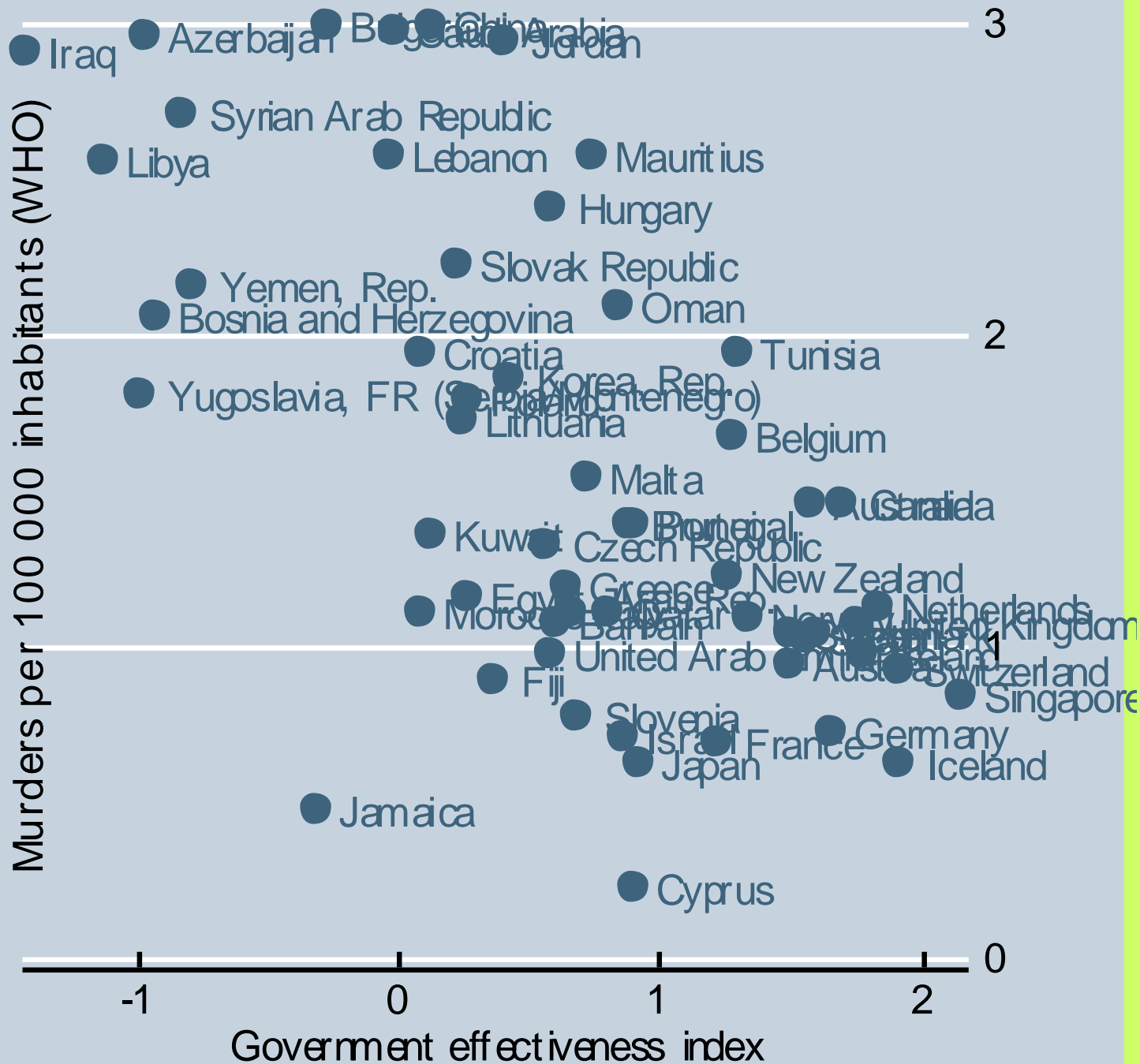
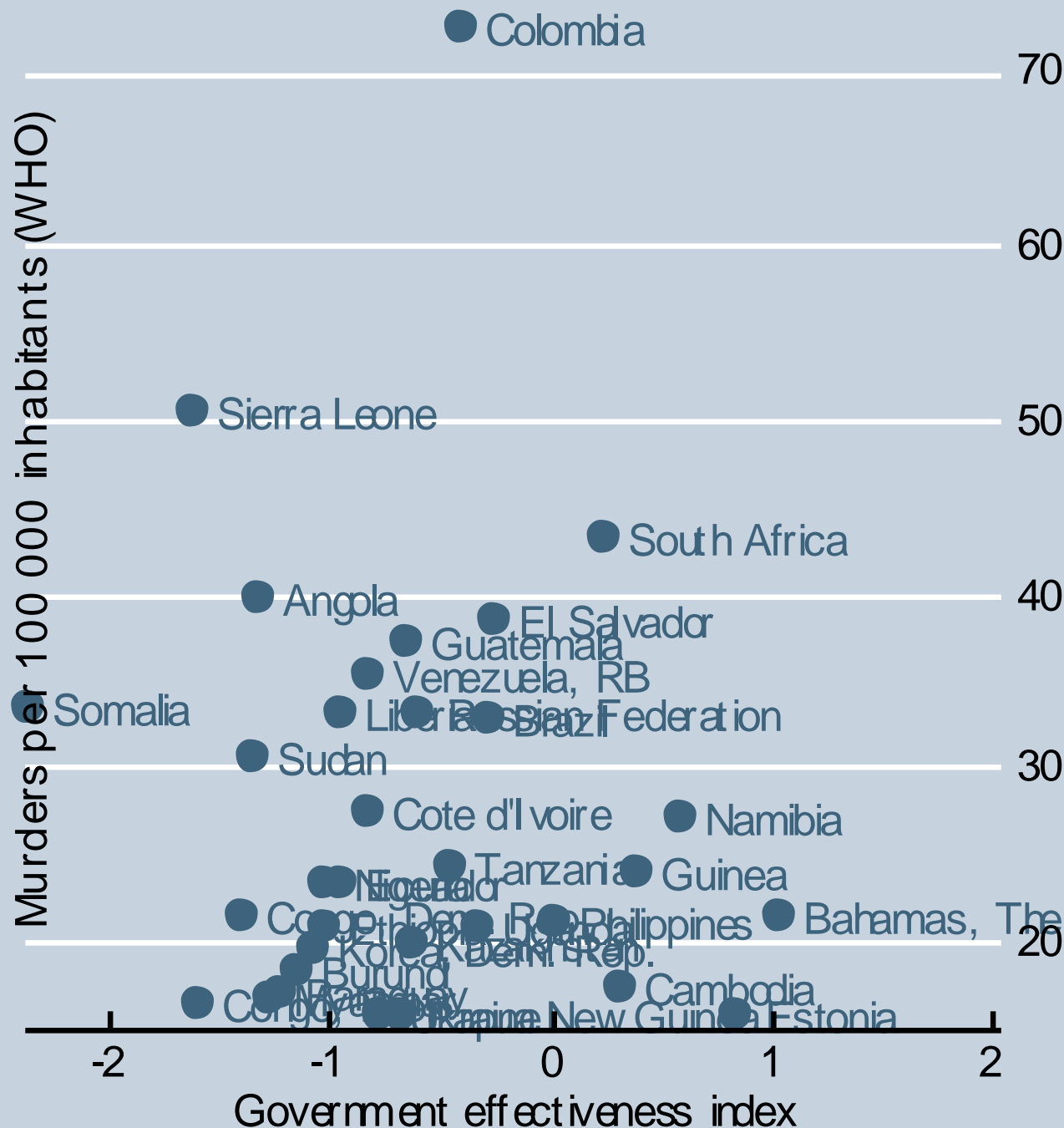


FIG. 2.—Overall trend in homicide rates, all premodern local estimates and four national series. Note: All 398 local estimates from the History of Homicide Database; national series for Sweden, England and Wales, Switzerland, and Italy.



**INSTITUTIONS:  
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# Conclusions

- ***First***, Chinese reforms were very different from the Washington consensus package (gradual rather than instant deregulation of prices, no mass privatization, strong industrial policy, undervaluation of the exchange rate via accumulation of reserves) – it is explained why these policies contributed to success.
- ***Second***, the recent Chinese success (1979-onwards) is based on the achievements of the Mao period (1949-76) – strong state institutions, efficient government and increased pool of human capital. Unlike in the former Soviet Union, these achievements were not squandered in China due to gradual rather than shock-therapy type democratization.
- In a longer term, millennium perspective, the extraordinary success of China before the Opium wars (mid XIX century) and after the Liberation (after 1949) is due to the institutional continuity – the ability to proceed along the evolutionary path without the break up with traditional structures (Asian values).
- It follows that the successful catch up development of China, if continues, would become the turning point for the world economy not only due to the size of the country, but also because for the first time in history the successful economic development on a major scale is based on indigenous, not Western-type economic model.