Comparative Economic Systems and Centrally Planned Economies

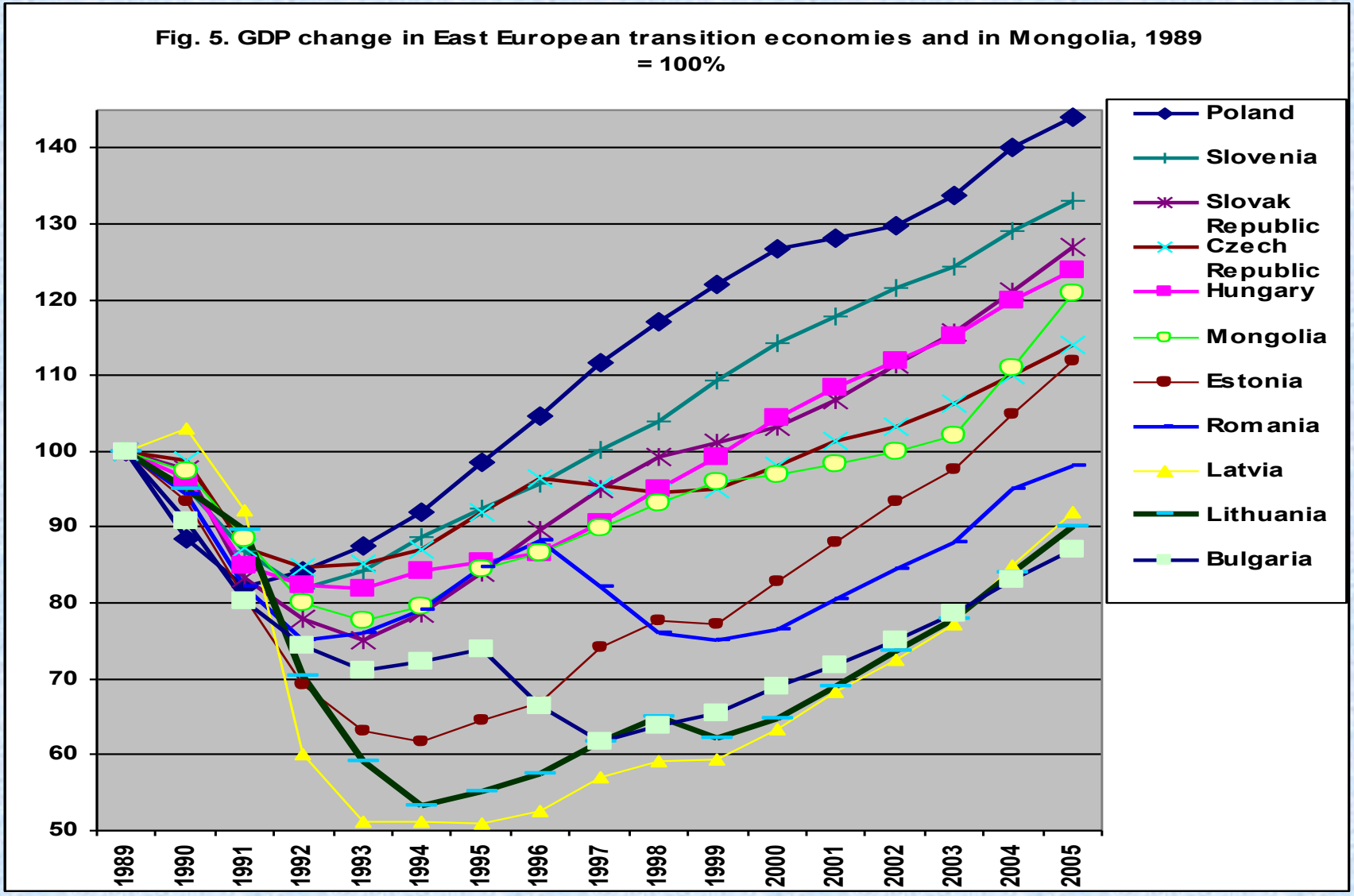
Course outline

- **Transformational recession. Transition strategies and performance.**
- **Transition economies in the framework of comparative economic systems.**
- **Review of turning points in Soviet economic history – War Communism, NEP, Command economy, Industrialisation Debate.**
- **Soviet economic statistics. Was the transition to the command economy inevitable?**
- **CPEs: industrial organisation and structural inefficiencies.**
- **Prices, labor market, finance, credit, external economic relations in CPE.**

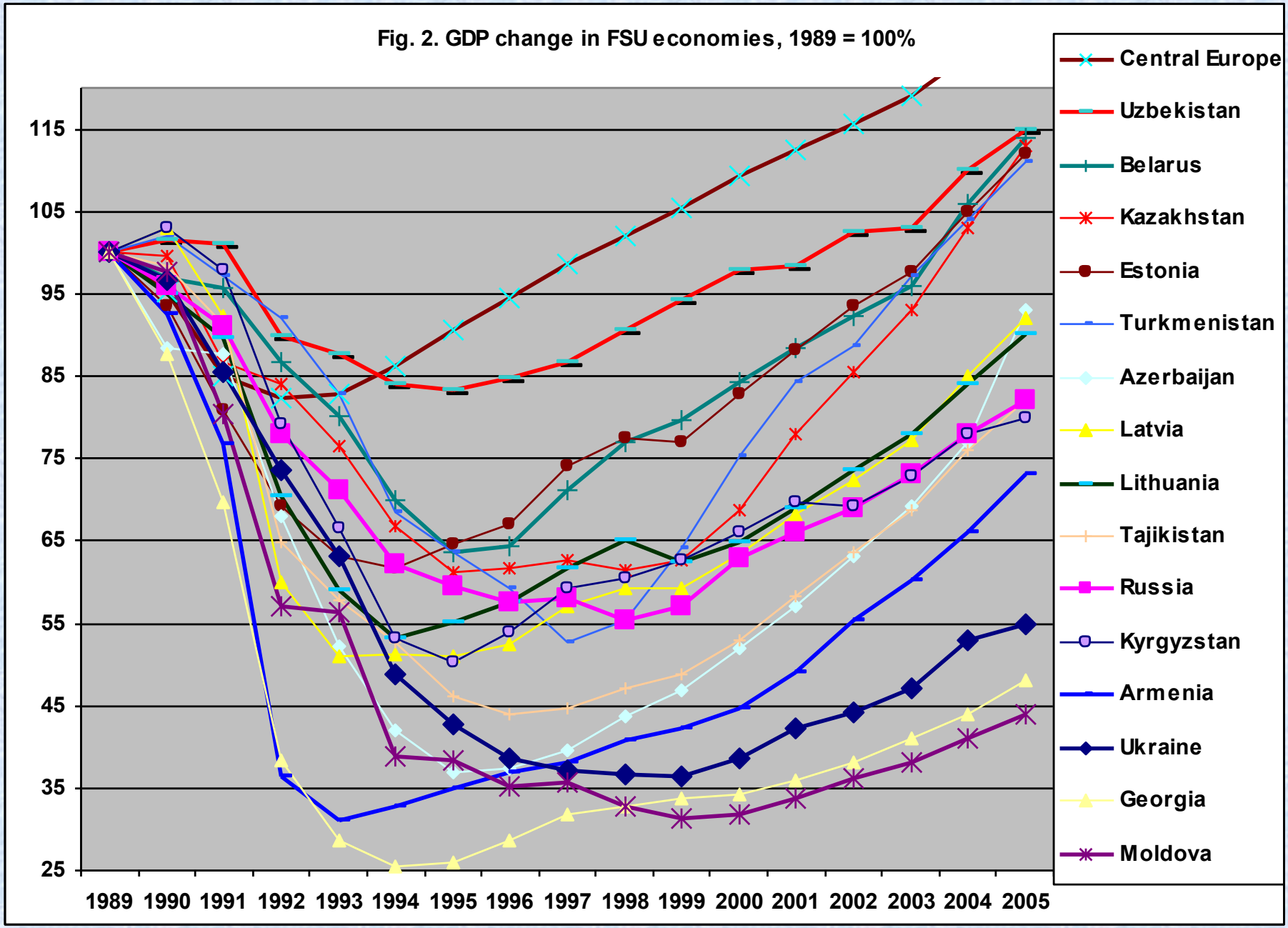
Shock therapy vs. gradualism. Transformational recession

- Economic performance of transition economies
- Shock therapy and gradualism
- Theory of transformational recession; growth theory in transition economies
- Distortions in industrial structure and trade patterns
- Institutions, rule of law and democracy

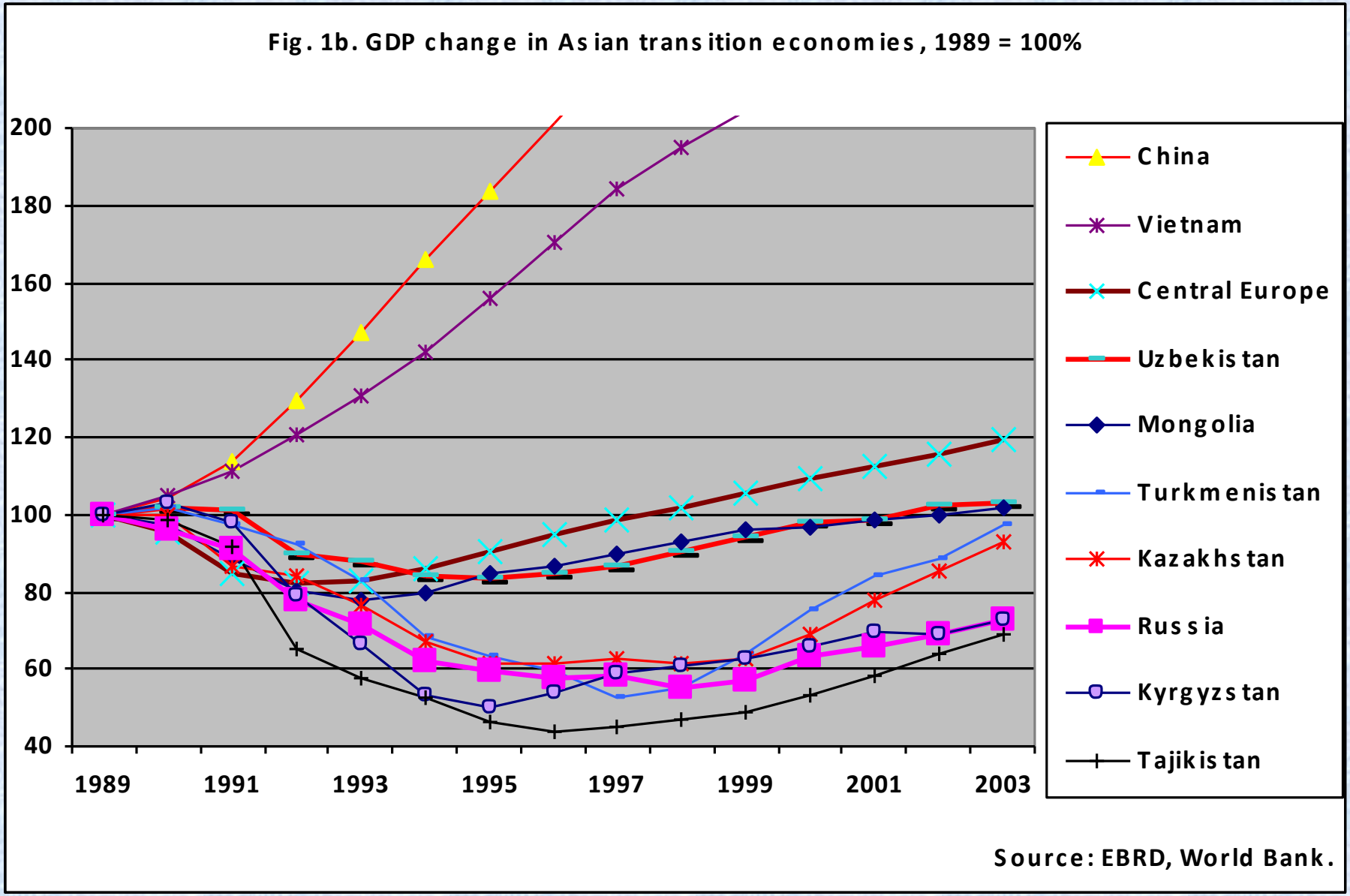
GDP change in EE economies and Mongolia, 1989 = 100%



GDP change in FSU economies, 1989 = 100%



GDP change in Asian transition economies, 1989=100%



Economic performance of transition economies

- Almost all transition economies have experienced a recession associated with reforms
- Exceptions: China and Vietnam

1996 GDP as a % of 1989 GDP			
Albania	87	Romania	88
Belarus	63	Russia	57
Bulgaria	68	Slovakia	90
China*	189	Slovenia	96
Czech Republic	89	Turkmenistan	57
Estonia	69	Ukraine	42
Hungary	86	Uzbekistan	84
Kazakhstan	45	Vietnam	156
Kyrgyzstan	52	Armenia	39
Latvia	52	Azerbaijan	38
Lithuania	42	Croatia	70
Moldova	35	Georgia	31
Mongolia	83	Macedonia FYR	56
Poland	104	Tajikistan	37

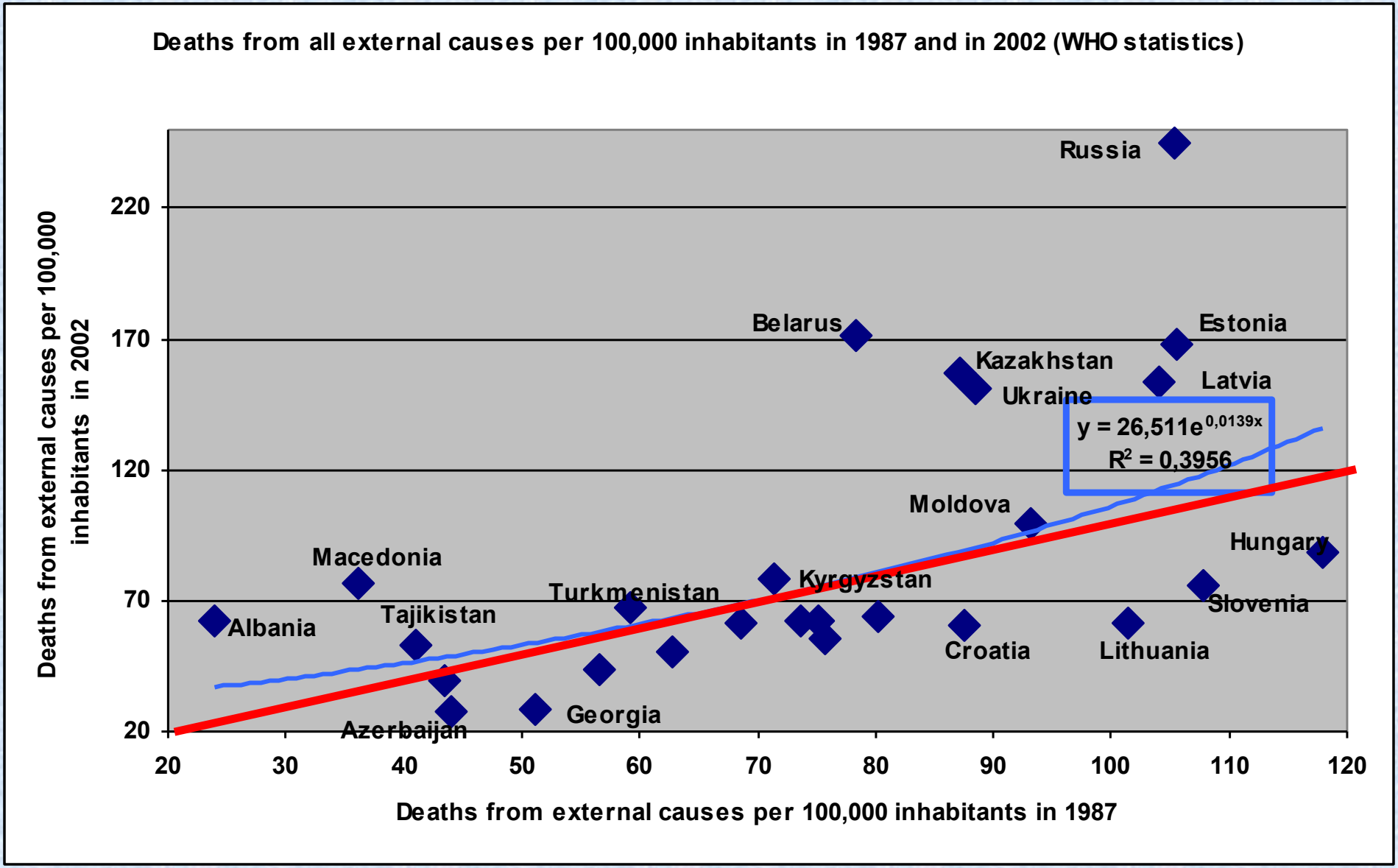
* For China - all indicators are for the period 10 years earlier.

Table . Changes in life expectancy at birth in 16 transitional economies of Europe, 1989-2000

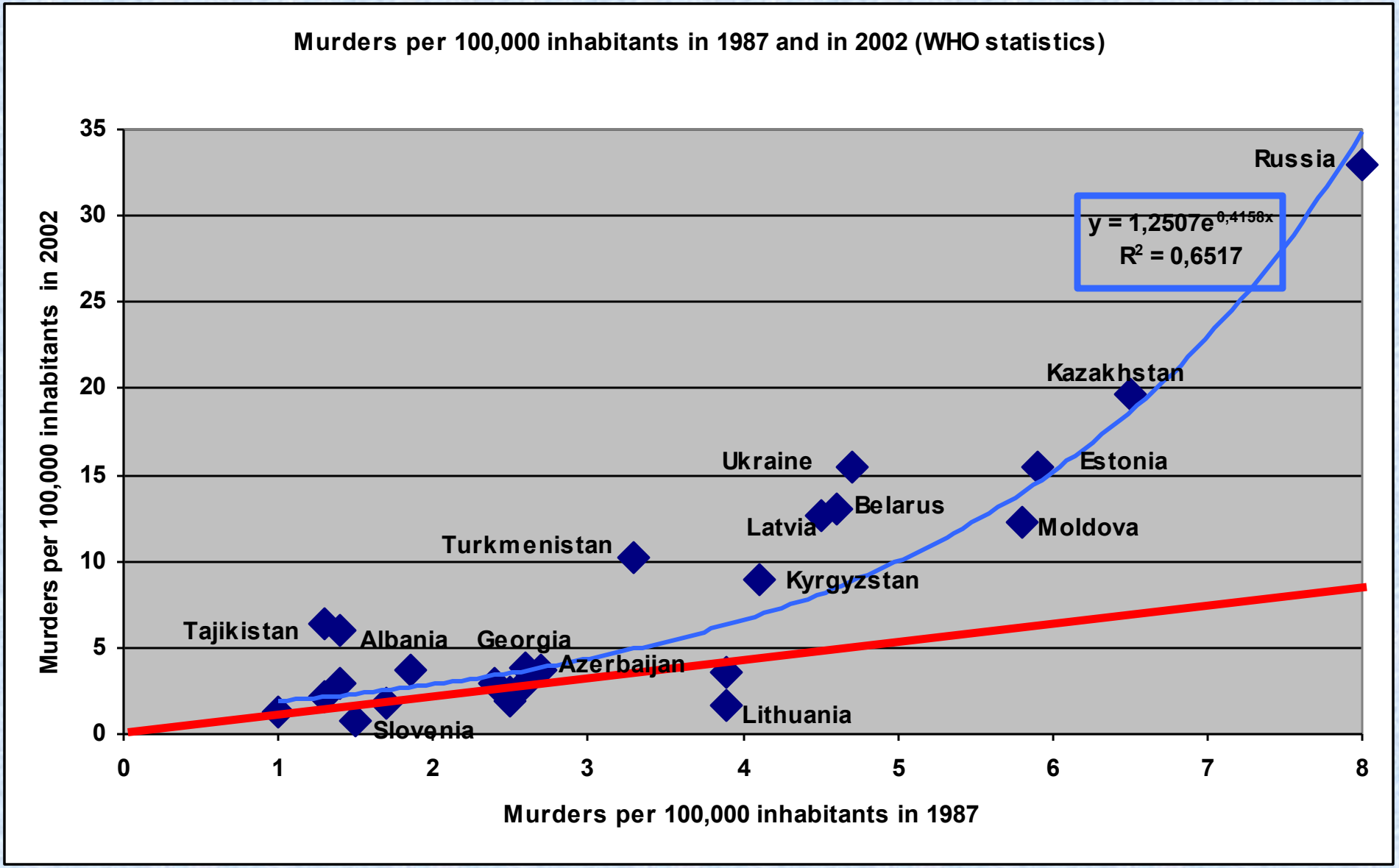
Source: Cornia (2004) - MONEE database (www.unicef-icdc.org)

	Male Life Expectancy at Birth			Female Life Expectancy at Birth	
	Maximum LEB Loss since 1989	LEB Change, 1989-2000	LEB Change, 1989-91	Maximum LEB Loss/ Gain since 1989	LEB Change, 1989-2000
Czech R.	…	+3.5	-0.6	n.a.	+2.9
Slovakia	...	+2.3	-0.2	n.a.	+2.0
Poland	...	+3.0	-0.7	n.a.	+2.5
Hungary	...	+1.7	-0.4	n.a.	+1.8
Slovenia	n.a.	+3.1	+0.7	n.a.	+2.4
GDR	...	+0.7*	-0.9	n.a.	+2.0*
Bulgaria	-1.5 (1996)	-0.5	-0.6	-0.7 (1997)	+0.2
Romania	-1.3 (1997)	+0.5	0.0	n.a.	+1.8
Estonia	-4.0 (1994)	-0.6	-1.3	-1.6 (1994)	+1.4
Latria	-4.5 (1994)	-0.4	-1.4	-2.3 (1994)	+0.8
Lithuania	-3.3 (1994)	+0.8	-0.6	-1.4 (1994)	+1.9
Belarus	-4.6 (1999)	-3.4	-0.3	-2.6 (1999)	-1.7
Moldova	-3.7 (1995)	-1.6	-1.2	-2.6 (1995)	-1.1
Russia	-6.6 (1994)	-5.2	-0.7	-3.3 (1994)	-2.3
Ukraine	-5.0 (1996)	-3.6	-2.0**	-2.3 (1995)	-1.4
Kazakstn	-5.5 (1995)	-4.1	-1.3	-3.6 (1995)	-1.8

Deaths from external causes – murders, suicides, accidents



Murder rate increased in most countries during transition



VIOLENCE: increase in crime and murder rates

- RUSSIA: by the mid 1990s the murder rate was over 30 people per 100,000 of inhabitants
- 1-2 persons in Western and Eastern Europe, Canada, China, Japan, Mauritius and Israel;
- Only two countries in the world had higher murder rates – South Africa and Colombia;
- In Brazil or Mexico this rate is two times lower;
- The US murder rate, the highest in developed world – 6-7 people per 100,000 of inhabitants – pales in comparison with the Russian one.

Crime and mortality rates in Russia grew during transition

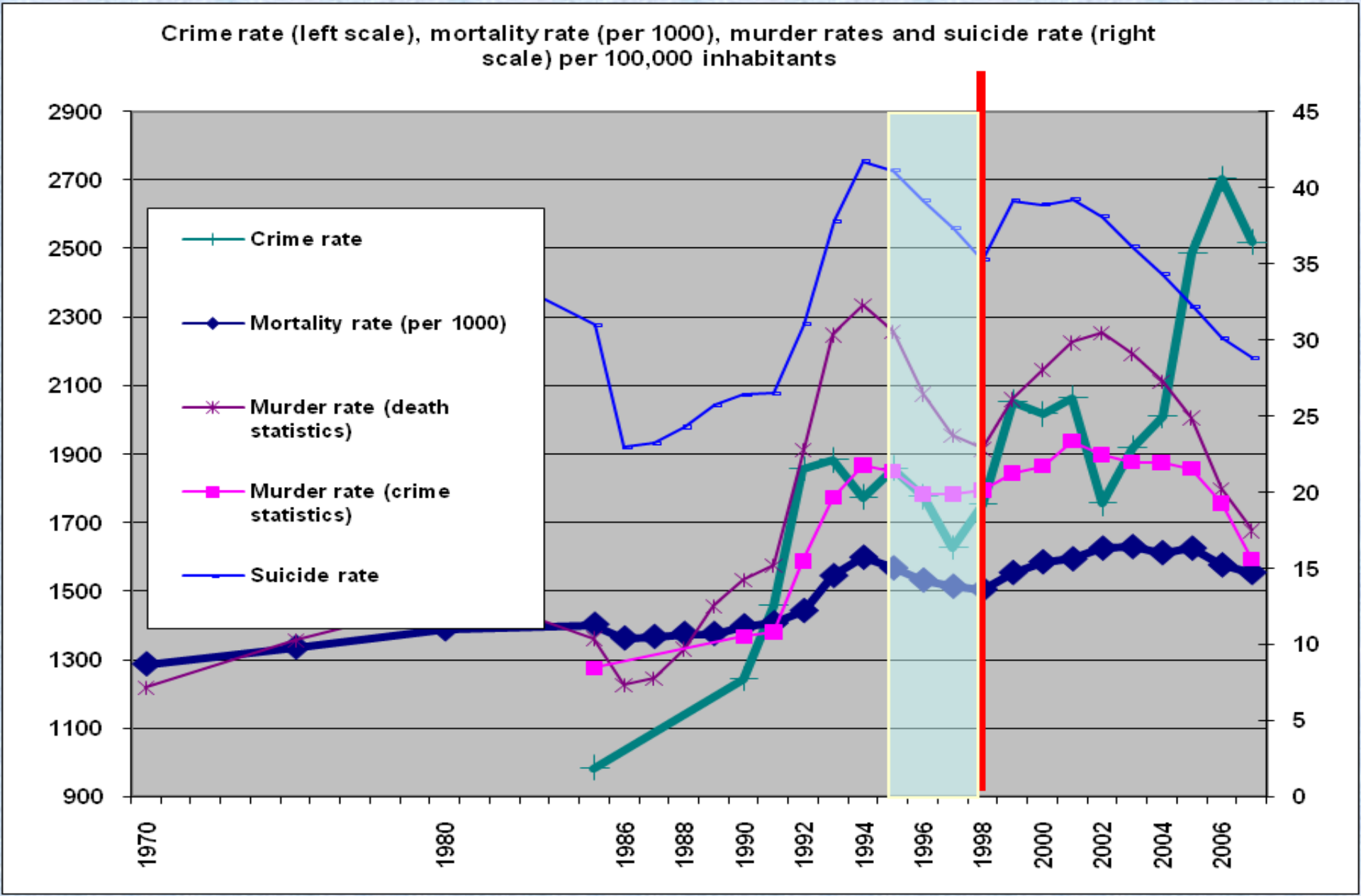


Table. Number of deaths from external causes per 100,000 inhabitants in 2002 – countries with highest rates

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)

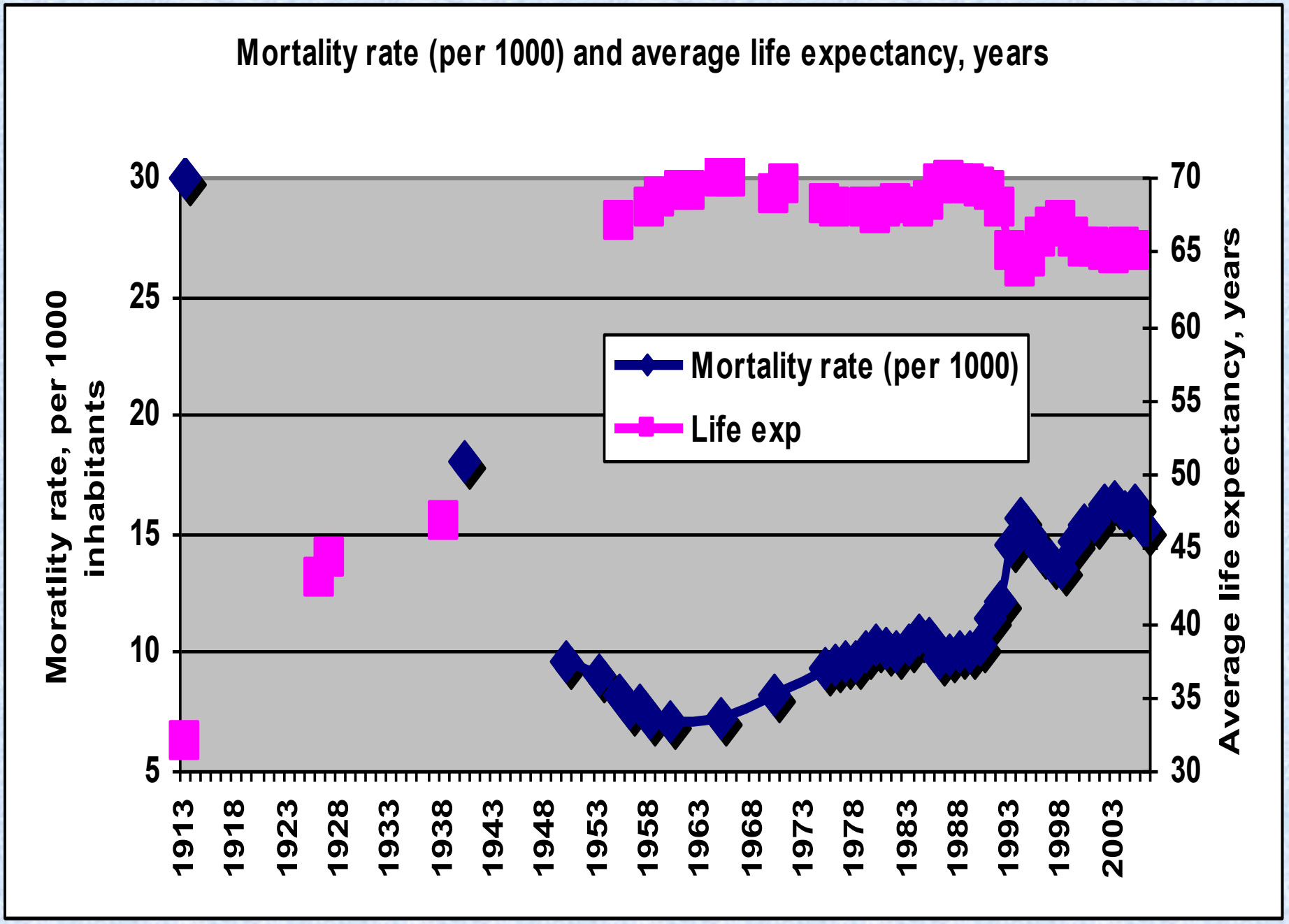
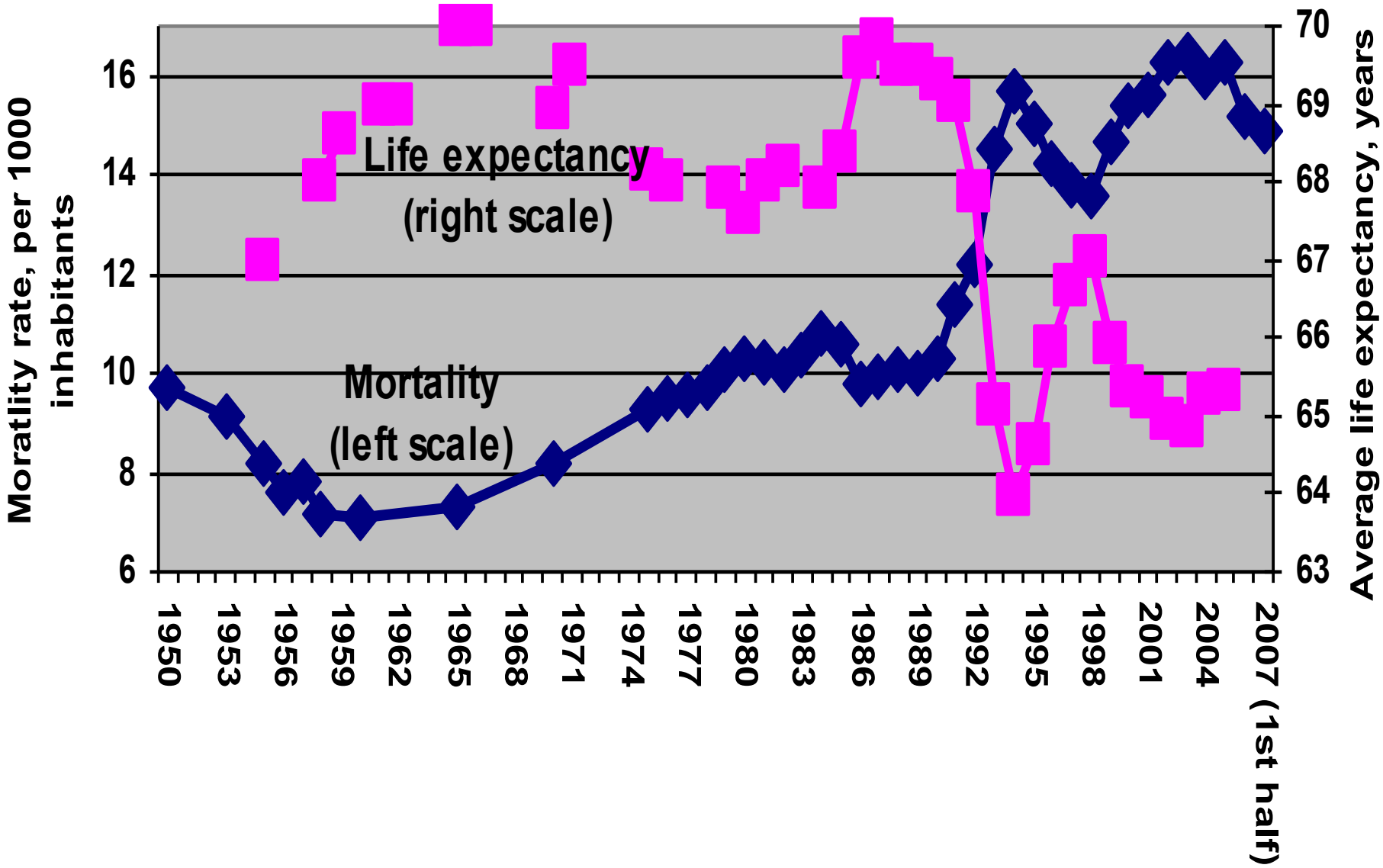
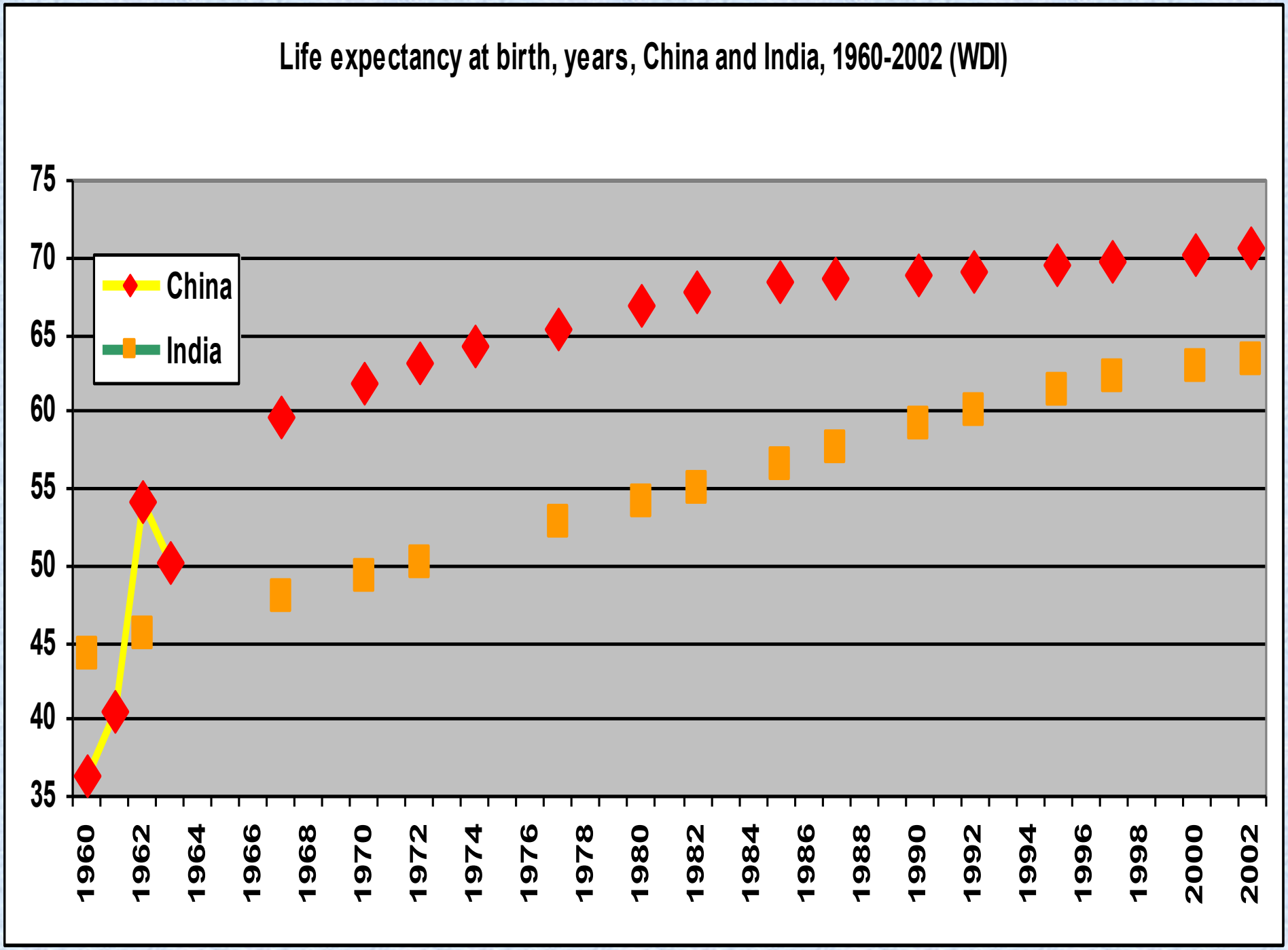
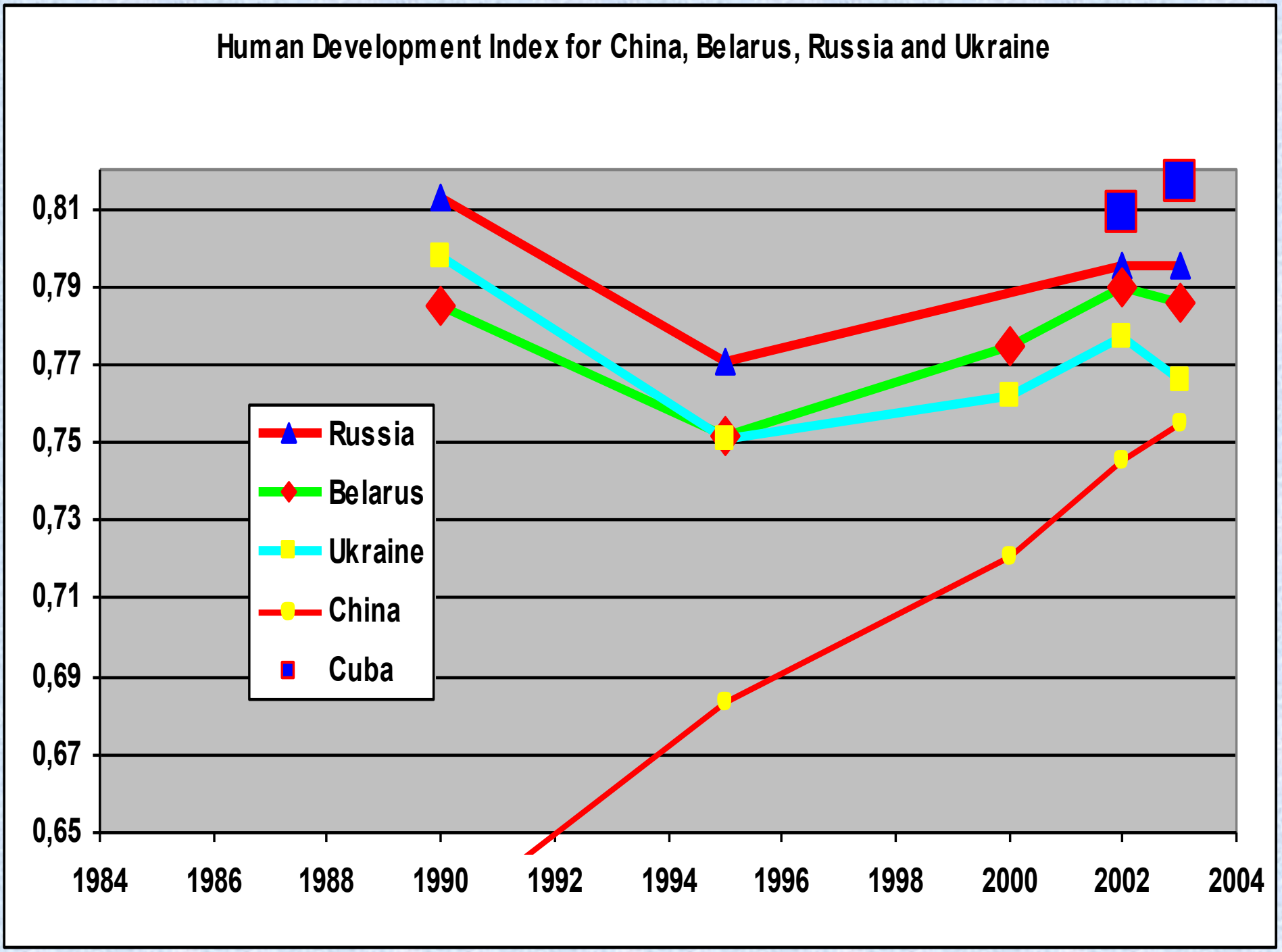

Mortality rate (per 1000) and average life expectancy, years
Moratlity rate, per 1000 inhabitants
Average life expectancy, years
Mortality rate (per 1000)
Life exp
30
25
20
15
10
5
70
65
60
55
50
45
40
35
30
1913
1918
1923
1928
1933
1938
1943
1948
1953
1958
1963
1968
1973
1978
1983
1988
1993
1998
2003

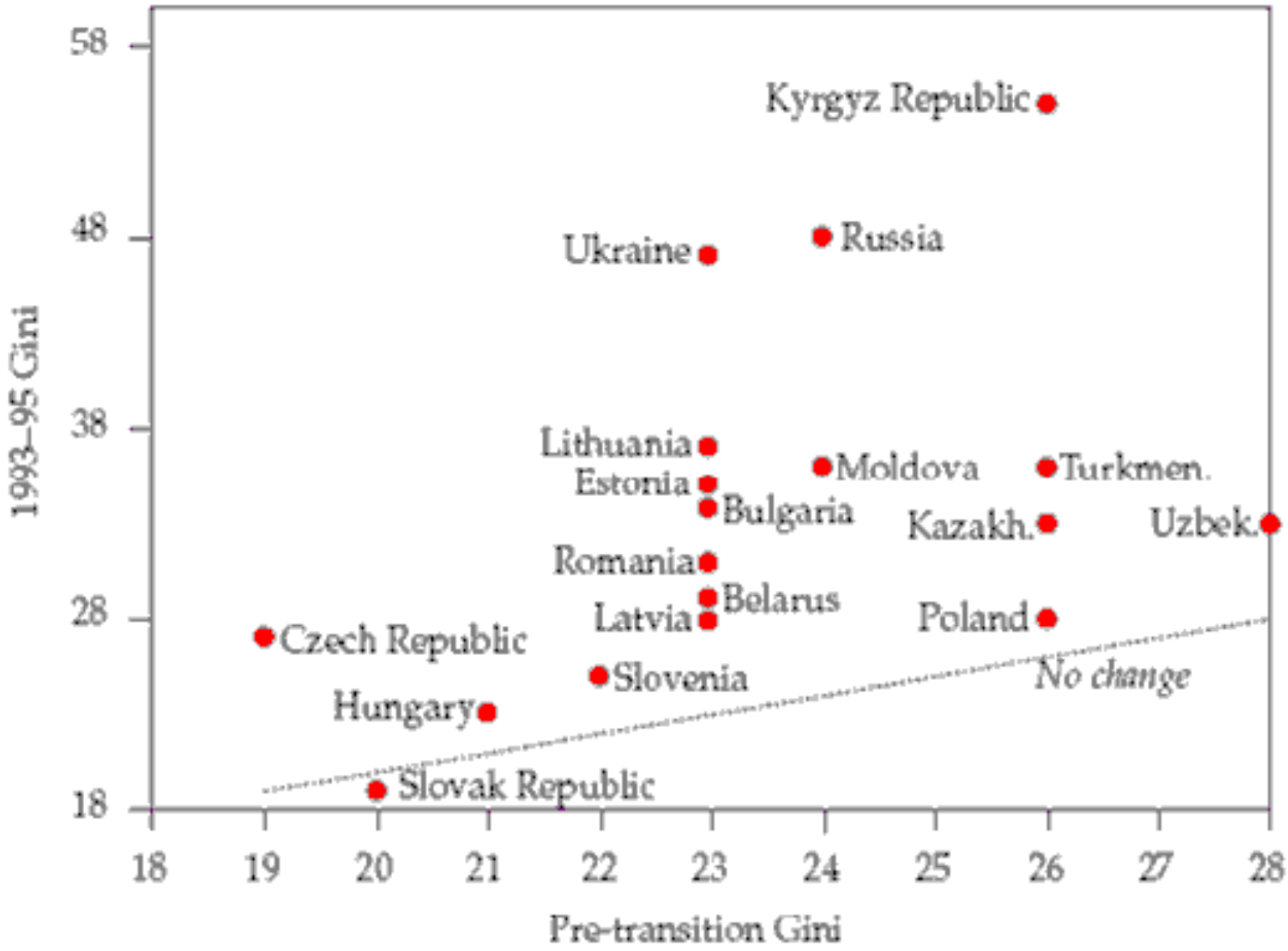
Fig. 2 Mortality rate (per 1000) and average life expectancy, years

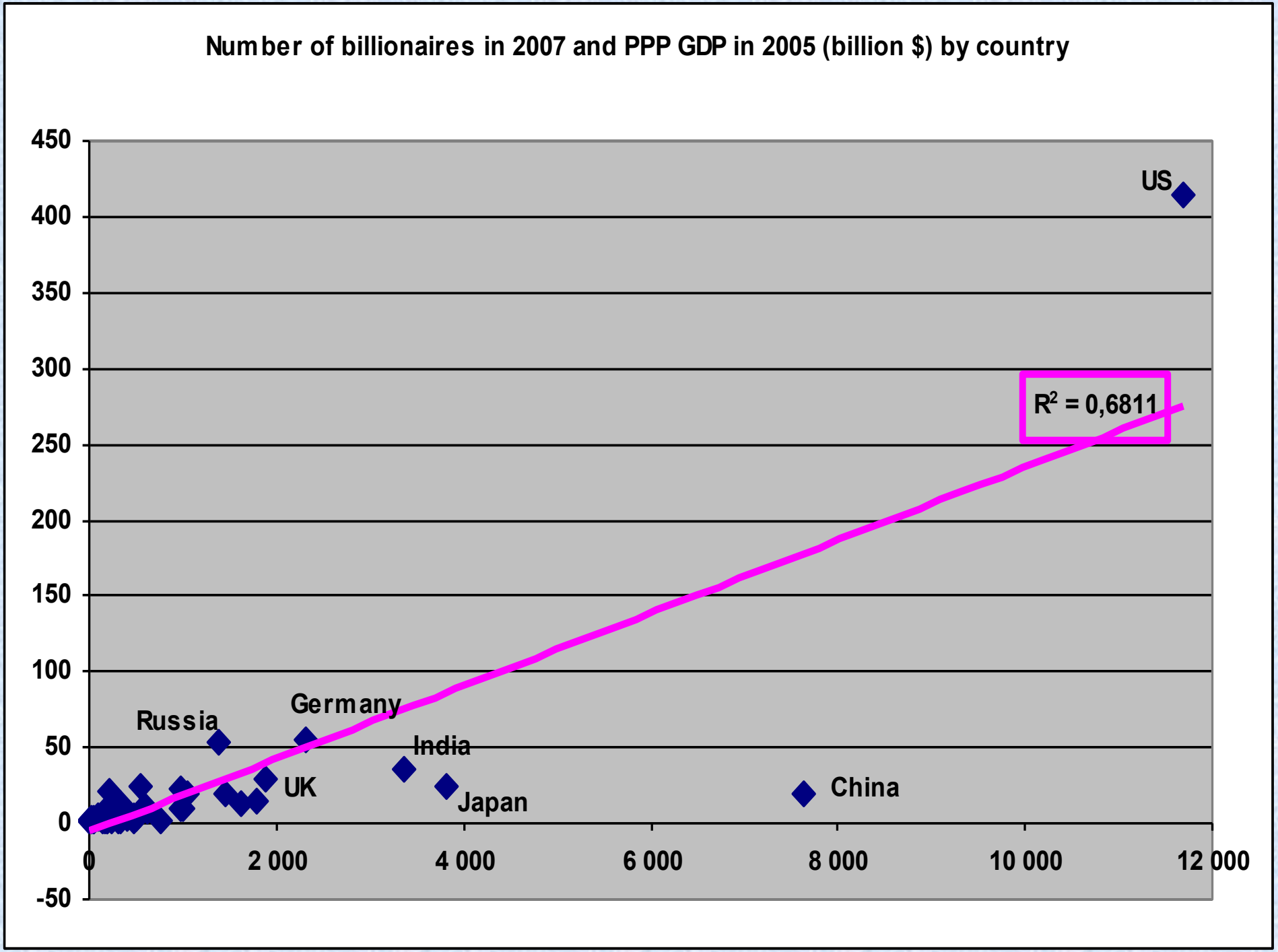



Life expectancy at birth, years, China and India, 1960-2002 (WDI)
75
70
65
60
55
50
45
40
35
China
India
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002


Human Development Index for China, Belarus, Russia and Ukraine
0,81
0,79
0,77
0,75
0,73
0,71
0,69
0,67
0,65
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
Russia
Belarus
Ukraine
China
Cuba

Increase in income inequalities in transition economies (source: Milanovic, 1998)




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

Transformational recession

- In Central Europe recession lasted for 2-3 years (as during the Great Depression!), output declined by 20-30%; pre-reform level of output was reached after 10 years of transition
- In CIS recession lasted for 5-10 years, output declined by about 50%; pre-reform level is expected to be reached after 15-25 years of transition (in Russia - 2009)

Shock therapy vs. gradualism

- **Shock therapy**: radical reforms and rapid transformation
- Examples: Vietnam, East European (especially Central European countries and Baltic states

- **Gradualism**: step by step approach to economic transformation
- Examples: China, Russia (1987-91), Hungary (before 1991)

Shock therapy: features

- Instant deregulation of prices; introduction of convertibility of national currency
- Macroeconomic stabilization (bringing down inflation to less than than 40% a year in 6 months)
- Cut subsidies from 10-15% GDP to 2-3% GDP during 1-2 years
- Privatization of 50% property during 2-3 years

Shock therapy: arguments

- Rapid liberalization allows to avoid painful and costly period, when the old centrally planned economy (CPE) is not working already, while the new market one is not working yet.
  - "One cannot cross the abyss in two jumps"
- Fast liberalization ensures irreversibility of reforms

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East European countries and Baltic states were fast liberalizers and successful stabilizers, while their CIS counterparts were doing much worse

Gradualism: arguments

- Protection of property rights is essential for growth; privatization creates uncertainty with property rights; institutional vacuum may have a devastating impact on output
- Resources need to be re-allocated from non-competitive to competitive sectors, which may take considerable time
- For senior citizens even a temporary decline in real incomes is not acceptable; guarantees for transfers are needed

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Chinese strategies of “dual track price system” and “growing out of socialism” proved to be successful

Magnitude of recession: conventional explanation

- Number of studies undertaken to prove that fast liberalization and macro-stabilization pays off and leads to better performance
- Conventional wisdom summarized in the 1996 World Development Report *From Plan to Market*: differences in economic performance were associated mostly with "good and bad" policies, in particular with the progress in liberalization and macroeconomic stabilization:
    - **“Consistent policies, combining liberalization of markets, trade, and new business entry with reasonable price stability, can achieve a great deal even in countries lacking clear property rights and strong market institutions” (WDR 1996, p. 142)**

становятся отрицательными. Если же темпы прироста денежной массы превышают 100% в год, то темпы экономического роста падают до минимальных значений – минус 2,4% в год.

Таблица 1

Прирост денежной массы и темпы прироста ВВП на душу населения в 1975–1995 гг.

Показатель	Количество стран	Среднегодовое превышение прироста денежной массы над темпами прироста реального ВВП, п. п.	Среднегодовые темпы прироста ВВП на душу населения, %
А. Уровень превышения темпов прироста денежной массы над темпами прироста реального ВВП, п. п.			
Всего	130	21,8	1,2
Менее 7	22	5,6	2,3
7–10	26	8,2	1,8
10–15	34	12,3	1,3
15–35	30	21,6	0,9
35–100	13	49,4	–0,1
Более 100	5	156,2	–2,4
Б. Темпы прироста ВВП на душу населения, %			
Всего	130	21,8	1,2
Менее 0	37	38,0	–1,5
0–1	27	19,1	0,5
1–2,5	36	15,4	1,7
2,5–5	19	12,8	3,7
Более 5	11	9,8	5,9

Magnitude of recession: conventional explanation (from the article of A. Illarionov – economic adviser to the president of Russia in 2000-2005)

- Low growth rates of money supply => high growth of output

Таблица 2

Инфляция и темпы прироста ВВП на душу населения в 1975–1995 гг., %

Показатель	Количество стран	Среднегодовые темпы прироста:	
		потребительских цен	ВВП на душу населения
А. Инфляция, %			
Всего	140	23,4	1,0
Менее 5	16	3,5	2,6
5–10	54	7,2	1,5
10–15	25	11,7	1,4
15–25	17	19,3	0,4
25–40	10	29,5	0,3
40–100	13	53,8	–0,7
Более 100	5	243,5	–3,3
Б. Темпы прироста ВВП на душу населения, %			
Всего	140	23,4	1,0
Менее –1	24	53,4	–2,6
–1–0	20	37,8	–0,5
0–1	27	18,4	0,5
1–2,5	40	12,8	1,8
2,5–5	18	8,6	3,9
Более 5	11	6,8	5,9

Эту же закономерность можно проверить и с другой стороны (табл. 2, строка Б). В группе стран с темпами экономического спада более 1% в год среднегодовые темпы инфляции составляют 53,4%, а в группе стран с темпами спада от 0 до 1% – 37,8%. Для достижения положительных темпов экономического роста уровень

Magnitude of recession: conventional explanation

- Low rates of inflation => high growth of output

Magnitude of recession: conventional explanation

- Low share of state sector in output => high growth of output

Таблица 3

Продукция государственных предприятий в % к ВВП и темпы прироста ВВП на душу населения

Показатель	Количество стран	Среднегодовые:	
		объемы продукции государственных предприятий 1978–1991 гг., % к ВВП	темпы прироста ВВП на душу населения, %
А. Продукция государственных предприятий, % к ВВП			
Всего	76	11,8	1,0
Менее 7	31	4,3	1,5
7–10	11	8,3	1,2
10–20	24	13,4	1,1
Более 20%	11	32,8	–0,7
Б. Темпы прироста ВВП на душу населения, %			
Всего	76	11,8	1,0
Менее 0	28	15,3	–1,1
0–1	14	10,9	0,6
Более 1	34	9,4	2,9

Верна и обратная зависимость (табл. 3, строка Г)

Таблица 4

Государственное потребление в % к ВВП и темпы прироста ВВП на душу населения в 1975–1995 гг.

Показатель	Количество стран	Среднегодовые:	
		объемы государственного потребления, % к ВВП	темпы прироста ВВП на душу населения, %
А. Государственное потребление, % к ВВП			
Всего	92	14,9	1,4
Менее 12	29	9,6	1,7
12–20	55	16,3	1,4
Более 20	8	25,0	0,3
Б. Темпы прироста ВВП на душу населения, %			
Всего	92	14,9	1,4
Менее 2	56	15,5	0,1
2–5	30	14,5	2,8
Более 5	6	12,0	6,1

И наоборот: минимальным темпам экономического

Magnitude of recession: conventional explanation

- Low share of government spending in GDP => high growth of output

мического роста.

Таблица 5

Налоги на экспорт и импорт в % к внешнеторговому обороту и темпы прироста ВВП на душу населения в 1975–1995 гг., %

Показатель	Количество стран	Среднегодовые:	
		налоги, % к внешнеторговому обороту	темпы прироста ВВП на душу населения
А. Налоги на экспорт и импорт, % к внешнеторговому обороту			
Всего	101	6,0	1,4
Менее 6	55	3,0	2,2
6–10	29	7,9	0,7
Более 10	17	12,8	0,2
Б. Темпы прироста ВВП на душу населения, %			
Всего	101	6,0	1,4
Менее 0	24	8,8	-1,2
0–2,5	56	5,3	1,4
Более 2,5	21	4,9	4,4

Magnitude of recession: conventional explanation

- Low taxes on export and import => high growth of output

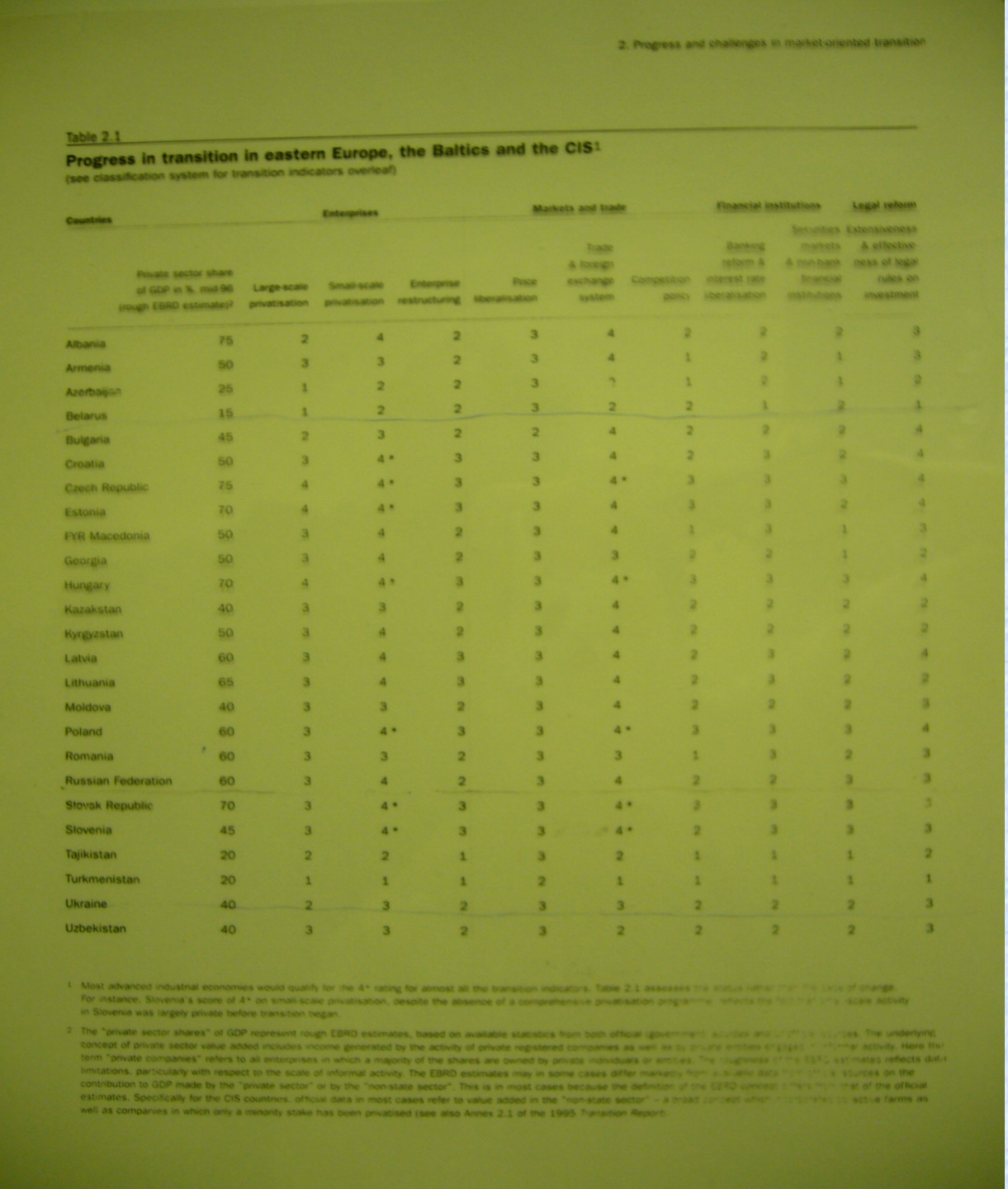
Magnitude of recession: conventional explanation

The secret of high growth – low inflation, small state, open economy

Таблица 6

Макроэкономические показатели российской экономики в 1992–1995 гг.

Показатель	Превышение темпов прироста денежной массы над темпами прироста реального ВВП, п. п.	Темпы прироста потребительских цен, %	Объем продукции государственных предприятий, % к ВВП	Государственное потребление, % к ВВП	Налоги на экспорт и импорт, % к обороту внешней торговли	Темпы прироста ВВП на душу населения %
Годовые:						
1992	657,1	2509,0	75,0	15,7	1,8	−14,5
1993	424,9	844,0	48,0	22,2	2,2	−8,7
1994	210,5	215,0	38,0	28,1	7,7	−12,6
1995	98,6	131,0	35,0	24,0	8,8	−4,4
Среднегодовые:						
1992–1995	347,8	924,8	49,0	22,5	5,2	−10,1
1993–1995	244,7	396,7	40,3	24,8	6,3	−8,6
1994–1995	154,6	173,0	36,5	26,1	8,3	−8,5



2. Progress and challenges in market-oriented transition

Table 2.1

Progress in transition in eastern Europe, the Baltics and the CIS[1]
(see classification system for transition indicators overleaf)

Countries	Enterprises				Markets and trade			Financial institutions		Legal reform
	Private sector share of GDP in %, mid-96 (rough EBRD estimate)[2]	Large-scale privatisation	Small-scale privatisation	Enterprise restructuring	Price liberalisation	Trade & foreign exchange system	Competition policy	Banking reform & interest rate liberalisation	Securities markets & non-bank financial institutions	Extensiveness & effectiveness of legal rules on investment
Albania	75	2	4	2	3	4	2	2	2	3
Armenia	50	3	3	2	3	4	1	2	1	3
Azerbaijan	25	1	2	2	3	2	1	2	1	2
Belarus	15	1	2	2	3	2	2	1	2	1
Bulgaria	45	2	3	2	2	4	2	2	2	4
Croatia	50	3	4 •	3	3	4	2	3	2	4
Czech Republic	75	4	4 •	3	3	4 •	3	3	3	4
Estonia	70	4	4 •	3	3	4	3	3	2	4
FYR Macedonia	50	3	4	2	3	4	1	3	1	3
Georgia	50	3	4	2	3	3	2	2	1	2
Hungary	70	4	4 •	3	3	4 •	3	3	3	4
Kazakstan	40	3	3	2	3	4	2	2	2	2
Kyrgyzstan	50	3	4	2	3	4	2	2	2	2
Latvia	60	3	4	3	3	4	2	3	2	4
Lithuania	65	3	4	3	3	4	2	3	2	2
Moldova	40	3	3	2	3	4	2	2	2	3
Poland	60	3	4 •	3	3	4 •	3	3	3	4
Romania	60	3	3	2	3	3	1	3	2	3
Russian Federation	60	3	4	2	3	4	2	2	3	3
Slovak Republic	70	3	4 •	3	3	4 •	3	3	3	3
Slovenia	45	3	4 •	3	3	4 •	2	3	3	3
Tajikistan	20	2	2	1	3	2	1	1	1	2
Turkmenistan	20	1	1	1	2	1	1	1	1	1
Ukraine	40	2	3	2	3	3	2	2	2	3
Uzbekistan	40	3	3	2	3	2	2	2	2	3

1 Most advanced industrial economies would qualify for the 4• rating for almost all the transition indicators. Table 2.1 assesses the status rather than the pace of change. For instance, Slovenia's score of 4• on small-scale privatisation, despite the absence of a comprehensive privatisation programme, reflects the fact that only small-scale activity in Slovenia was largely private before transition began.

2 The "private sector shares" of GDP represent rough EBRD estimates, based on available statistics from both official (government) sources and unofficial sources. The underlying concept of private sector value added includes income generated by the activity of private registered companies as well as by private entities engaged in informal activity. Here the term "private companies" refers to all enterprises in which a majority of the shares are owned by private individuals or entities. The roughness of the EBRD estimates reflects data limitations, particularly with respect to the scale of informal activity. The EBRD estimates may in some cases differ markedly from published data from official sources on the contribution to GDP made by the "private sector" or by the "non-state sector". This is in most cases because the definition of the EBRD concept differs from that of the official estimates. Specifically for the CIS countries, official data in most cases refer to value added in the "non-state sector" – a broad concept which encompasses collective farms as well as companies in which only a minority stake has been privatised (see also Annex 2.1 of the 1995 *Transition Report*).

Magnitude of recession: conventional explanation

Liberalization indices from EBRD

Magnitude of recession: conventional explanation - greater liberalization=> better performance

Economic Activity, 1:199

Countries[a]

*	0.89*	0.86*
	(0.06)	(0.05)
	. . .	. . .
	−0.05*	−0.01
	(0.01)	(0.01)
		−0.31*
	. . .	(0.09)
		−0.19*
	. . .	(0.08)
	0.64	0.79
	22	22

s countries and years).
se data from all the countries listed in
nns exclude Macedonia and Mongolia;
ndard errors are shown in parentheses.

. for 1989–94, inclusive.

e Baltic countries.
d Tajikistan.

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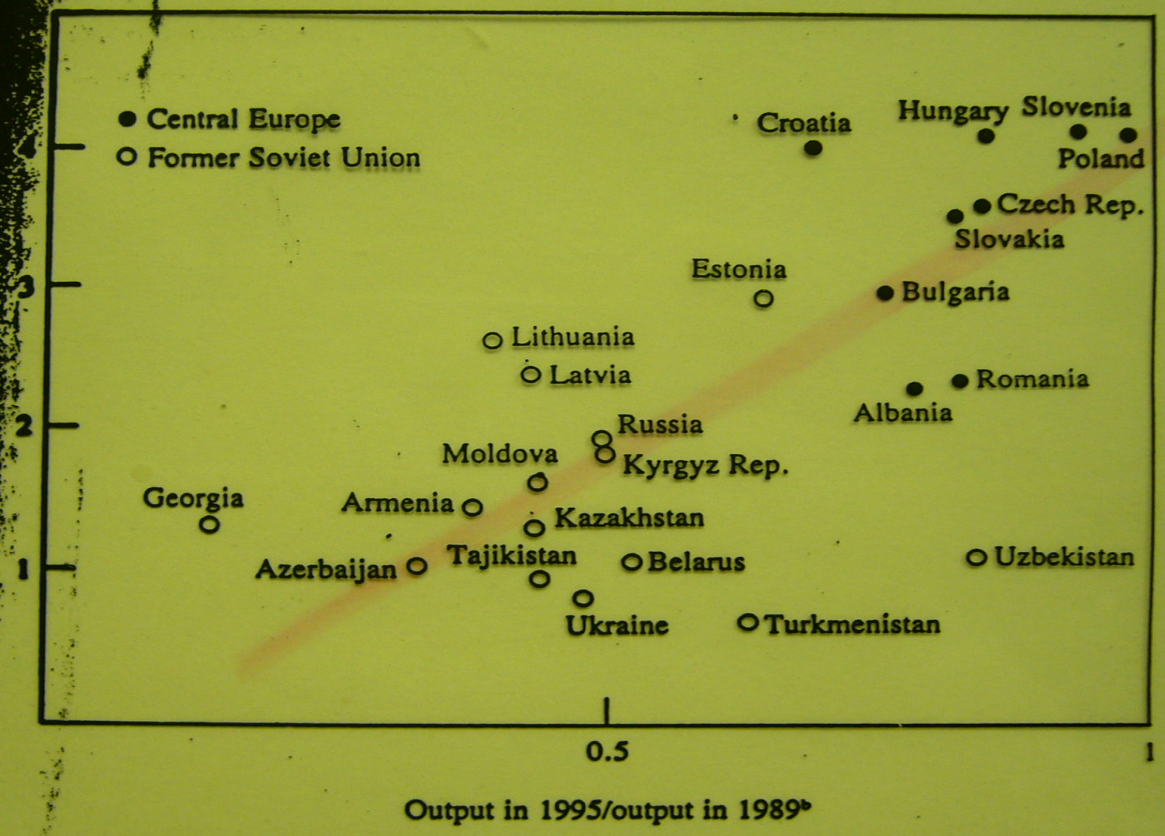
re 2. Liberalization and Output Decline

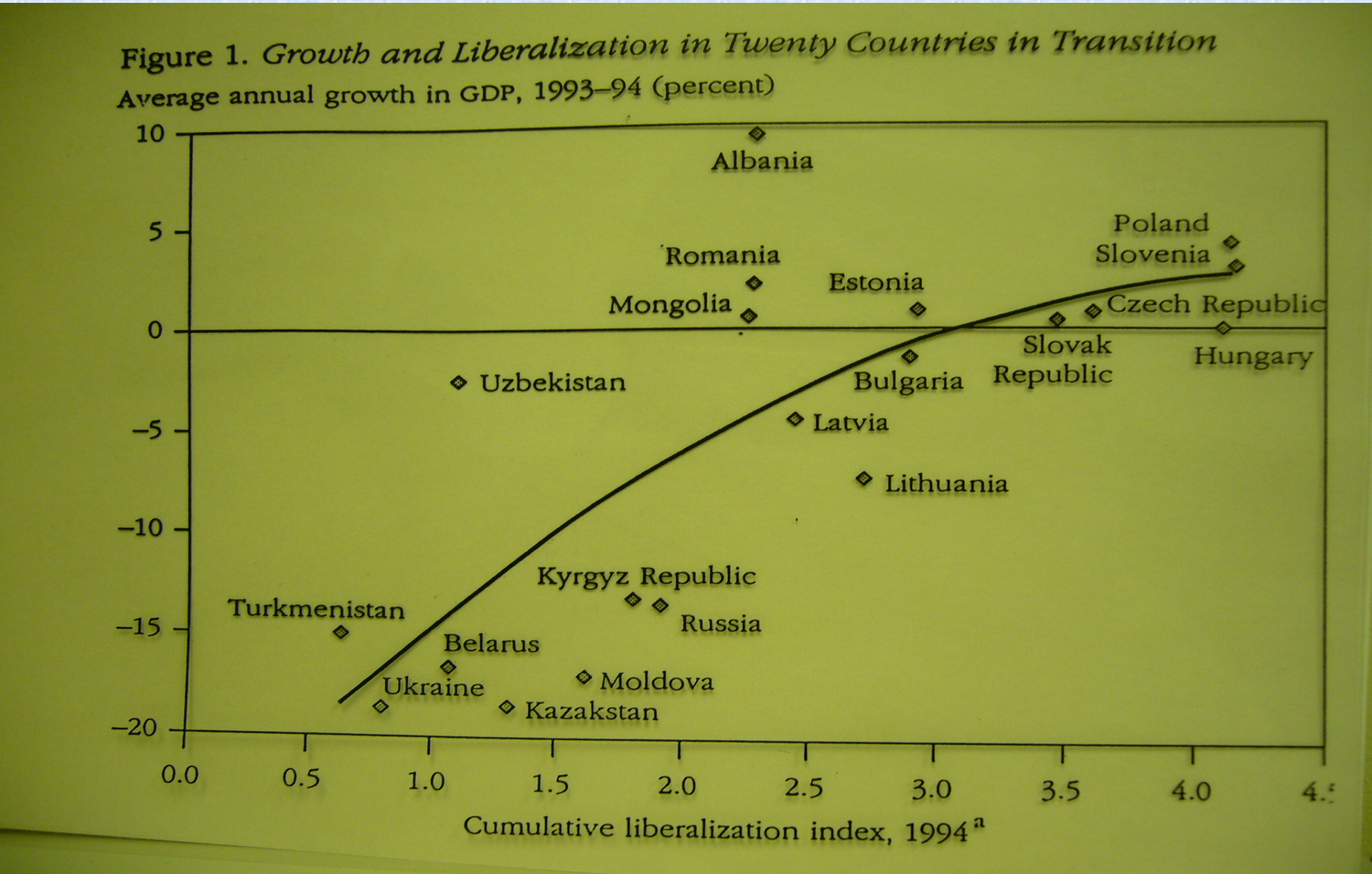
mulative liberalization[a]



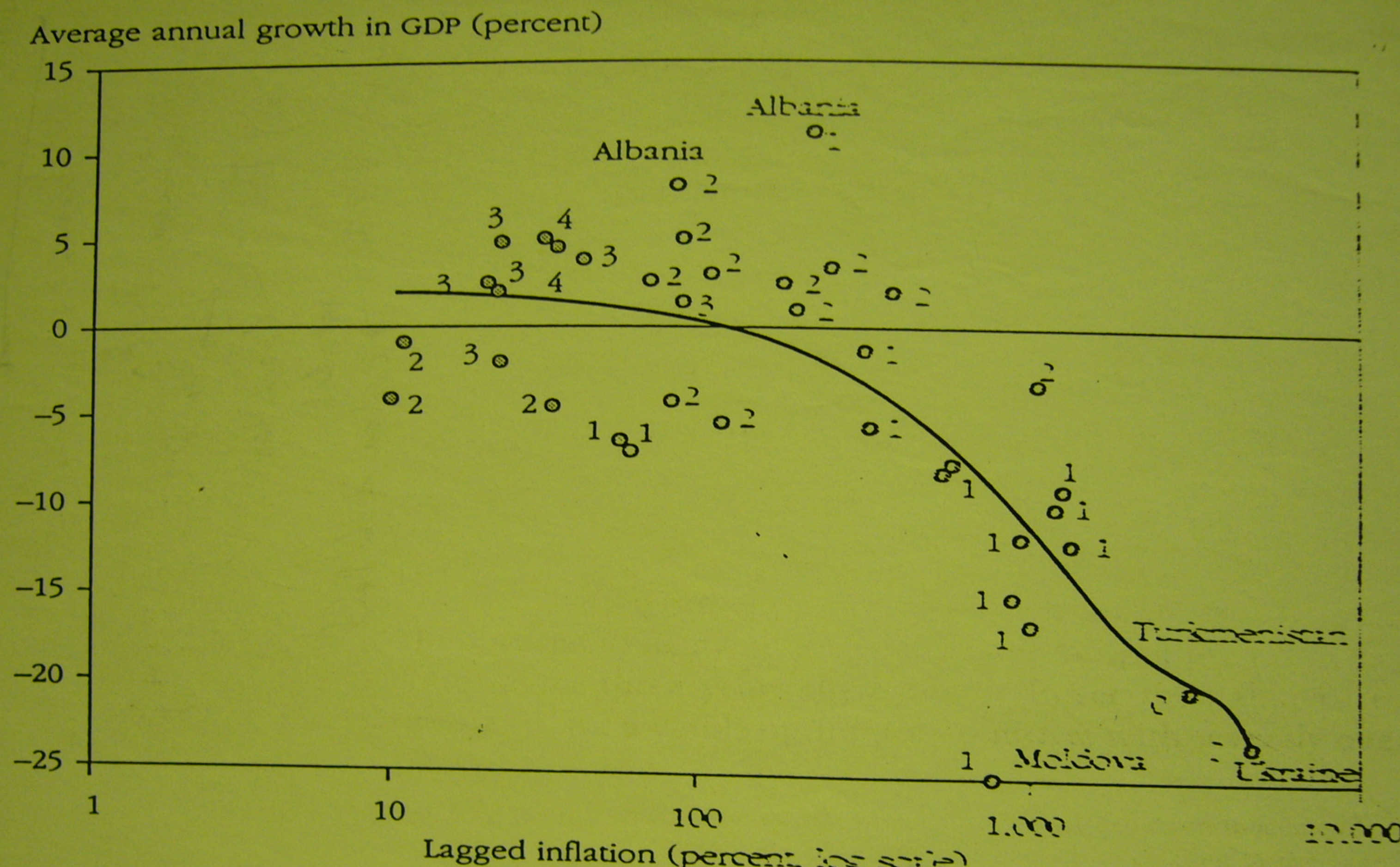
Output in 1995/output in 1989[b]

Source: Data for cumulative liberalization are from de Melo, Denizer, and Gelb (1996); for output, from *World Bank Country Studies* (various countries and years).
a. Cumulative liberalization is the sum of the liberalization indexes, by country, for 1989–94, inclusive.
b. Output is an index of GDP, 1989 = 100.

Magnitude of recession: conventional explanation - greater liberalization=> better performance



Magnitude of recession: conventional explanation - lower inflation => better performance



Note: For each country, a point is plotted for the year in which the highest level of inflation occurred and all subsequent years. Inflation is measured as the annual average from the year before the year of GDP growth. The values assigned to each point denote the cumulative liberalization index for that country and year. See table 2 for a list of the twenty countries included (countries affected by regional tensions are excluded). The curve is given by [illegible] with $R^2 = 0.065$.

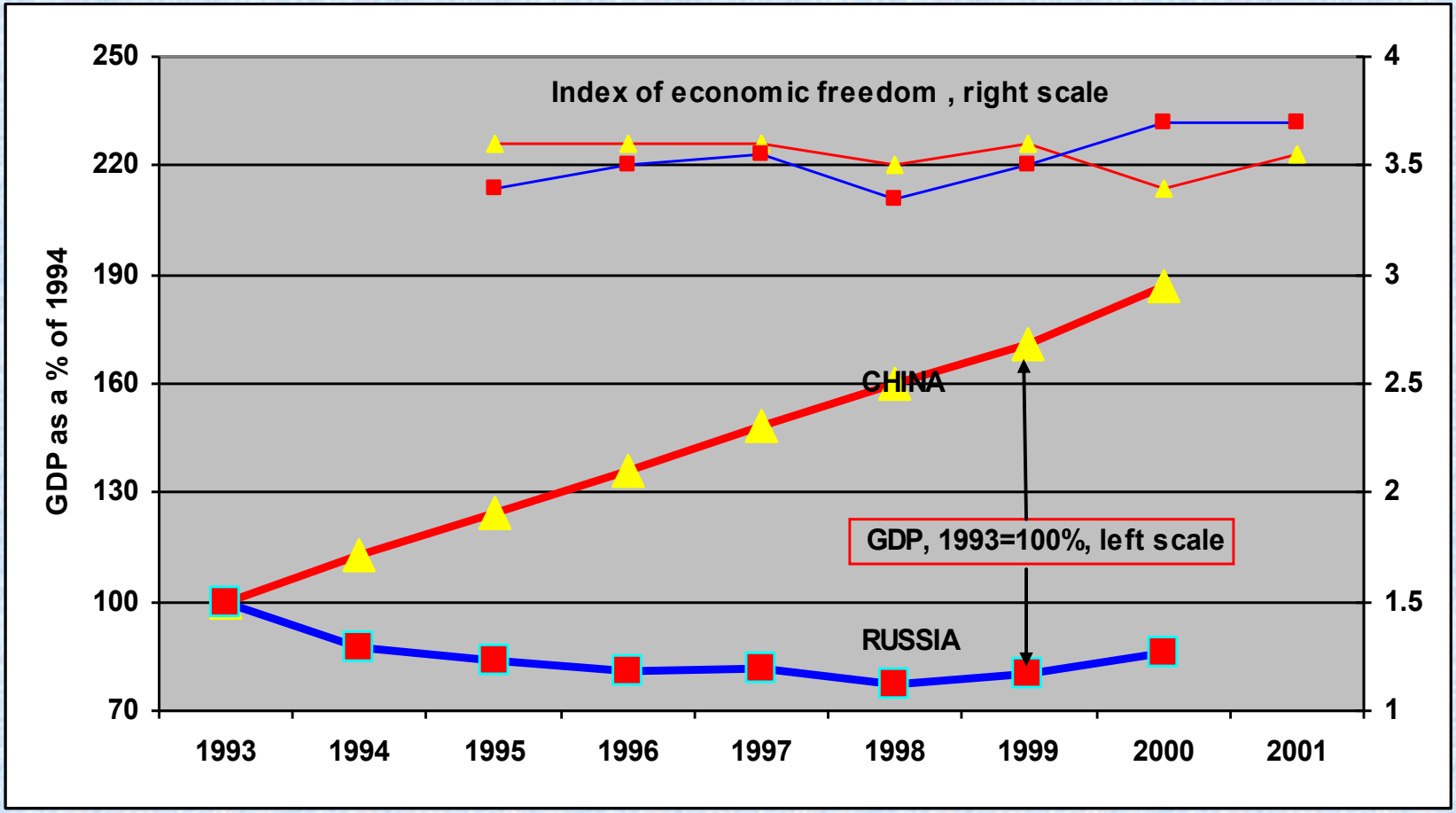
Source: Authors' calculations.

Does liberalization matter?

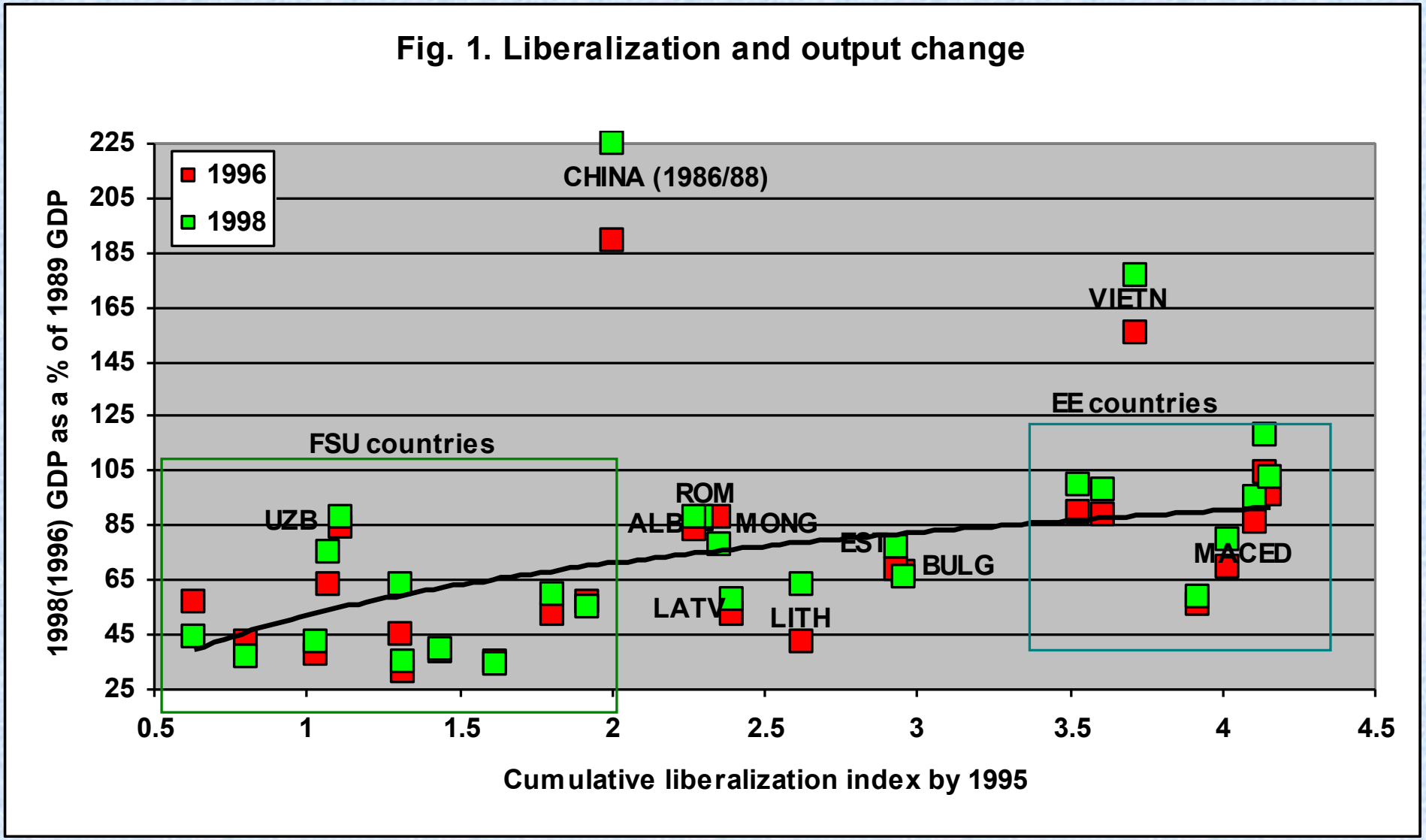
- Vietnam and China are similar in initial conditions and in transition results (immediate growth of output without transformational recession) despite different reform strategies:
  - Chinese reforms are the classical example of gradualism
  - Vietnamese reformers introduced shock therapy treatment (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 Baltic output fell in the early 1990s by 36-60% and even in 1996, two years after the bottom of the recession was reached, was still 31% to 58% 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
  - In 2005 the highest GDP as a % of 1989 was in Uzbekistan, Belarus, Kazakhstan, Estonia, Turkmenistan, Azerbaijan (all, except Estonia, are not fast reformers)

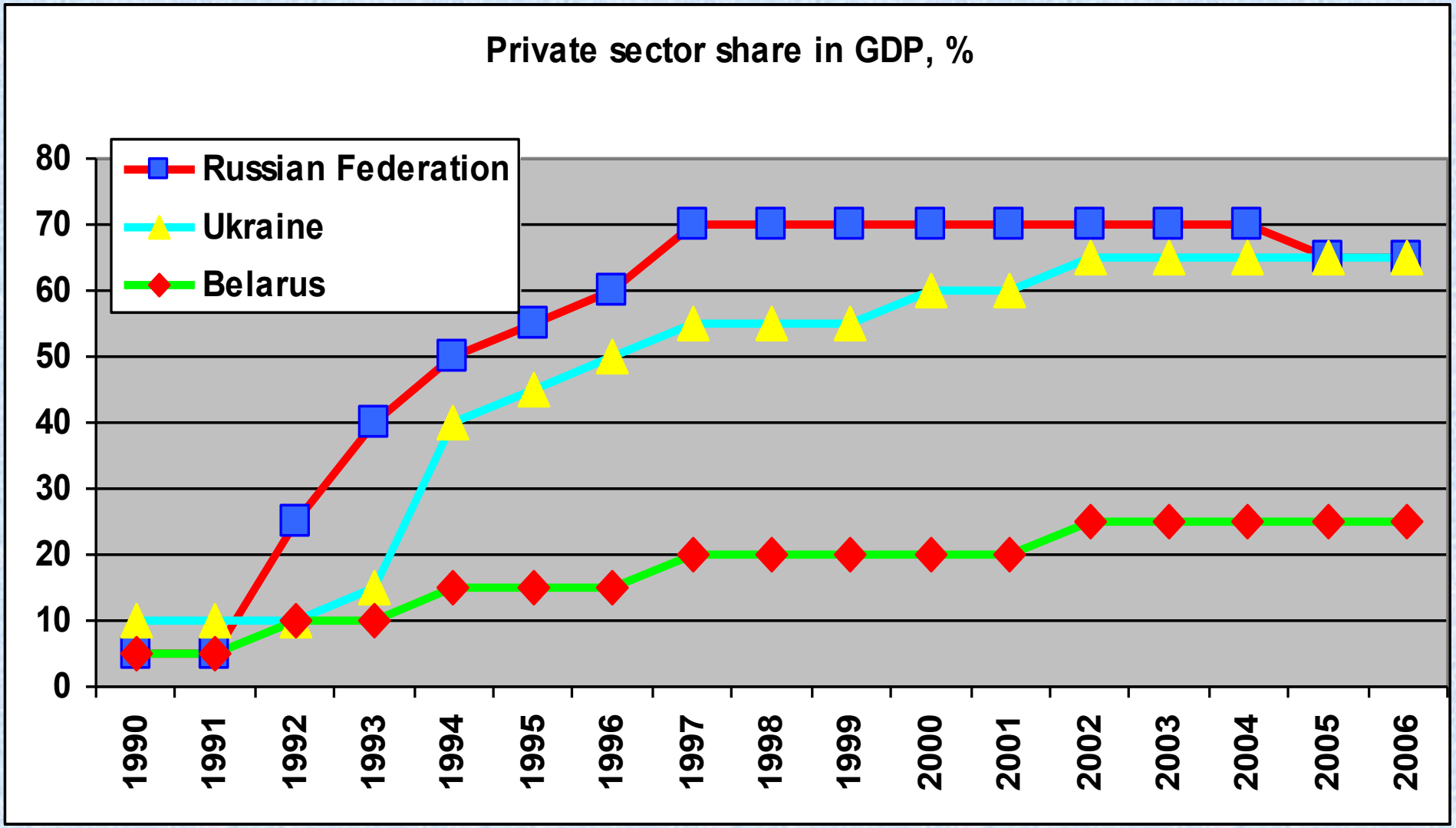
Indices of economic freedom and GDP growth in Russia and China



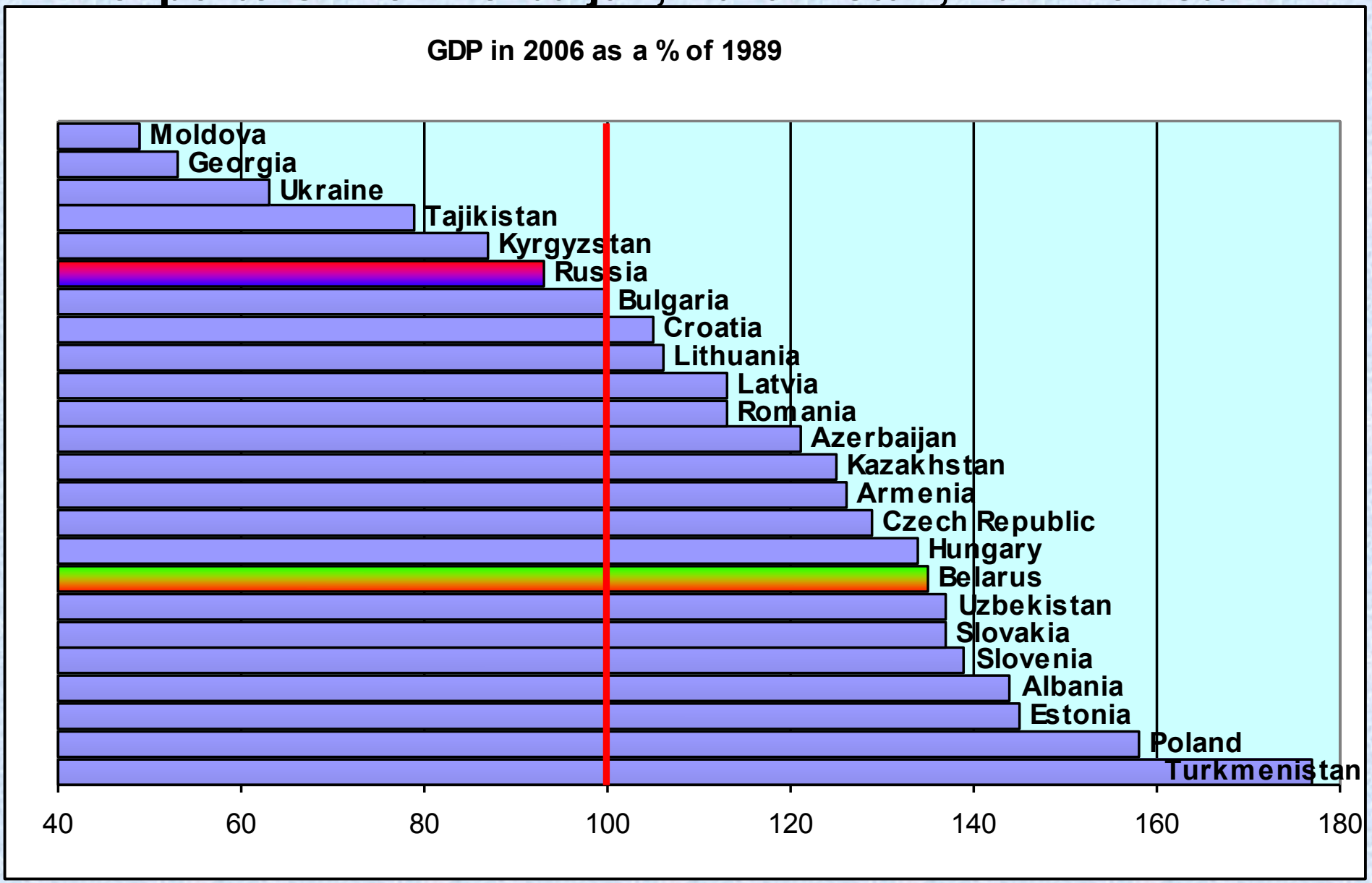
Positive relationship between liberalization and performance is just the result of the difference in the magnitude of the recession in EE countries, as a group, and FSU states, also as a group



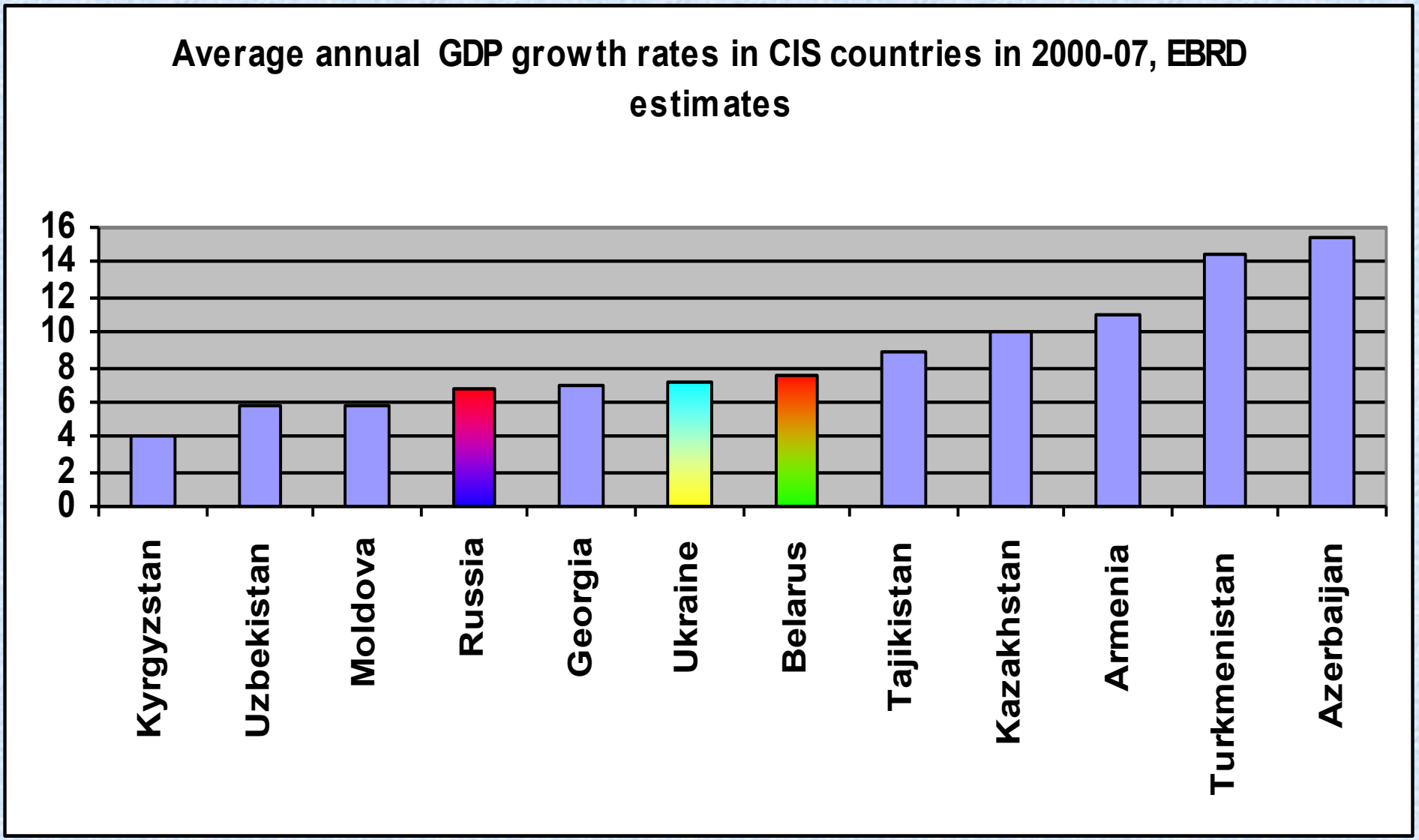
Russia was leading in economic liberalization, while Belarus was lagging



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



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



Explaining the magnitude of recession

- Transformational recession is viewed as a structural adjustment process resulting from the need to overcome disproportions inherited from the centrally planned economy:
  - **high defense expenditure;**
  - **over-industrialization and underdevelopment of the service sector;**
  - **external trade distortions: "under-openness" of the economy, the perverse structure of trade among former Soviet republics and among socialist countries;**
  - **micro-level distortions (e.g. associated with the size and specialization of enterprises).**

Adverse supply shock: deterioration of terms of trade in non-resource industries

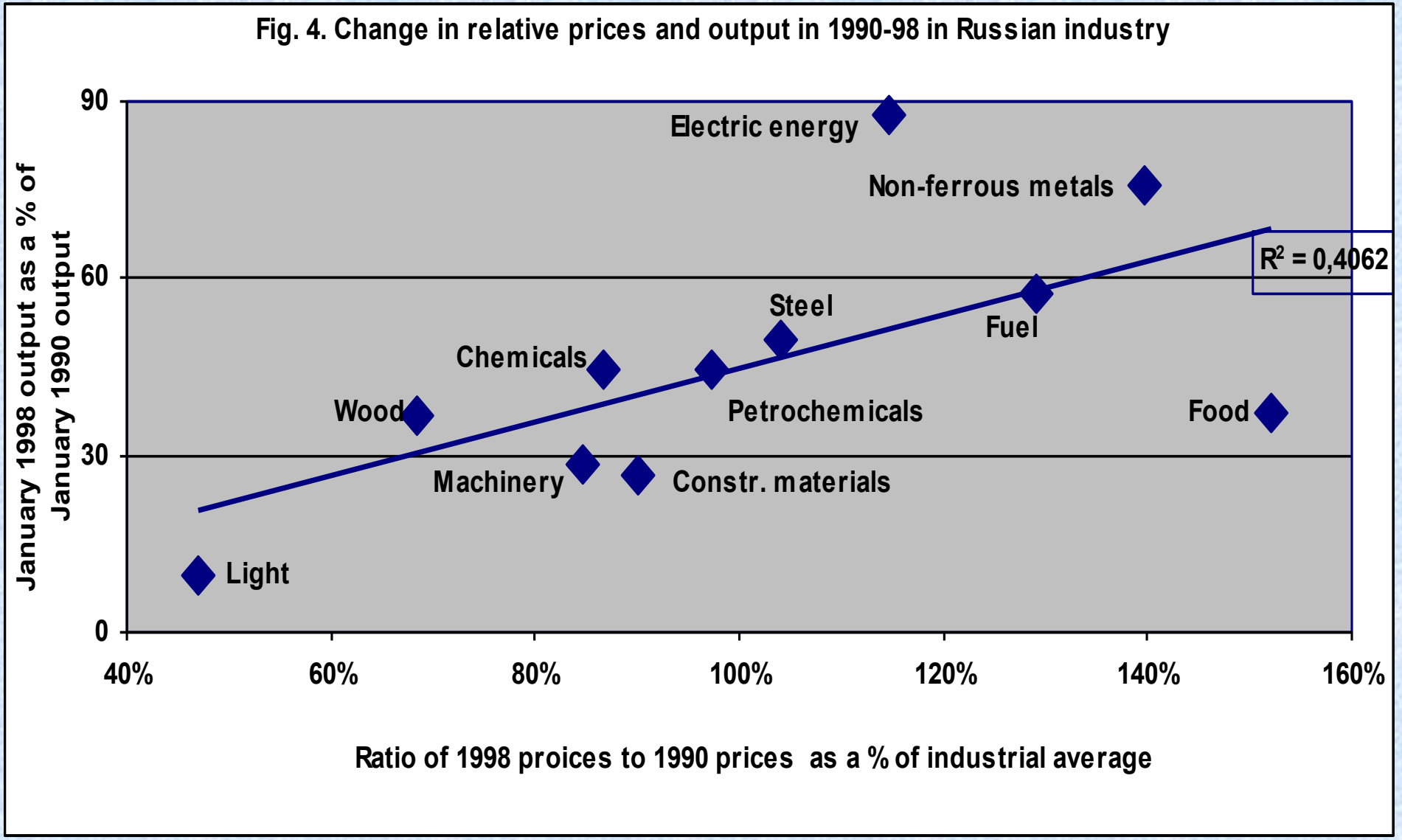
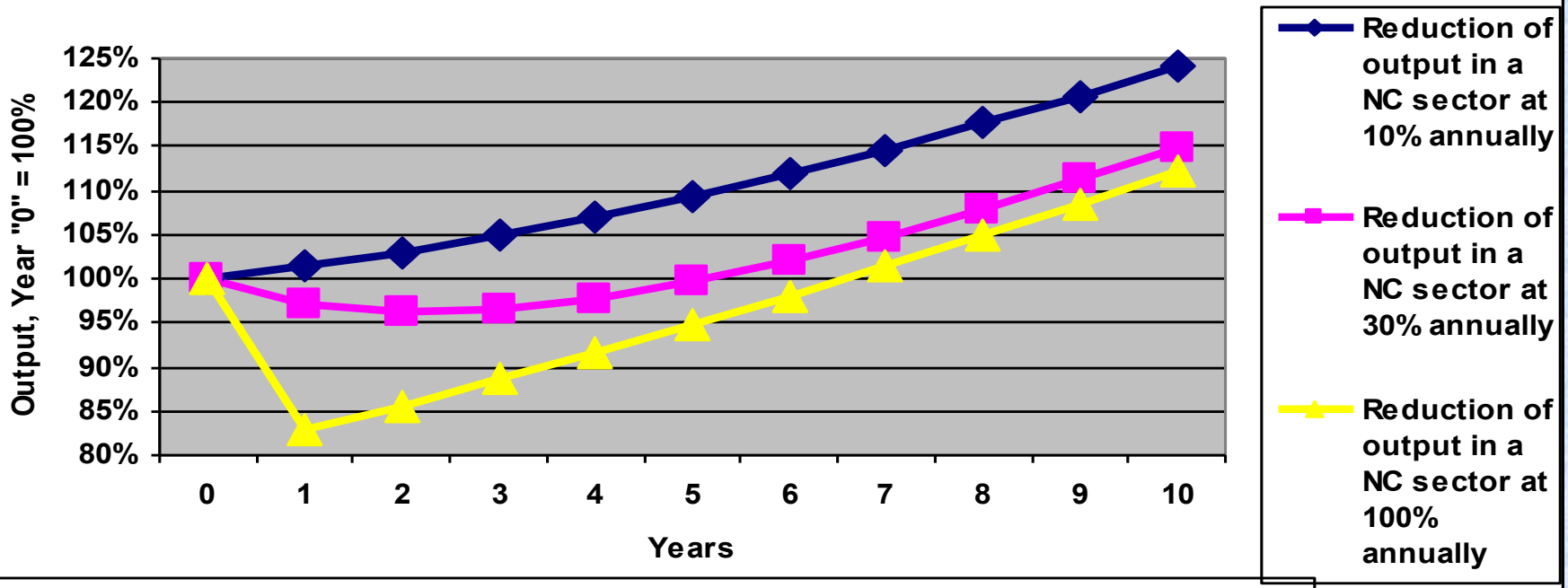


Fig. 5. Hypothetical trajectories of output (Year "0" = 100%) assuming gradual and instant liberalization

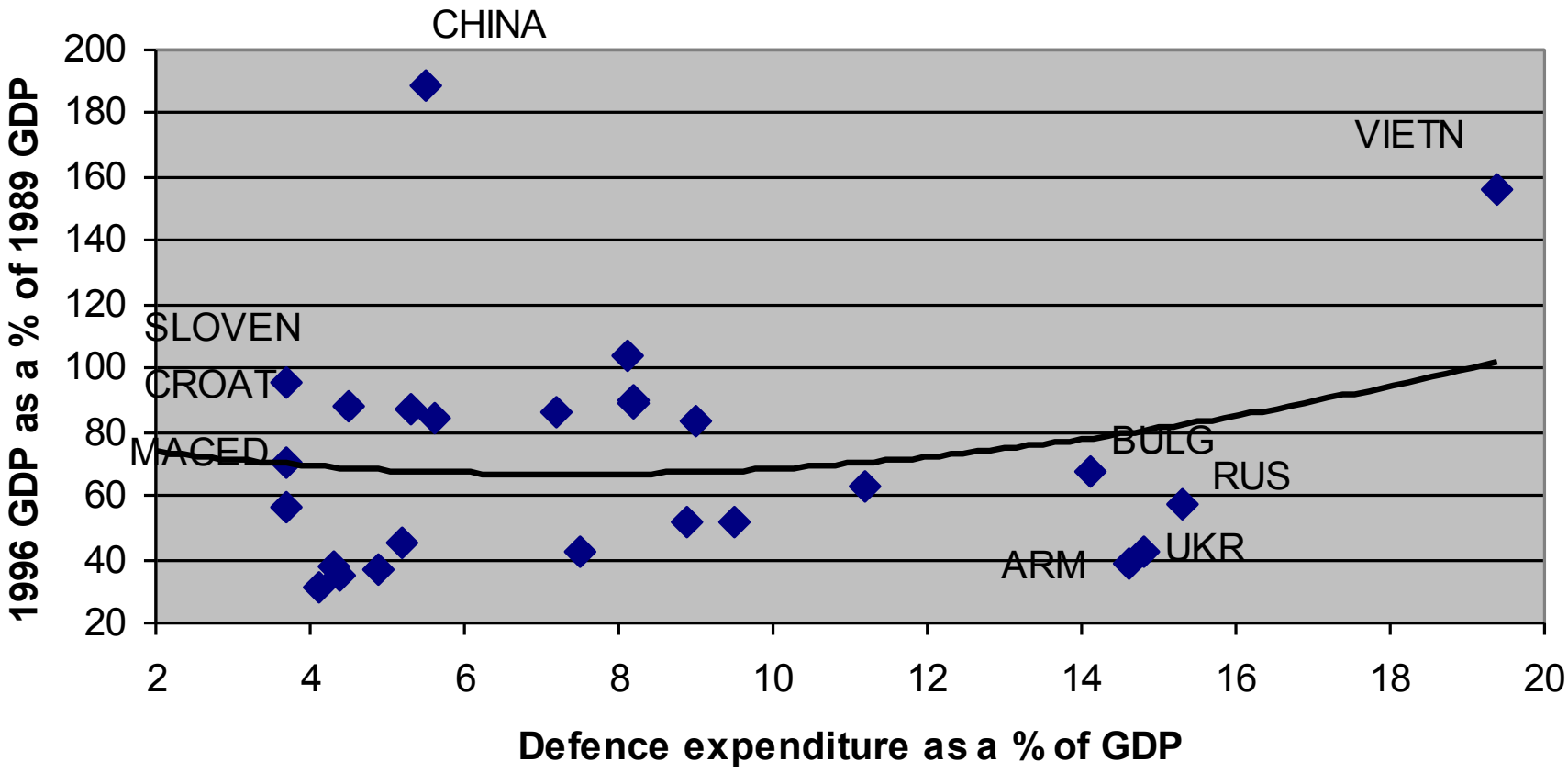


Assumptions: size of non-competitive sector (NC) in the initial year = 20% of total output; net investment (s) = 10% of total output; marginal capital productivity, output increase per unit of net investment (a) = 1/3.

[1] Total output consists of output of competitive and non-competitive sectors: $Y_n = (Y_n^C + Y_n^{NC})$ and is equal to 1 or 100% in the initial year. Output in the non-competitive sector in the year n, Y_n^{NC}, is equal to the share of the non-competitive sector in total output in the initial year, NC, multiplied by $(1-\alpha)^n$, where α is the rate of reduction of output in the non-competitive sector determined by the speed of deregulation: $Y_n^{NC} = (1-\alpha)^n * NC$. Output in the competitive sector in the year n is equal to the output of the preceding year, Y_{n-1}^C, plus the increase in output equal to marginal capital productivity, a, multiplied by the share of net investment in GDP, s, multiplied by total output: $Y_n^C = Y_{n-1}^C + a * s * (Y_n^C + Y_n^{NC})$. Solving for total output, we get: $Y_n = \frac{Y_{n-1}^C + (1-\alpha)^n * NC}{1-as}$.

High defense expenditure and fall in output resulting from conversion: weak correlation, excluding the outliers

Fig. 5. Defence expenditure before transition and GDP change during transition



Over-industrialization: Share of industry in GDP

How far emerged?

1

Indicators of economic development in emerging markets

	GDP per head* $, 1992	Rural population %, 1992	% of total employment, 1990-92: Agriculture	Industry	Services	Telephones per '000 population 1990
China	2,100	72	73	14	13	11
Indonesia	2,960	70	56	14	30	6
Poland	4,880	37	27	37	36	86
Brazil	5,250	23	25	25	47	63
Hungary	5,730	34	15	31	54	96
Thailand	5,900	77	67	11	22	24
Argentina	6,080	13	13	34	53	96
Russia	**6,220**	**26**	**20**	**46**	**34**	**149**
Mexico	7,420	26	23	29	48	66
Malaysia	8,050	55	26	28	46	89
OECD average	17,700	23	5	29	66	640

Sources: Human Development Report; World Development Report.

*At PPP exchange rates

CMBA: 3000 19 32 49

Differences in productivity by sectors of the economy

Table 1. Capital and labor productivity in major Russian industrial sectors, 1995

Industries	Employment, annual average, million	Fixed capital stock, trillion rubles[a]	Gross output, trillion rubles	Labor productivity	Capital productivity
				% of national average	
Resources (fuel, energy, metals)	3.0	2319	418	326	72
Machinery & Equipment + Light Industry	6.7	1265	175	61	56
Agriculture	9.9	1805	276	65	60
Total economy	67.1	11504	2870[b]	100	100

[a] After revaluation of January 1, 1996. Breakdown by branches of industry (energy, fuel, etc.) is estimated from 1994 data.

[b] Estimate derived from the ratio of gross output to GDP in 1994 (1.73) and GDP for 1995 (1659 trillion rubles).

Source: Goskomstat - Russia.

Distortions in industrial structure

Share of the industrial sector in GDP and share of resource industries and engineering in total industrial output, %

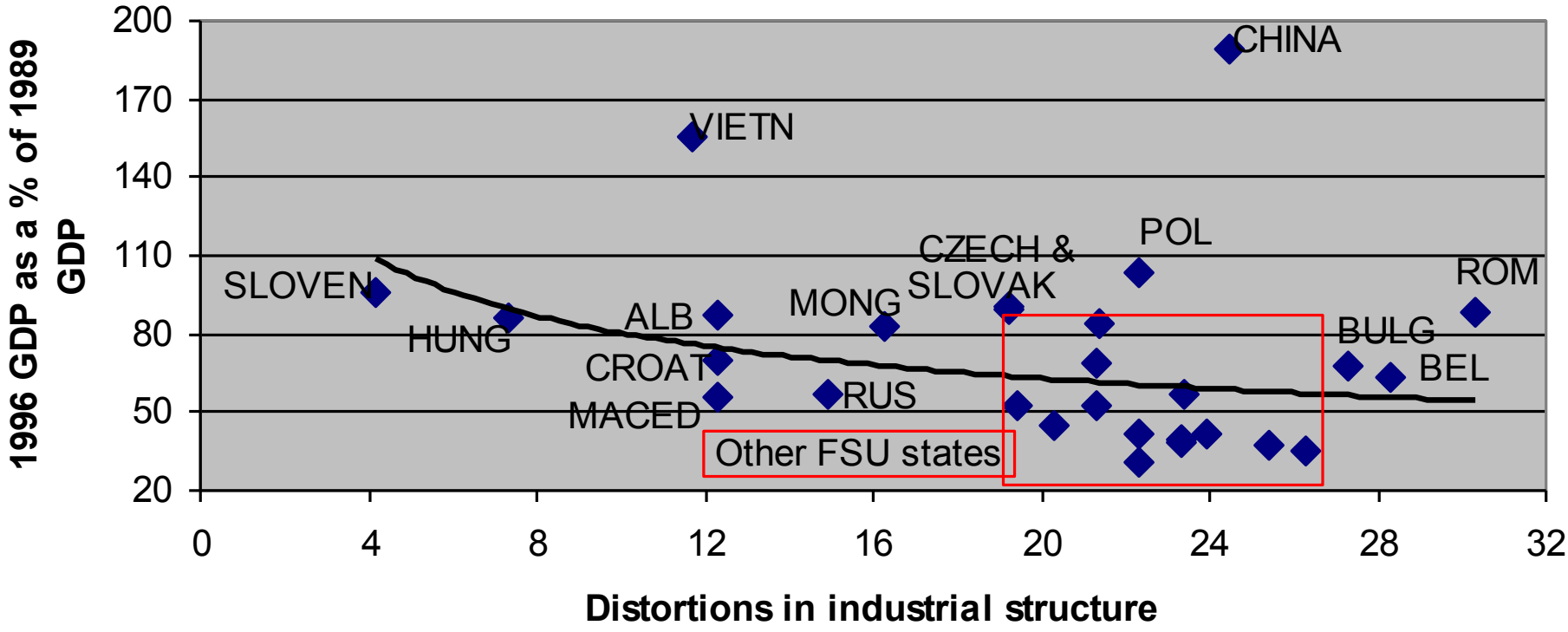
Country	Share of industry in GDP, 1991	Share of particular industries in total industrial output, 1993	
		Resource industries[a]	Engineering
Bulgaria	36	23	16
Croatia		18[b]	12[b]
Czech Republic	47	30	18
Hungary	29	25	16
Poland	36	29	21
Romania	40	24	19
Slovakia	53	36	16
Slovenia	40		
Estonia	35 (22)	20	9 (8)
Latvia	38	25	16
Lithuania	45	21	12
Belarus	(40)	(25)	(22)
Russia	39 (38)	46 (41)	20 (17)
Kazakhstan	(29)	(54)	(10)
Ukraine	(31)	48 (36)	16 (20)
Uzbekistan	(26)	(33)	(10)

[a] Fuels, energy, steel, non-ferrous metals.

[b] 1995.

Source: Economic Commission for Europe (1996); the data in brackets are taken from Statistical Handbook (1995).

Fig. 6. Pre-transition distortions in the structure of the economy (industry/agriculture/services - % of 1989 GDP) and GDP change during transition



Distortions were measured as deviations in the shares of industry, agriculture and services in GDP, as compared to "normal" structure, defined as an average industrial structure for market economies with similar levels of per capita GDP

External trade distortions

Table 3. Trade flows and trade balances of Soviet republics, 1988, as a % of GNP

Republics	Trade flows*		Trade balance			
	Domestic	Foreign	Domestic**	Foreign	Total, in domestic prices	Total, in world prices
USSR	21.11	8.27	-0.01(-0.14)	-5.76	-5.78	0.21
Russia	12.92	9.37	0.05 (0.02)	-6.28	-6.23	5.76
Ukraine	26.90	7.14	2.55 (-0.3)	-4.61	-2.05	-2.04
Byelorussia	44.56	7.39	11.14 (-1.6)	-5.42	-5.72	-5.78
Lithuania	47.26	7.21	-6.56 (4.0)	-5.83	-12.39	-29.97
Latvia	46.85	7.21	-1.03 (5.2)	-6.18	-7.21	-13.39
Estonia	50.11	8.79	-5.27 (5.3)	-7.03	-12.31	-22.86
Moldova	45.88	6.37	-1.87 (5.6)	-7.86	-9.74	-24.34
Armenia	47.85	5.84	-4.23 (-2.5)	-9.70	-13.92	-17.40
Georgia	37.88	5.90	1.98 (-4.9)	-6.15	-4.17	-13.43
Azerbaijan	35.38	5.95	13.89 (-2.6)	-6.61	-7.28	-3.31
Kazakhstan	29.48	4.69	-14.47(-1.3)	-5.09	-19.56	-17.69
Uzbekistan	34.10	5.62	-5.78 (-1.4)	-0.59	-6.37	-8.71
Turkmenistan	37.58	4.60	-1.53 (-3.0)	-3.07	-4.60	0.00
Kirghizia	39.65	5.98	-7.21 (0.4)	-10.24	-17.45	-15.86
Tajikistan	37.70	6.01	-15.32 (3.0)	-2.10	-17.42	-16.52

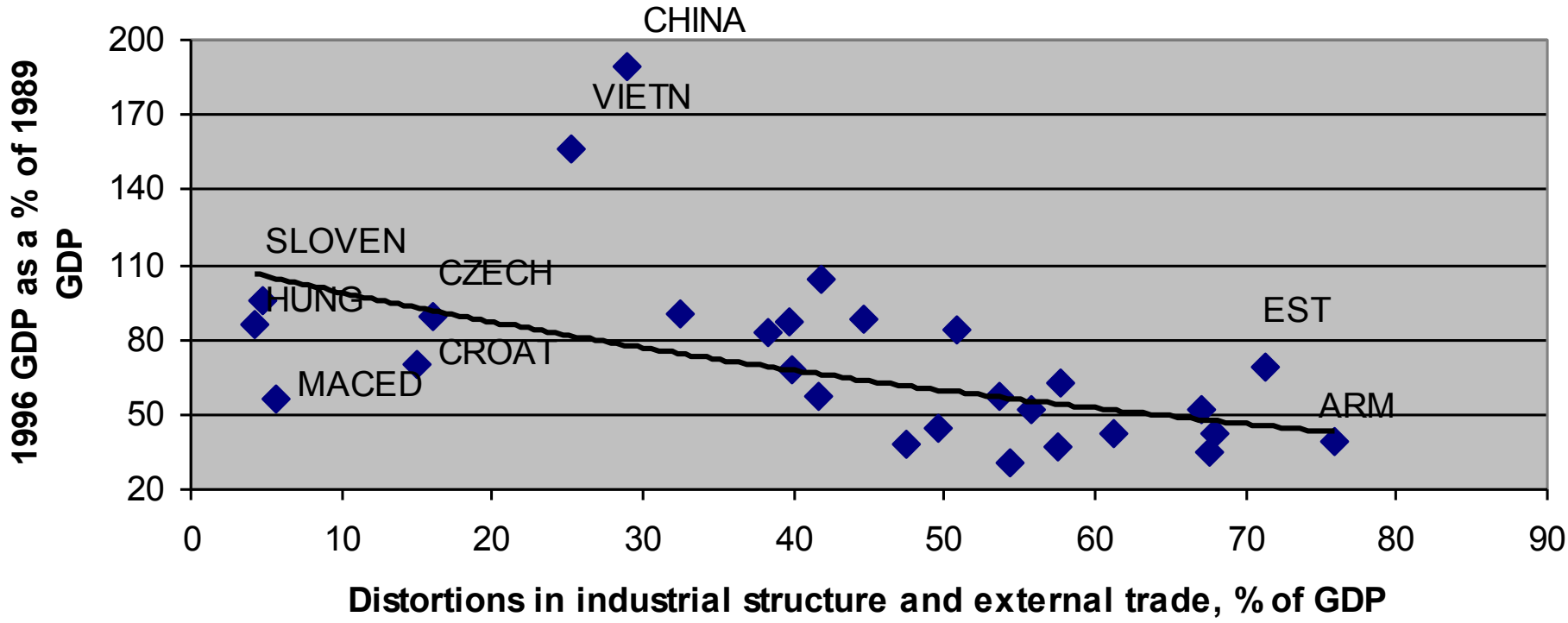
*(Exports+Imports):(2xGNP) at domestic prices, assuming the same GNP/NMP ratios for the republics as for the USSR as a whole. Domestic trade is trade with the rest of the Union. Foreign trade is trade with the rest of the world.

**Estimates of the balance of tourist trade are shown in brackets.

Source: Stabilization, Liberalization and Devolution: Assessment of the Economic Situation and Reform Process in the Soviet Union. A Report prepared by Commission of the European Communities. December 1990, p. 173. (Data are derived from official Soviet statistics); Narodnoye Khozyaistvo SSSR v 1989 godu (National Economy of the USSR in 1989). Moscow, Goskomstat, 1990, p. 638.

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

Fig. 7. Aggregate distortions in industrial structure and external trade before transition and GDP change during transition



Distortions in industrial structure and trade patterns as a % of GDP in the late 1980s (for China - late 1970s)

COUNTRY	Distortions (as a % of GDP) in:					ALL TRADE DISTOR-TIONS	All distortions in industrial structure and trade patterns
	Defense expendi ture	Industrial stru-cture (share of industry, agri-culture, services)	Trade openness (share of external trade)	Trade within FSU	Trade between socialist countries		
	[1]	[2]	[3]	[4]	[5]	[6]=[3]+[4]+[5]x0.33	[7]= =[1]+[2]+[6]
Albania	1.6	12.3	25	0	2.3	25.8	39.7
Belarus	7.5	28.3	-20.3	41	3.5	21.9	57.7
Bulgaria	10.4	27.3	-3.1	0	16.1	2.2	39.9
China*	1.8	24.5	8.5	0	0.6	8.7	35
Czech Republic	4.5	19.2	-15.5	0	24	-7.6	16.1
Estonia	-1.8	21.3	21.1	30.2	1.5	51.8	71.3
Hungary	3.5	7.3	-11.1	0	13.7	-6.6	4.2
Kazakhstan	1.5	20.3	6.5	20.8	1.5	27.8	49.6
Kyrghyzstan	5.2	19.4	2.7	27.7	2.6	31.3	55.9
Latvia	5.8	21.3	2.6	36.7	2.1	40.0	67.1
Lithuania	3.8	23.9	-1.5	40.9	2.6	40.3	68.0
Moldova	0.7	26.3	11	28.9	2.3	40.7	67.7
Mongolia	5.3	16.3	11	0	17.3	16.7	38.3
Poland	4.4	22.3	12.4	0	8.4	15.2	41.9

* For China - all indicators are for the period 10 years earlier.

Distortions in industrial structure and trade patterns as a % of GDP in the late 1980s *(continued)*

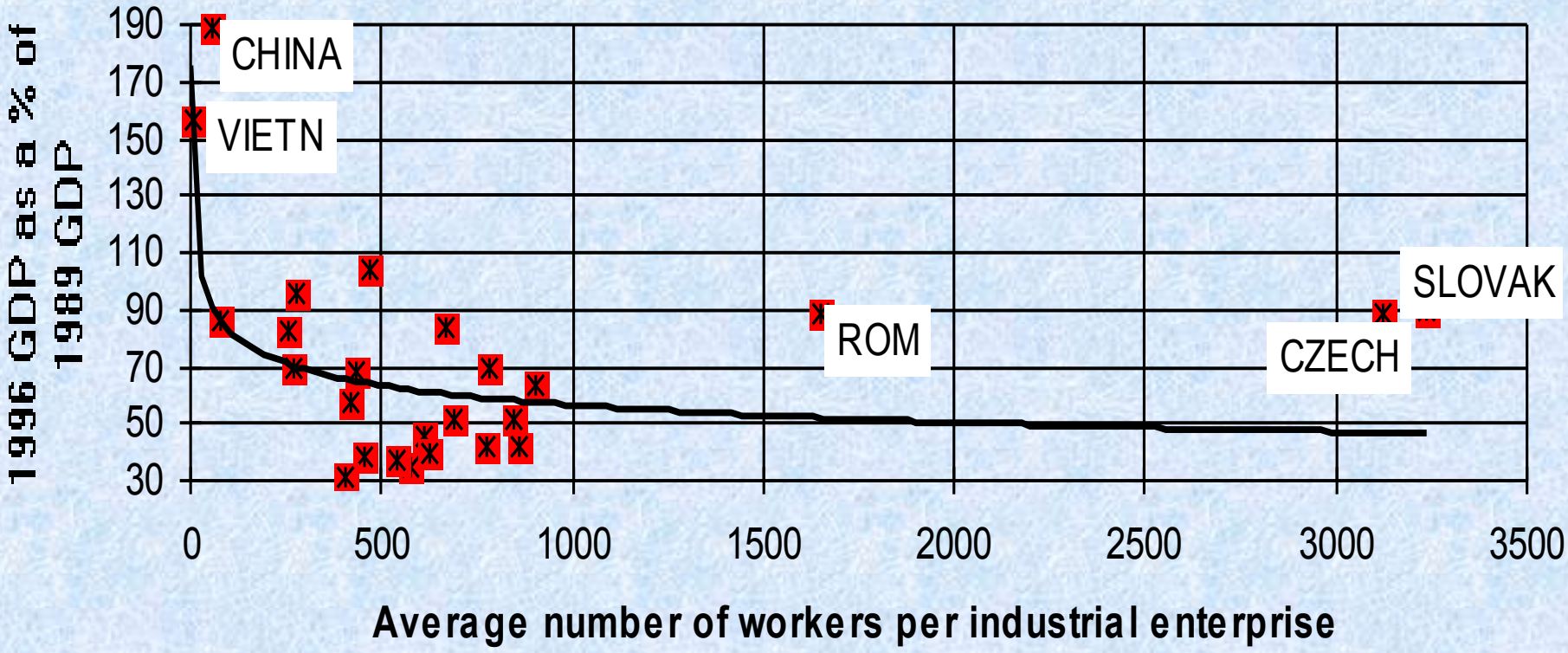
COUNTRY	Distortions (as a % of GDP) in:					ALL TRADE DISTOR-TIONS	All distortions in industrial structure and trade patterns
	Defense expenditure	Industrial structure (share of industry, agriculture, services)	Trade openness (share of external trade)	Trade within FSU	Trade between socialist countries		
	[1]	[2]	[3]	[4]	[5]	[6]=[3]+[4]+[5]x0.33	[7]= =[1]+[2]+[6]
Romania	0.8	30.3	12.4	0	3.7	13.6	44.7
Russia	11.6	14.9	2.7	11.1	4.0	15.1	41.6
Slovakia	4.5	19.2	-4.7	0	41	8.8	32.5
Slovenia	0	4.2	-7.7	0	25	0.6	4.8
Turkmenistan	-2.7	23.4	-0.6	33	1.5	32.9	53.6
Ukraine	11.1	22.3	3	23.8	2.9	27.8	61.2
Uzbekistan	1.9	21.4	1.5	25.5	1.7	27.6	50.9
Vietnam	15.7	11.7	-5.5	0	10.2	-2.1	25.3
Armenia	10.9	23.3	15.6	25.6	1.6	41.7	75.9
Azerbaijan	0.6	23.3	-6.9	29.8	2.3	23.7	47.6
Croatia	0	12.3	-5.5	0	25	2.8	15.0
Georgia	0.4	22.3	6.1	24.8	2.3	31.7	54.4
Macedonia FYR	0	12.3	-13.5	0	21	-6.6	5.7
Tajikistan	1.2	25.4	-0.9	31	2.7	31.0	57.6

Calculation of the indexes of distortions in industrial structure and trade patterns

- Distortions in the **share of defense expenditure** are equal to the actual share of defense expenditure in GDP minus 3.7% (considered as the "normal" level). For the republics of the FSU the share of defense expenditure in GDP is estimated from the breakdown of the employment in Soviet defense industries by republics and the share of republics in Soviet net material product
- Distortions in **industrial structure** are computed as the sum of deviations of the share of each of three sectors (agriculture, industry, services) in GDP from the "normal" level - all deviations were taken with the positive sign and divided by two; "normal" level was defined as the average for the group of market economies with comparable PPP GDP per capita
- Distortions in **trade openness** are equal to the "normal" share of external trade in GDP (defined in a similar way - as an average share for the group of market economies with comparable population and GDP per capita) minus the actual share divided by two.
- Distortions in **trade within FSU** are equal to exports plus imports from former Soviet republics as a share of GDP divided by two (for non-FSU countries these distortions are assumed to be equal to zero).
- Distortions in **trade with socialist countries** are equal to the sum of export to and import from socialist countries (trade between Czech and Slovak Republics and among former Yugoslav republics is also included) as a share of GDP divided by two. These latter distortions are included into the computation of total trade and industrial structure distortions with a weight of 33%.

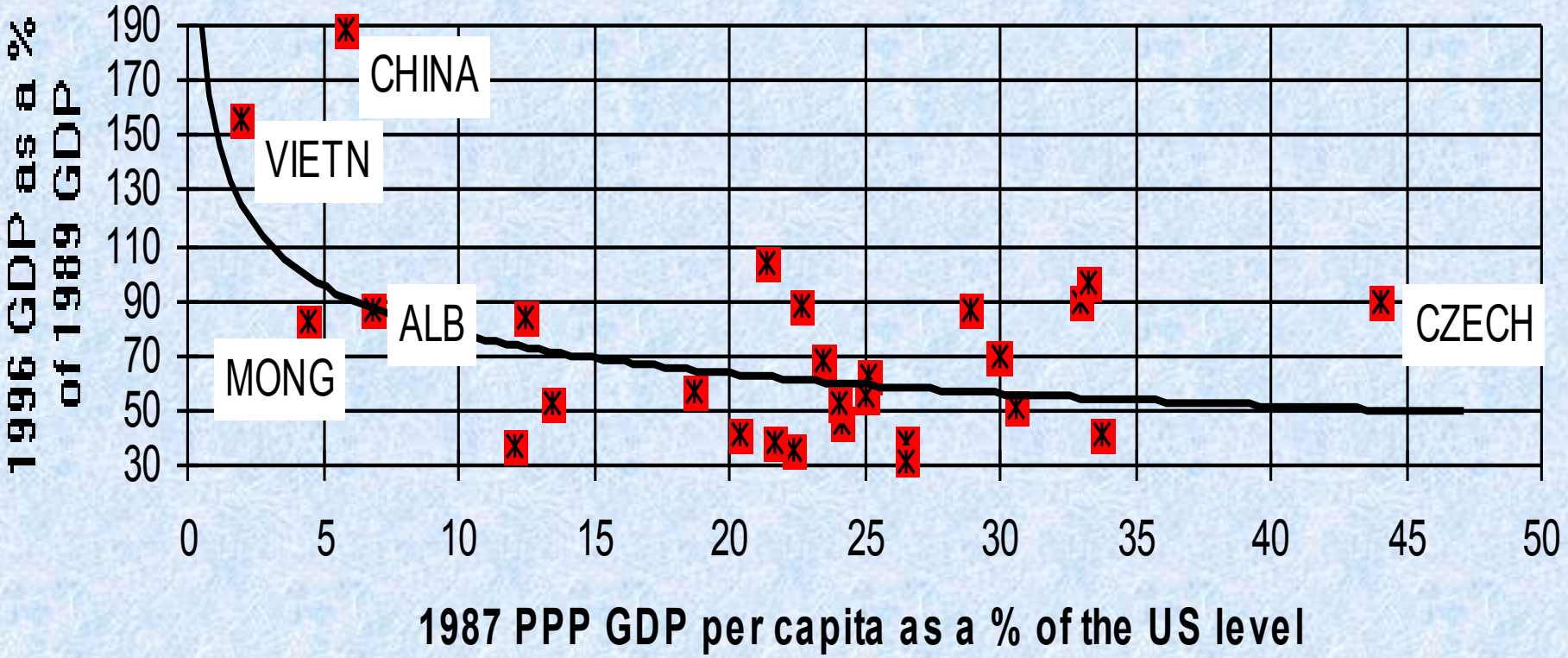
Large enterprises faced greater adjustment problems and had to undergo greater restructuring

Fig. 8. Average size of industrial enterprises before transition and GDP change during transition



The advantages of backwardness

Fig. 9. PPP GDP per capita before transition and GDP change during transition

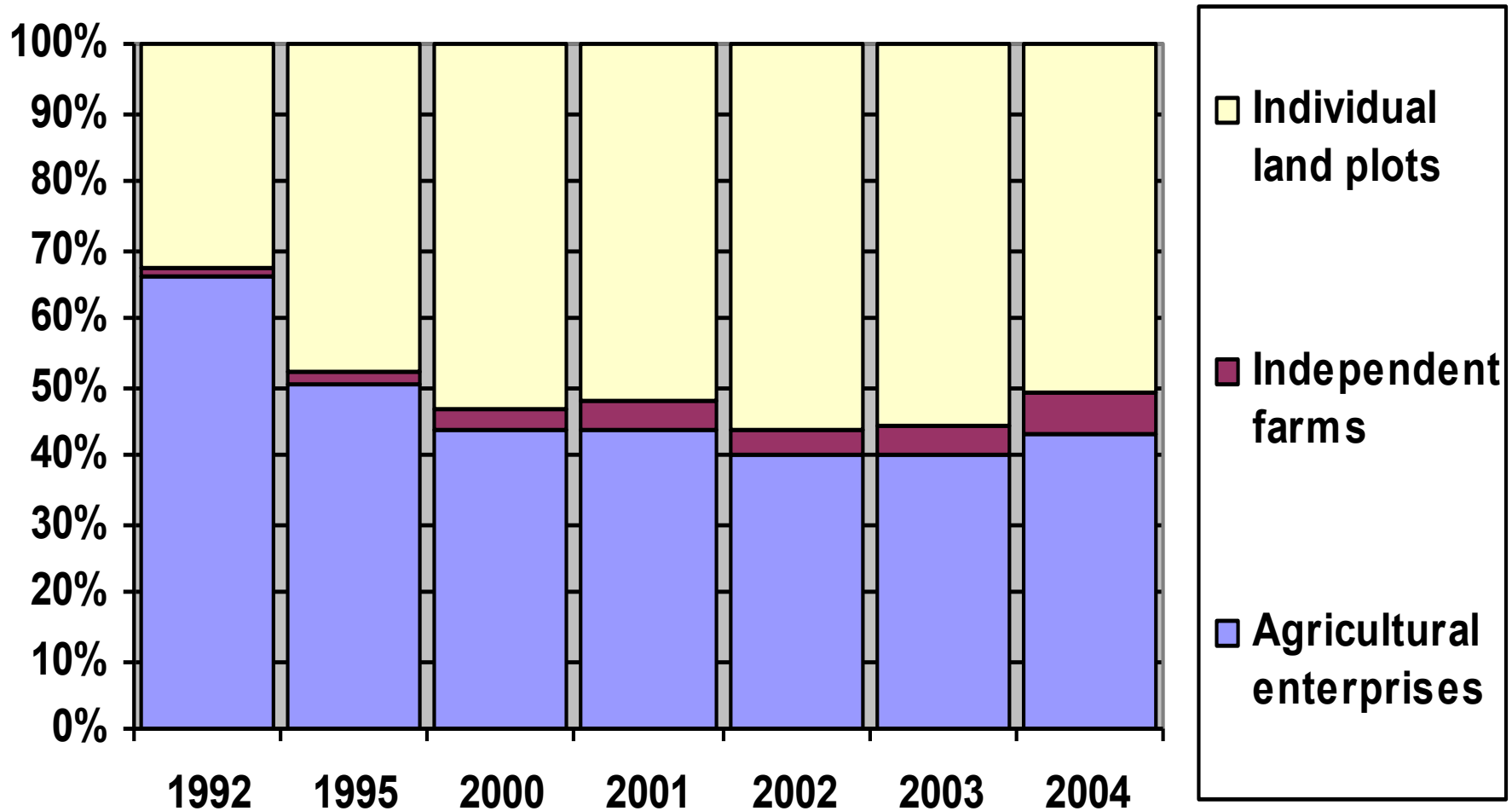


The advantages of backwardness: example

Distortions in industrial structure (militarization, over-industrialization, etc.) and distortions at the micro level (the size and specialization of enterprises) are more difficult to overcome, if they are embodied in fixed assets, and if these fixed assets are sizeable compared to GDP.

	USSR	China
K/Y	3	1
Share of inefficient capital (to be replaced) as a % of K	50%	50%
Share of inefficient capital (to be replaced) as a % of Y	150%	50%
I/Y	10%	10%
Number of years needed to replace inefficient capital	15	5

Structure of agricultural output in Russia, % of total



Evaluating the impact of non-policy and policy factors-1

Table 4. Regression of GDP change during transformational recession on non-policy and policy-related factors (all coefficients are significant at 5% level except those in brackets)

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

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

Equations/ Variables	1, N=28	2, N=28	3, N=28	4, N=28	5, N=28	6, N=28	7, N=28	8, N=28
Constant	3.66	5.37	4.58	5.29	5.17	5.44	5.38	5.93
Distortions, % of GDP[a]					-0.01	-0.01	(-0.00)	-0.01
1987 PPP GDP per capita, % of the US level					-0.01	-0.01	-0.01	-0.01
War dummy[b]			-0.40	-0.24	-0.48	-0.24	-0.25	-0.24
FSU dummy[c]			-0.62	-0.46			(-0.17)	
Liberalization index	0.21	(0.00)		(-0.07)		(0.03)	(0.01)	
Log (inflation, % a year, 1990-95, geometric average)		-0.23		-0.13		-0.14	-0.12	-0.15
Adjusted R^2, %	28	65	69	74	63	78	77	78

[a] Cumulative measure of distortions as a % of GDP equal to the sum of defense expenditure (minus 3% regarded as the "normal" level), deviations in industrial structure and trade openness from the "normal" level, heavily distorted trade (among the FSU republics) and lightly distorted trade (with socialist countries) taken with a 33% weight (see Appendix for details).

[b] Equals 1 for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan and 0 for all other countries.

[c] Equals 1 for all former Soviet republics and 0 for all other countries.

Evaluating the impact of non-policy and policy factors-2

Table 4. Regression of GDP change during transformational recession on non-policy and policy-related factors (all coefficients are significant at 5% level except those in brackets)

Dependent variable = log (1998 GDP as a % of 1989 GDP)

Equations/ Variables	1, N=28	2, N=28	3, N=28	4, N=28	5, N=28	6, N=28	7, N=28	8, N=28	9, N=28
Constant	3.69	5.42	4.58	4.51	5.33	5.21	5.43	5.46	5.71
Distortions, % of GDP[a]						-.01	-.003d	(-.005)	-0.01
1987 PPP GDP per capita, % of the US level						-.01	-0.01	-0.01	-0.01
War dummy[b]			-.39	-.39	(-.17)	-.49	-.20 e	-.19 e	-.19 e
FSU dummy[c]			-.60	-.53	(-.23)			(.08)	
Liberalization index	.24	(.02)		(.04)	(-.01)		(.06)	(.07)	
Log (inflation, % a year, 1990-95, geometric average)		-.24			-.17		-.16	-.17	-.18
Adjusted R^2, %	32	68	59	58	68	52	73	72	74

[a] Cumulative measure of distortions as a % of GDP equal to the sum of defense expenditure (minus 3% regarded as the "normal" level), deviations in industrial structure and trade openness from the "normal" level, heavily distorted trade (among the FSU republics) and lightly distorted trade (with socialist countries) taken with a 33% weight (see Appendix for details).

[b] Equals 1 for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan and 0 for all other countries.

c Equals 1 for all former Soviet republics and 0 for all other countries.

d Significant at 22% level.

e Significant at 14-16% level.

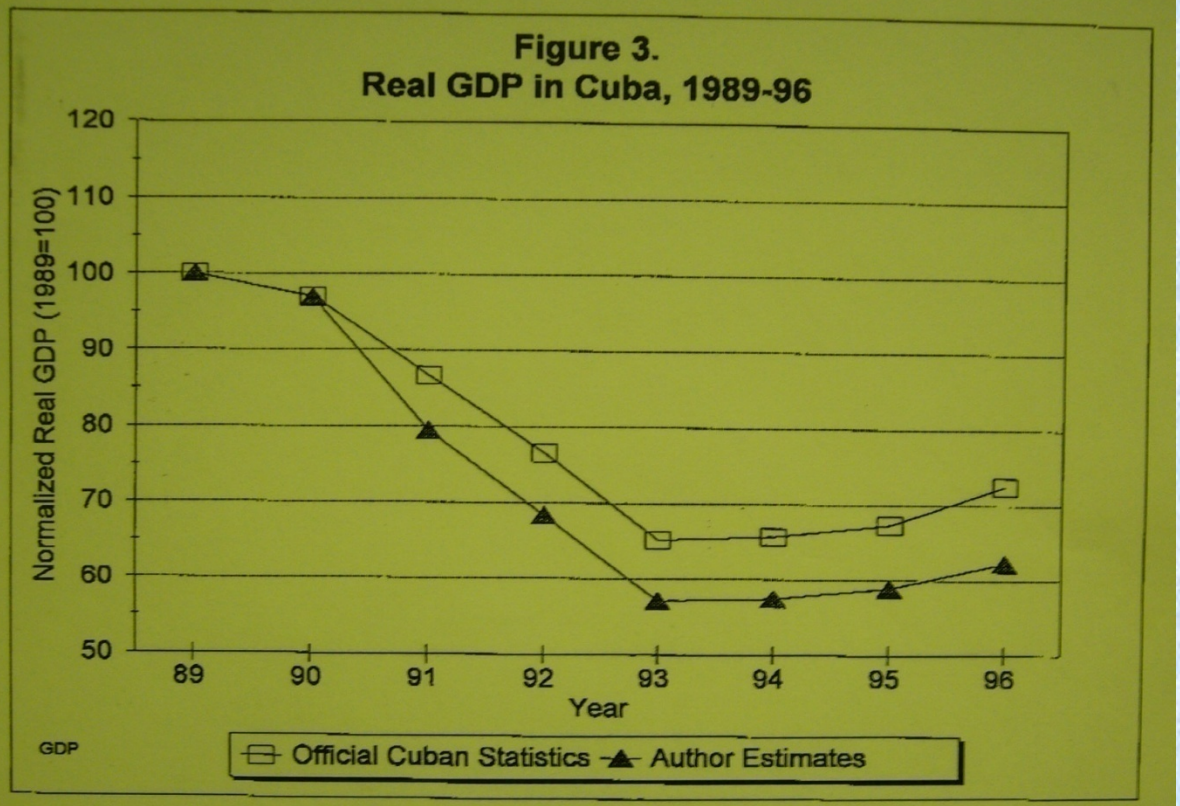
Evaluating the impact of non-policy and policy factors-3

- Though there is a positive relationship between the magnitude of output decline on the one hand and the liberalization index and inflation on the other, this weakens or even disappears once variables that characterize objective conditions are factored in

- Nearly 70% of the variations in the magnitude of the decline of output may be explained by only two dummy variables: membership in the FSU and wars

- Inflation variable is always significant and has the predicted (negative) sign

- Results suggest that the usual argument linking the better performance of EE as compared to the FSU, to better economic policies (greater liberalization) does not necessarily hold

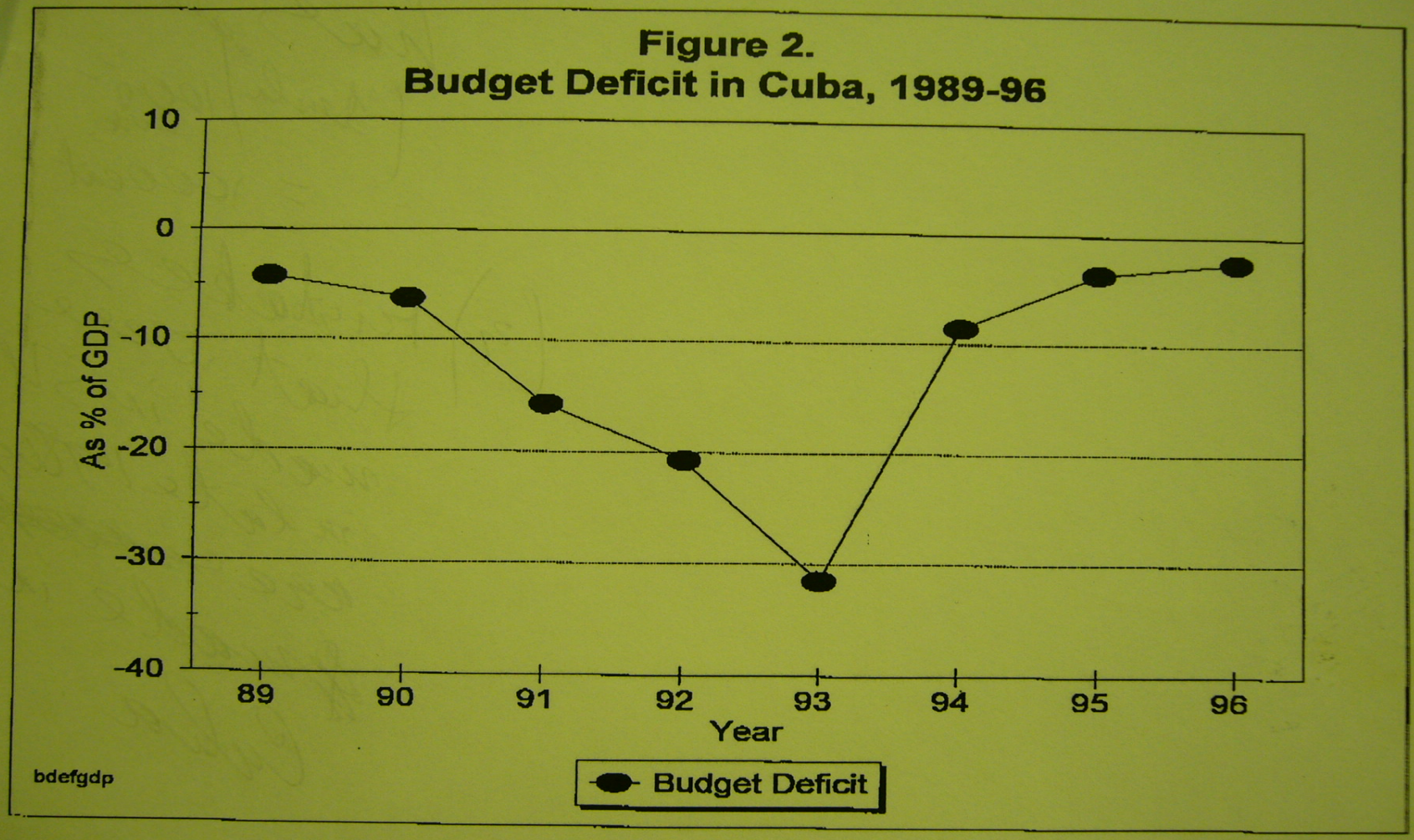


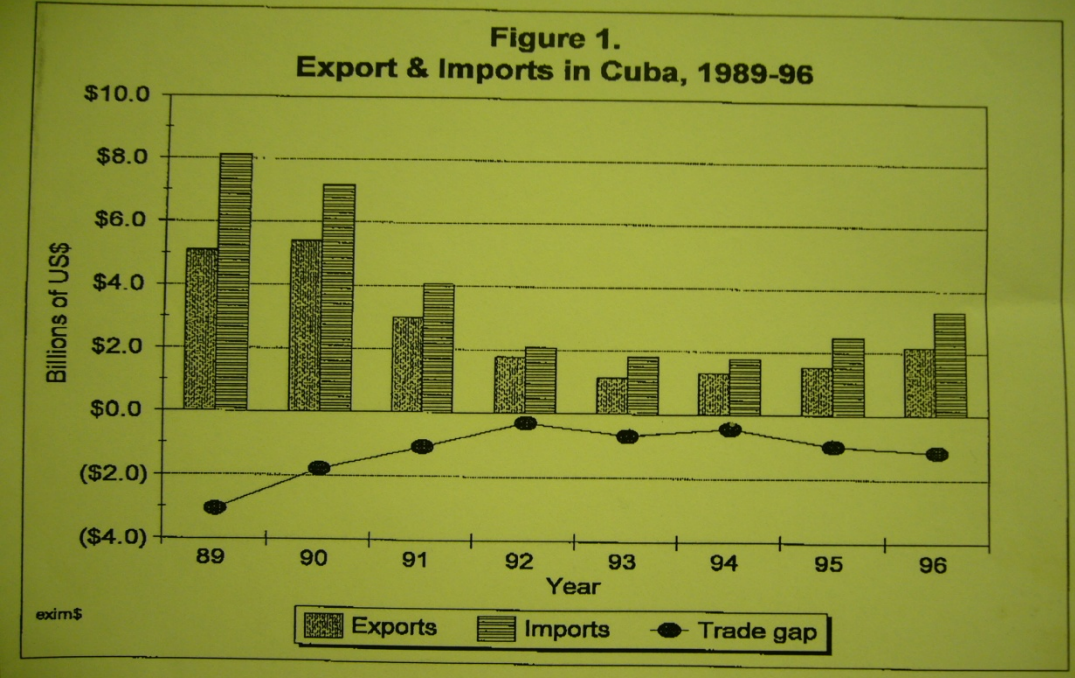
(1) Cotton farm
(2) Convers
(3) Energy cr

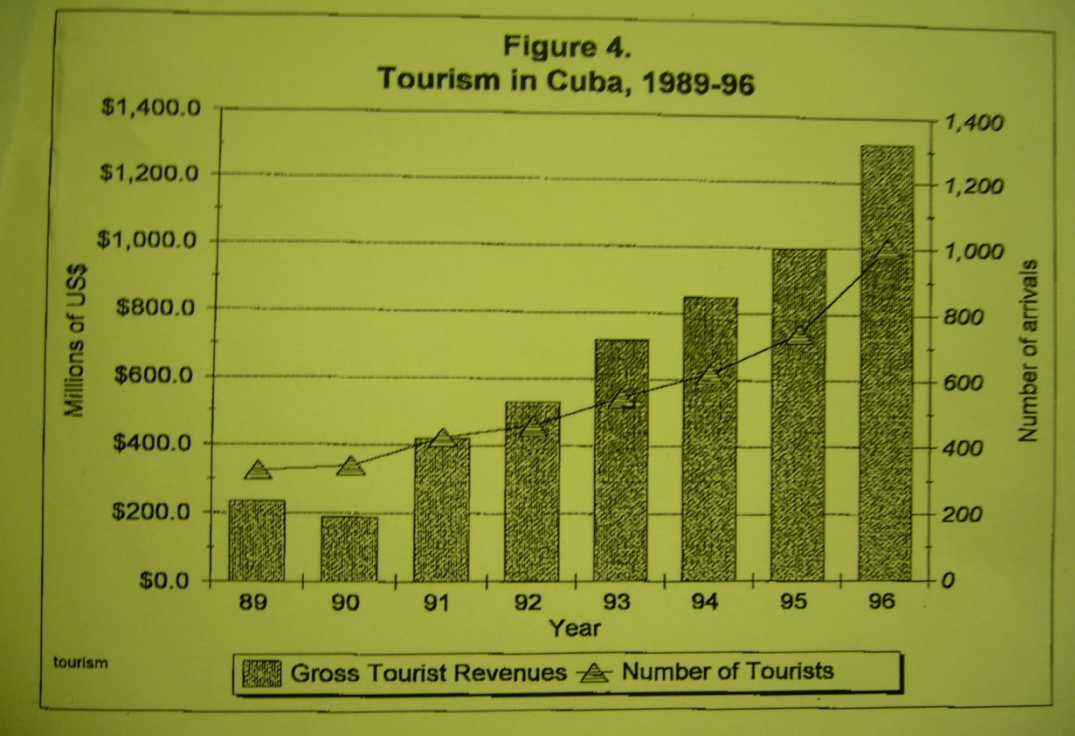
cuba\wider\cuba97.wb1

Consider Cuba – no major market type reforms, but a recession nevertheless. Why? Because of supply-side shock – deterioration of terms of trade (proportions of exchange of Cuban sugar for Soviet oil).

Absorption of the supply shock







Adjustment to supply shock:

Cutting imports, developing exports of services (tourism)

Policy factors: institutions, rule of law and democracy

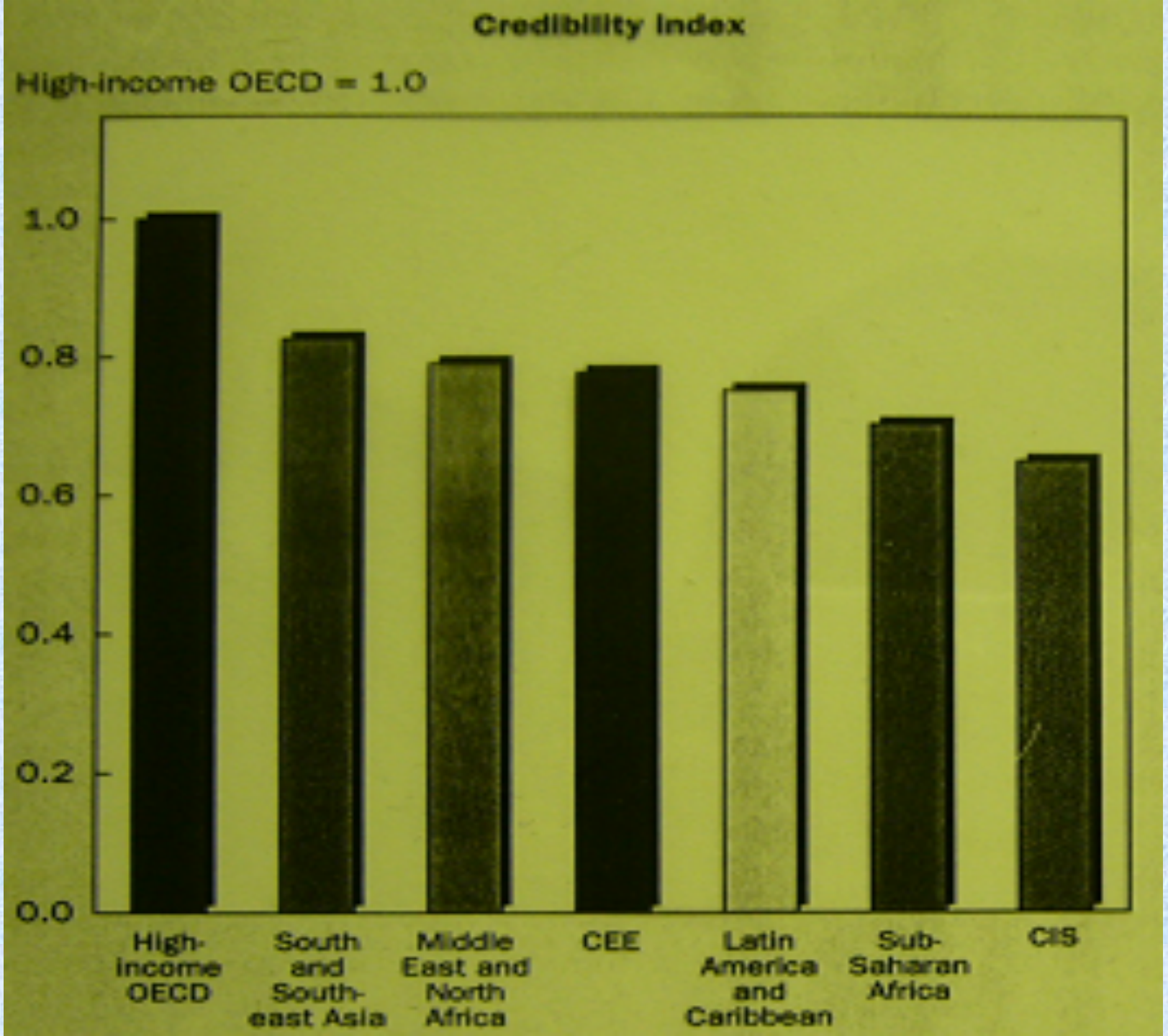
- If initial conditions only are used to predict economic performance, then:
  - China and Vietnam did much better than expected;
  - EE and Baltic states a bit better than expected;
  - most CIS states did much worse than expected. Exceptions: Uzbekistan and Belarus, that proceeded with slow reforms, but had the strongest state institutions among all CIS states;
  - Ukraine did worse than expected due to the poor institutional capabilities

Collapse of the institutions in most FSU and Balkan countries

- dramatic increase of the share of the shadow economy;
- decline of government revenues as a proportion of GDP;
- inability of the state to deliver basic public goods and appropriate regulatory framework;
- accumulation of tax, trade, wage and bank arrears;
- demonetization, "dollarization" and "barterization" of the economy, as measured by high and growing money velocity, and the decline of bank financing as a proportion of GDP;
- poor enforcement of property rights, bankruptcies, contracts and law and order;
- increased crime rates.

Measuring institutional capacity of the state

- **Proxies for institutional capacity:**
  - **the trust of businesses and individuals in various institutions - here FSU states rank much lower than East European countries in all available surveys**
  - **the financial strength of the government - the share of state revenues in GDP**
  - **crime and murder rates**
  - **share of shadow economy**


Credibility Index
High-income OECD = 1.0
1.0
0.8
0.6
0.4
0.2
0.0
High-income OECD
South and South-east Asia
Middle East and North Africa
CEE
Latin America and Caribbean
Sub-Saharan Africa
CIS

Total revenues of consolidated government budgets (including off-budget funds) as a % of GDP in economies in transition

Year/Country	1989	1990	1991	1992	1993	1994	1995	1996*
Central European countries**	**51.2**	**51.6**	**47.4**	**49.1**	**49.0**	**49.4**	**48.0**	**45.5**
-Czech Republic	61.7	60.2	52.2	49.5	51.4	51.2	49.6	44.5
-Slovak Republic					43.6	46.4	46.8	44.6
-Hungary	59.1	53.9	52.1	56.1	55.4	53.9	49.6	47.0
-Poland	41.4	42.9	41.5	44.1	47.6	48.3	47.8-	46.8-
-Slovenia	42.4	49.3	43.7	46.5	47.1	47.1	46.2	44.4
Baltic states**	**47.2**	**41.8**	**38.3**	**31.4**	**35.2**	**32.9**	**33.7**	**33.7-**
-Estonia	39.5	35.7	36.4	34.6	39.6	39.6	39.6	38.9-
-Latvia	52.0	46.0	37	27.4	35.8	34.1	37.0	38.8-
-Lithuania	50.0	43.7	41.4	32.1	30.2	25.1	24.6	23.3
European CIS countries (excluding Russia)**				**32.4**	**31.6**	**37.3**	**35.0**	**34.0**
-Belarus		38.2	47.5	44.0	43.6	48.4	43.2	41.9
-Moldova	35.3	-	24.7	20.2	13.0	23.1	23.9	23
-Ukraine	26.4	-	-	33.0	38.3	40.3	37.8	37.2
RUSSIA	**41.0**	**-**	-	**44.2**	**36.1**	**34.6**	**32.2**	**30.4**
South East Europe countries**	**52.3**	**46.7**	**37.3**	**34.2**	**33.9**	**38.2**	**36.8**	**34.3**
-Albania	47.8	47.1	30.9	21.9	25.2	24.3	24.3	17
-Bulgaria	58.0	53.3	42.3	40.2	37.2	39.9	36.6	34.2-
-Croatia	-	-	34	33	32.2	43.7	46.1	46.5-
-FYR Macedonia	-	-	-	38.6	40.9	51.0	45.2	43.9
-Romania	51.1	39.7	42.0	37.4	33.8	32.0	31.9	29.8-

* Estimate.

** Unweighted average

Total revenues of consolidated government budgets (including off-budget funds) as a % of GDP in economies in transition *(continued)*

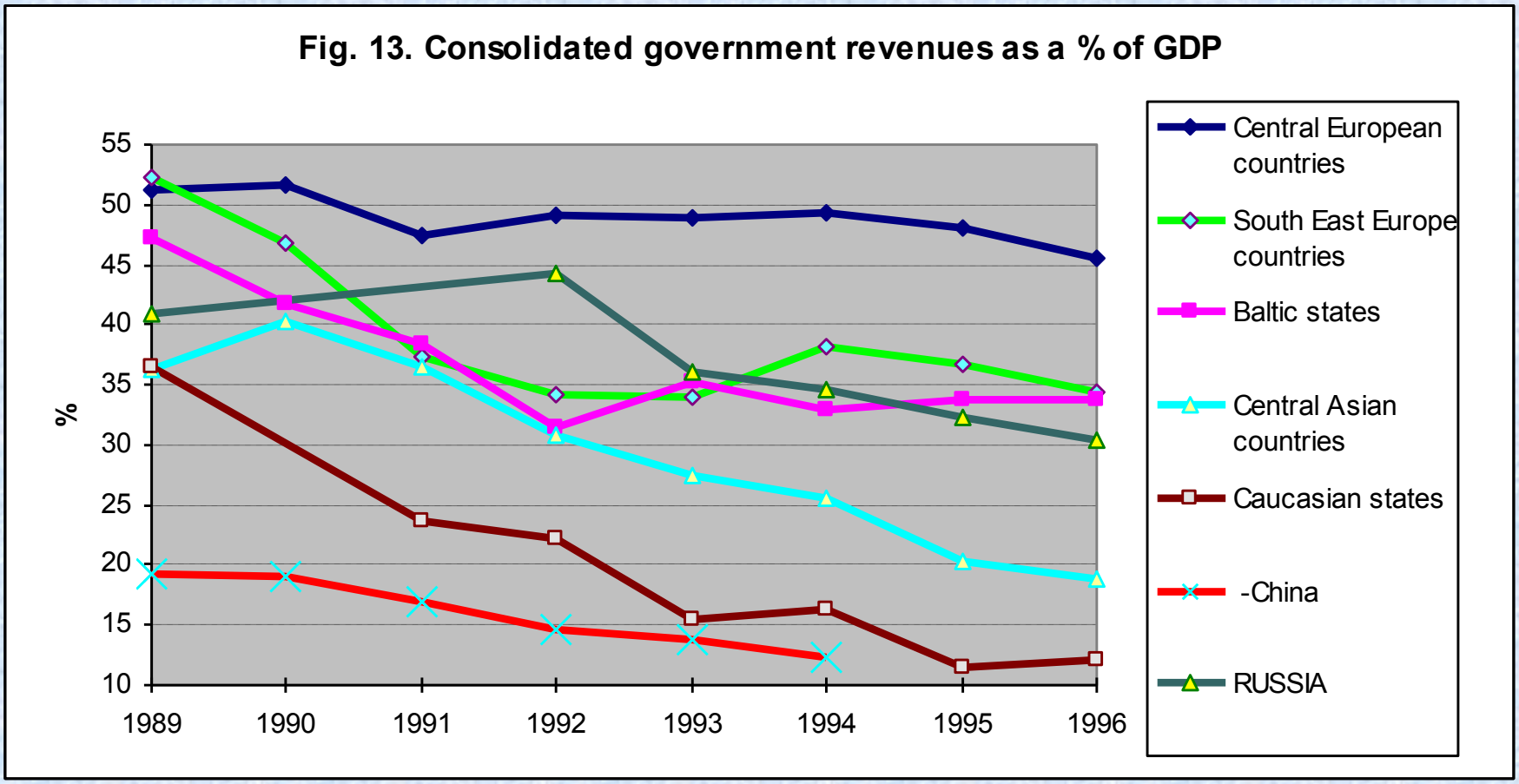
Year/Country	1989	1990	1991	1992	1993	1994	1995	1996*
Caucasian states**	**36.5**	**-**	**23.7**	**22.3**	**15.5**	**16.3**	**11.5**	**12.0**
-Armenia	52.2	-	5.5	4.2	3.4	7.7	11.4	10.1
-Azerbaijan	25.8	-	35.7	49.1	33.4	24.6	15.3	16.4
-Georgia	31.5	-	30.0	13.6	9.8	16.6	7.8	9.5
Central Asian countries**	**36.2**	**40.3**	**36.6**	**30.9**	**27.4**	**25.6**	**20.4**	**18.8**
-Kazakhstan	35.4	32.8	25.0	24.5	23.9	18.7	18.7	16.0
-Kyrghyzstan	38.0	38.6	34.9	16.5	24.9	20.9	16.7	17.0
-Tajikistan	40.3	-	33.2	26.6	27.1	45.5	19.3	12.3
-Turkmenistan	32.4	44.8	40.7	55.4	18.7	10.5	12.4	15.5-
-Uzbekistan	35.0	44.9	49.1	31.4	42.6	32.3	35.1	32.3
Asian non-CIS countries**	**27.2**				**24.1**			
-China***	19.3	19.1	16.9	14.7	13.8	12.4	-	-
-Mongolia	48.6	-	-	-	36.2	-	-	-
-Vietnam	14.8	-	-	-	22.3	-	-	-

* Estimate.

** Unweighted average.

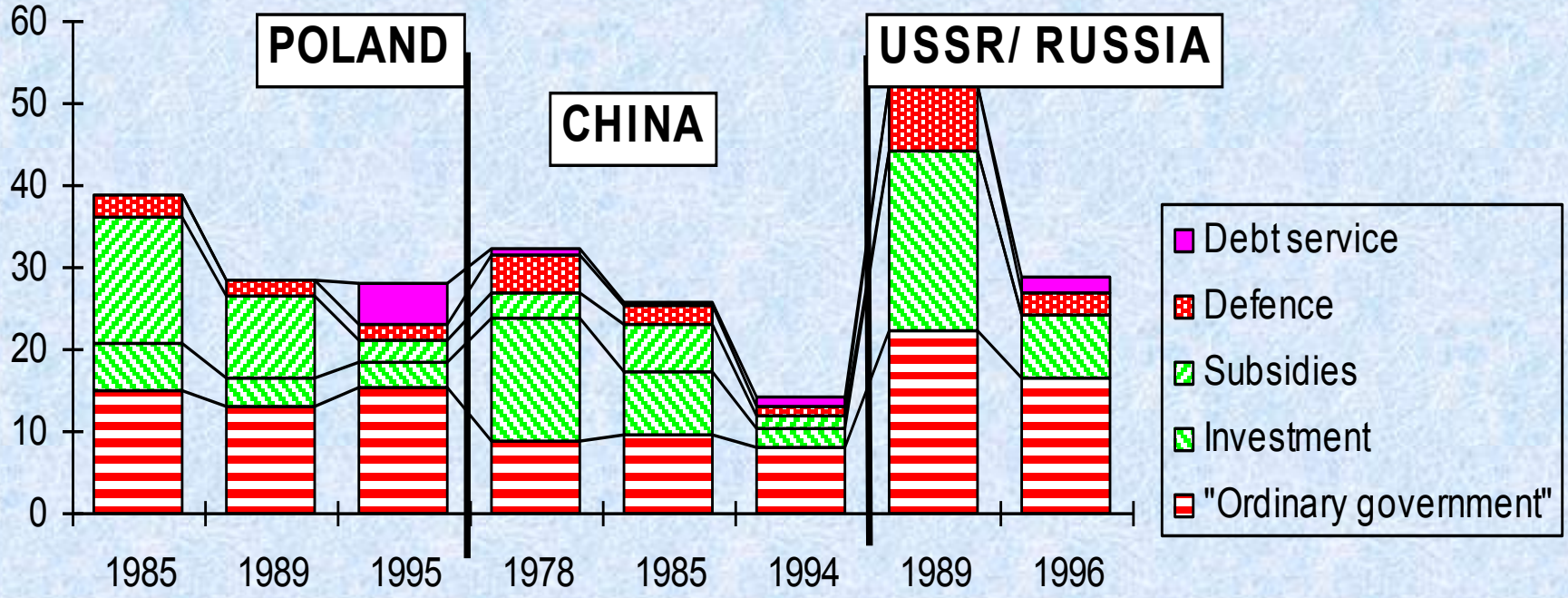
*** Data do not include revenues of neither fiscal off-budget funds (which increased from 2.6% of GDP in 1978 to 4.2% of GDP in 1994), nor enterprise extrabudgetary funds, which amounted to over 10% of GDP in 1992 and which since 1993 are not included into extra-budgetary revenues by the Chinese official statistics. From 1979 to 1985 government revenues, including fiscal off-budget funds, decreased from 35% to 30% of GDP (see World Bank, 1995c, p.31-32).

Size of the government reduced in most transition economies



Three major patterns of change in government expenditures

Fig. 10. Government expenditure, % of GDP



Three "models" of transition

- **Strong authoritarian regimes (China)**
  - **cuts in government expenditure at the expense of defense, subsidies and budgetary financed investment;**
  - **expenditure for "ordinary government" as a percentage of GDP remained largely unchanged**
- **Strong democratic regimes (Poland)**
  - **budgetary expenditure, including those for "ordinary government", declined only in the pre-transition period, but increased during transition itself**
- **Weak democratic regimes (Russia)**
  - **decline in the financing of defense, investment and subsidies, and also the downsizing of "ordinary government"**

Taxation and estimated underground production

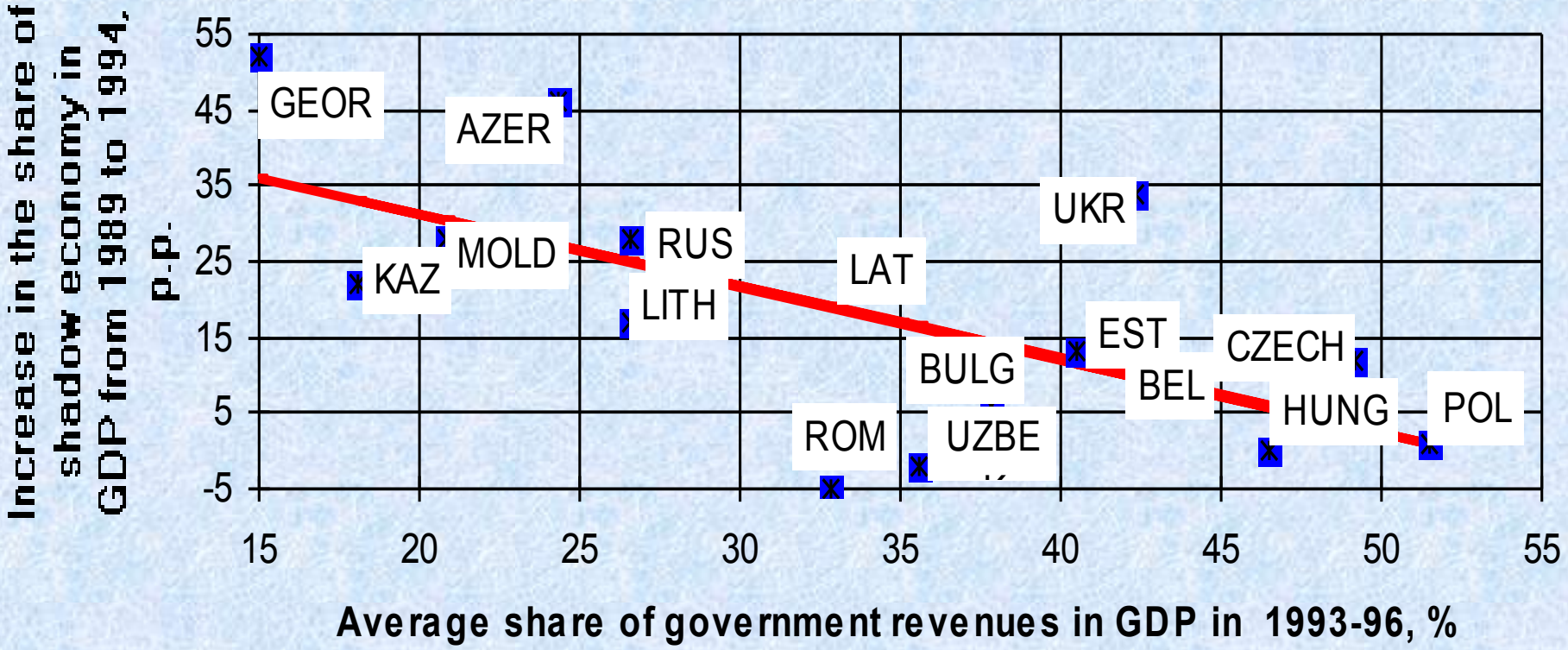
Country	Underground income as a % of GNP		Current receipts of government as a % of GDP, 1978
	1960	1978	
Sweden	5.4	13.2	57.5
Belgium	4.7	12.1	42.4
Denmark	3.7	11.8	49.6
Italy	4.4	11.4	36.0
Netherlands	5.6	9.6	50.9
France	5.0	9.4	42.3
USSR	5 (1965)	10 (1980)	47.0 (1980)
Norway	4.4	9.2	52.0
Austria	4.6	8.9	46.2
Canada	5.1	8.7	36.2
West Germany	3.7	8.6	44.7
United Kingdom	4.6	8.0	37.5
Finland	3.1	7.6	38.0
Ireland	1.7	7.2	35.2
Spain	2.6	6.5	27.1
Switzerland	1.1	4.3	33.8
Japan	2.0	4.1	24.5

Source: Gardner S. *Comparative Economic Systems*. N.Y., The Dryden Press, 1988, p. 24.

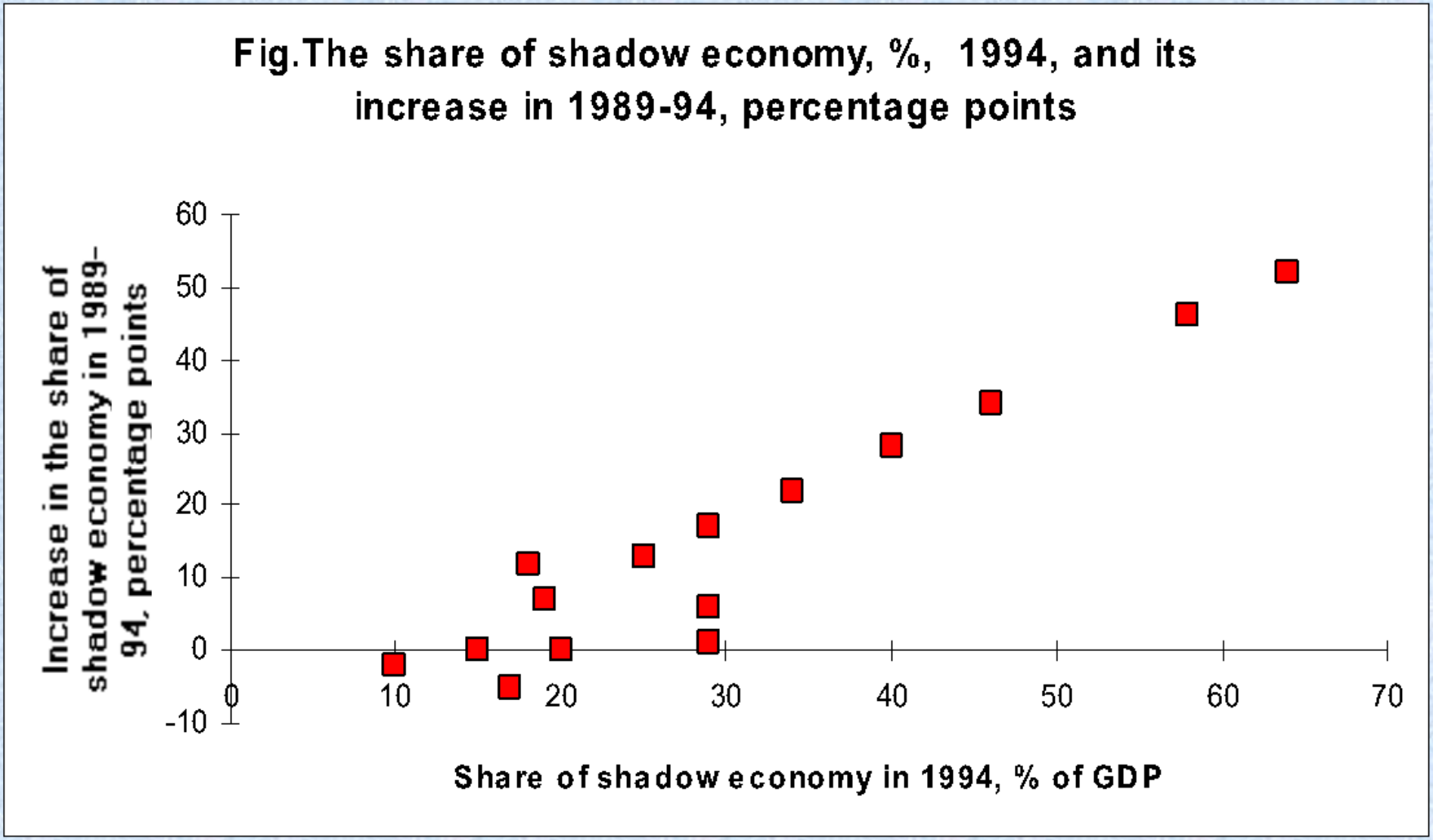
Normally, the higher are tax rates, the larger is shadow economy

In transition economies, the lower are state revenues the larger is the shadow economy

Fig. 11. Government revenues and shadow economy, % of GDP, 1989-96

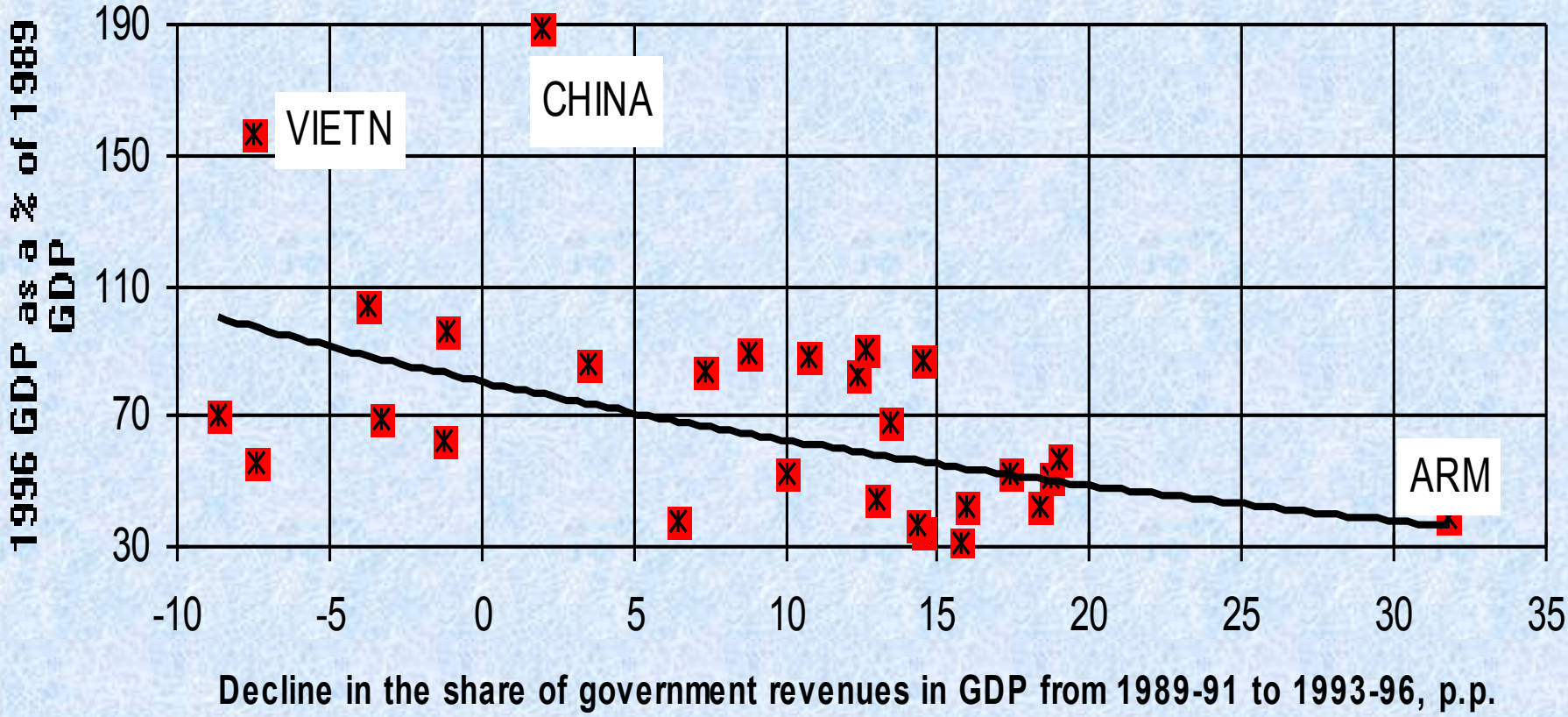


The shadow economy in post-communist countries emerged mostly during transition

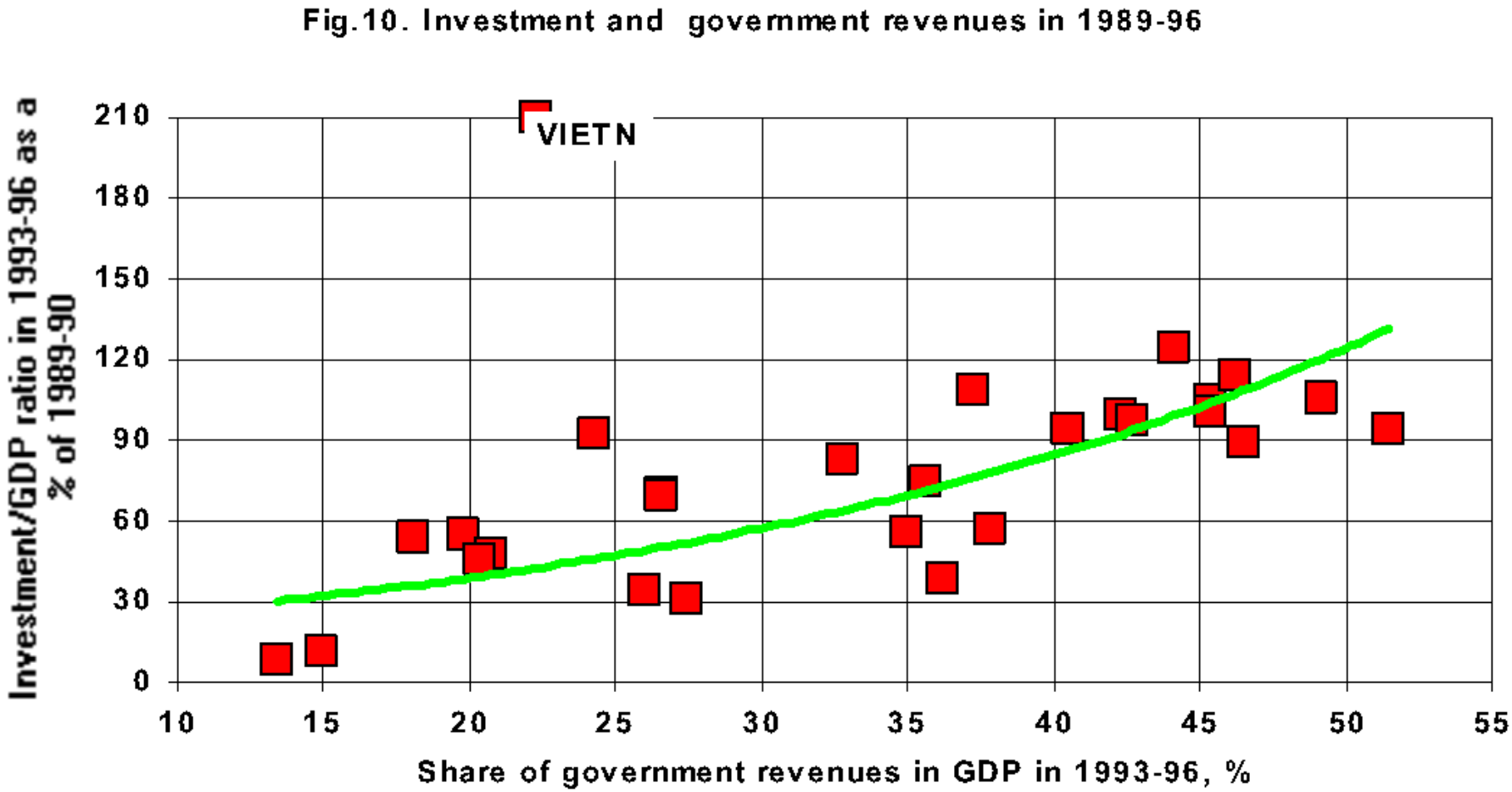


The decline in government revenues is correlated with performance

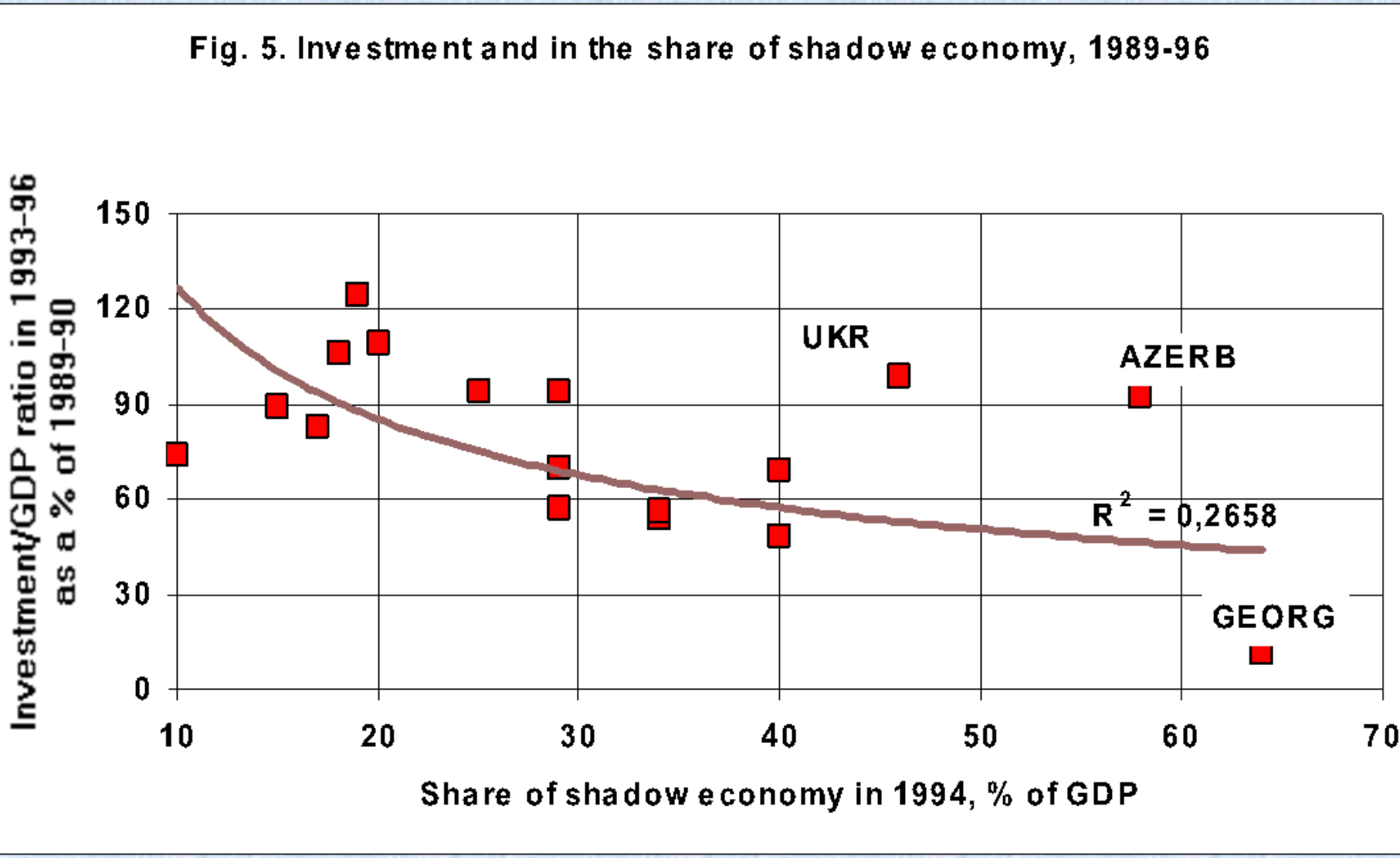
Fig. 12. Change in GDP and in the share of government revenues in GDP



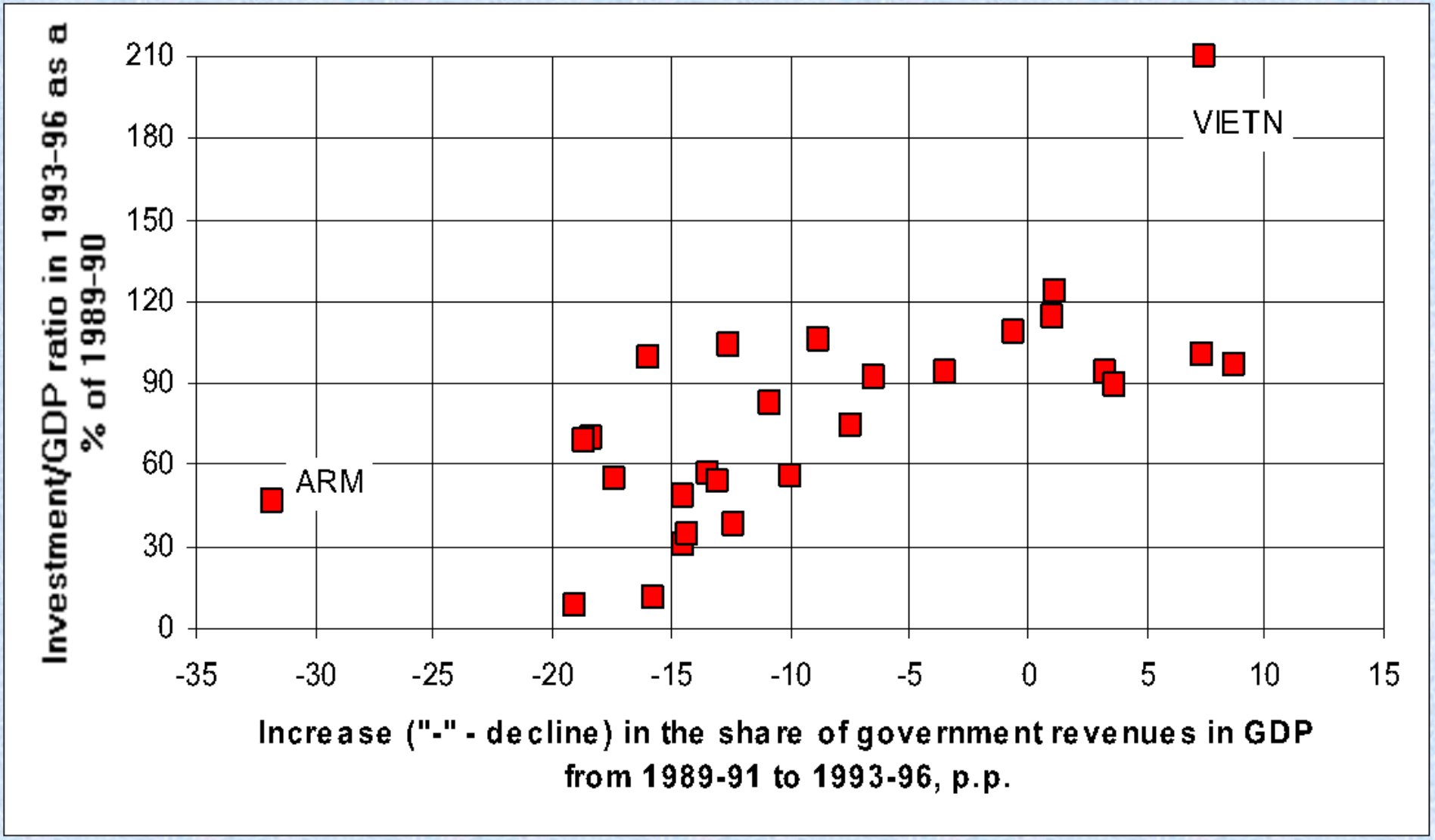
Investment were higher in countries where government revenues were higher



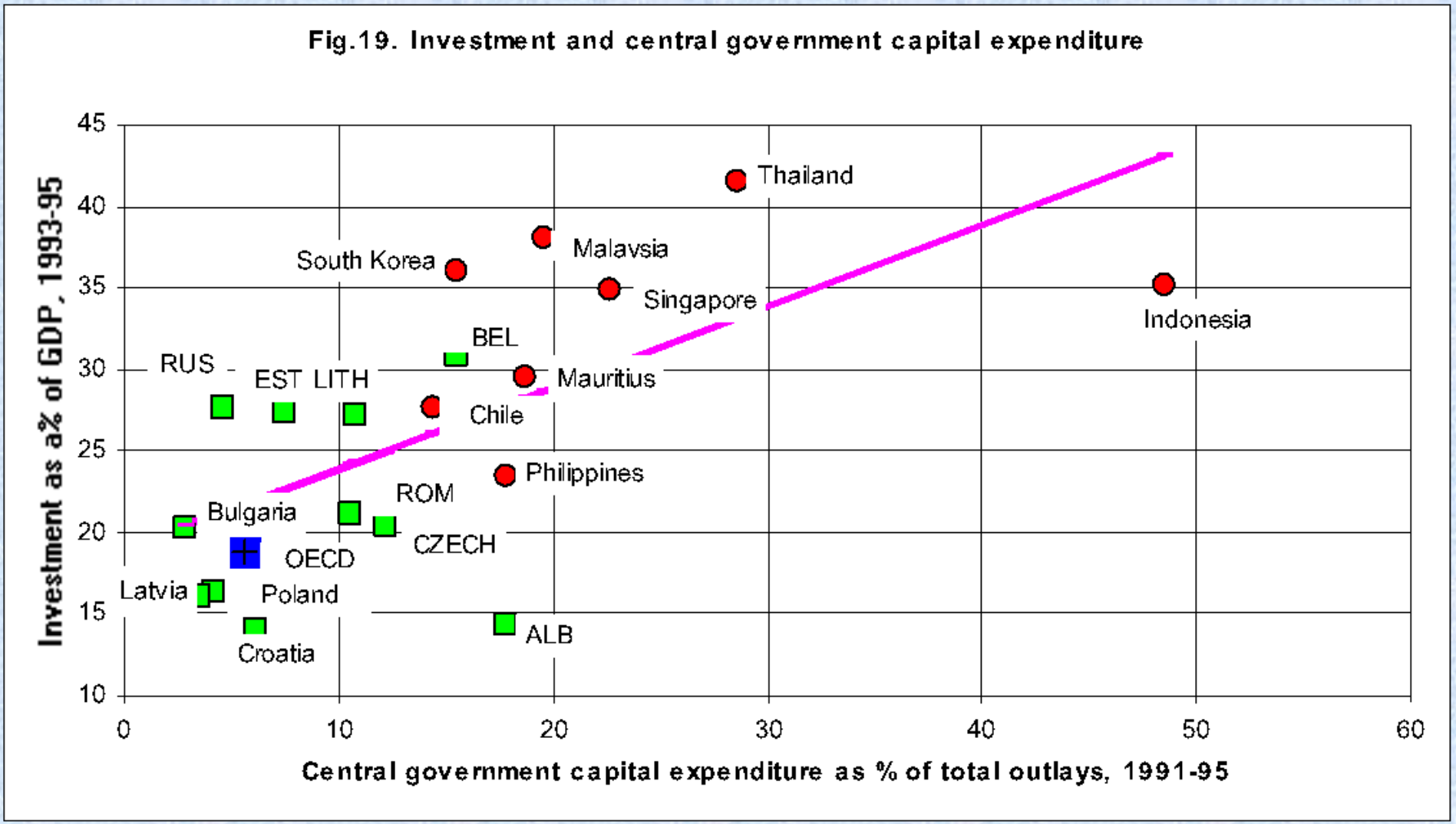
Investment growth is higher in countries with small shadow economy



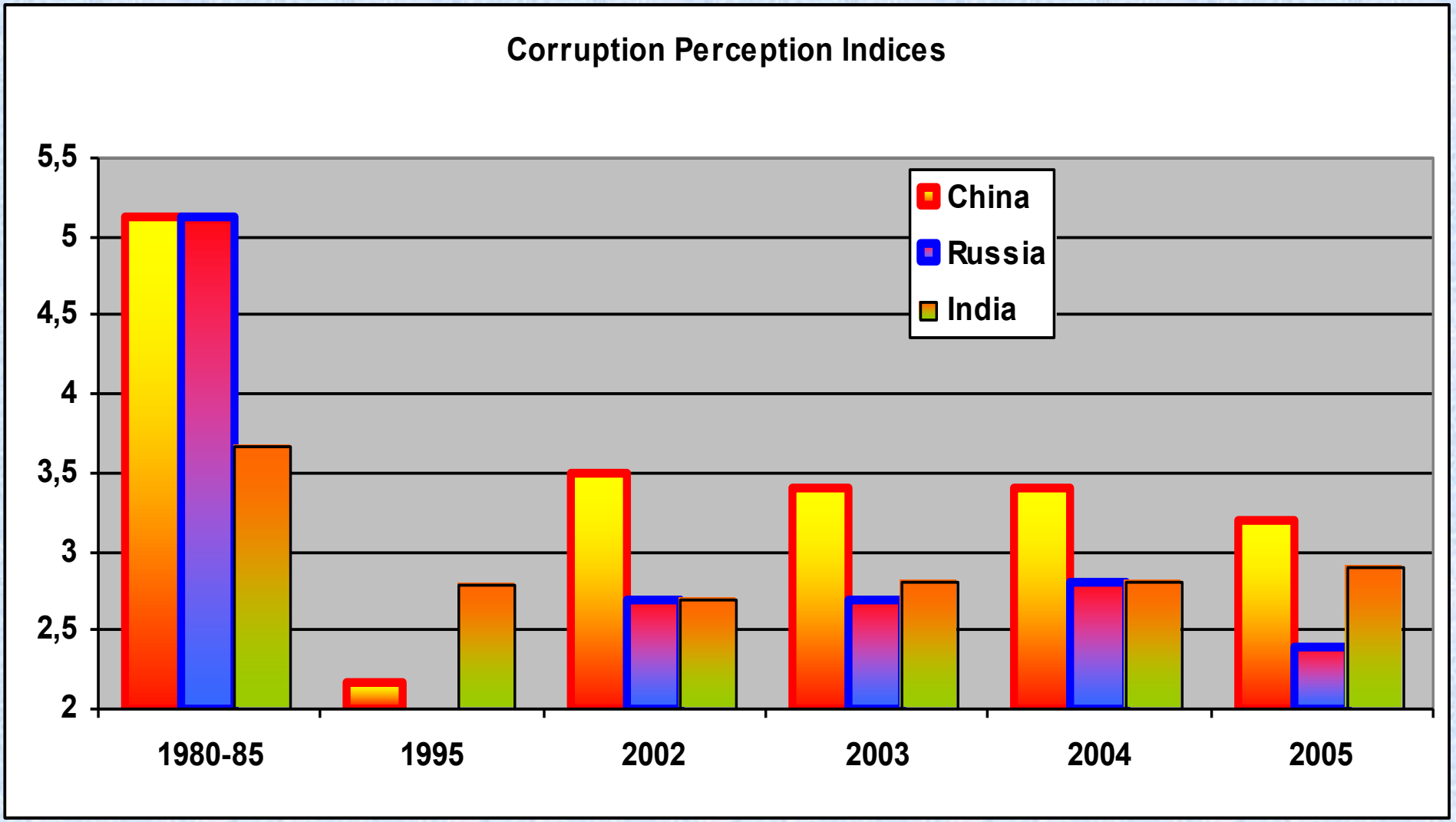
Investment growth is higher in countries with smaller decline in government revenues



Government investment go hand in hand with private investment



Corruption today is much higher in China and Russia than on the eve/before transition

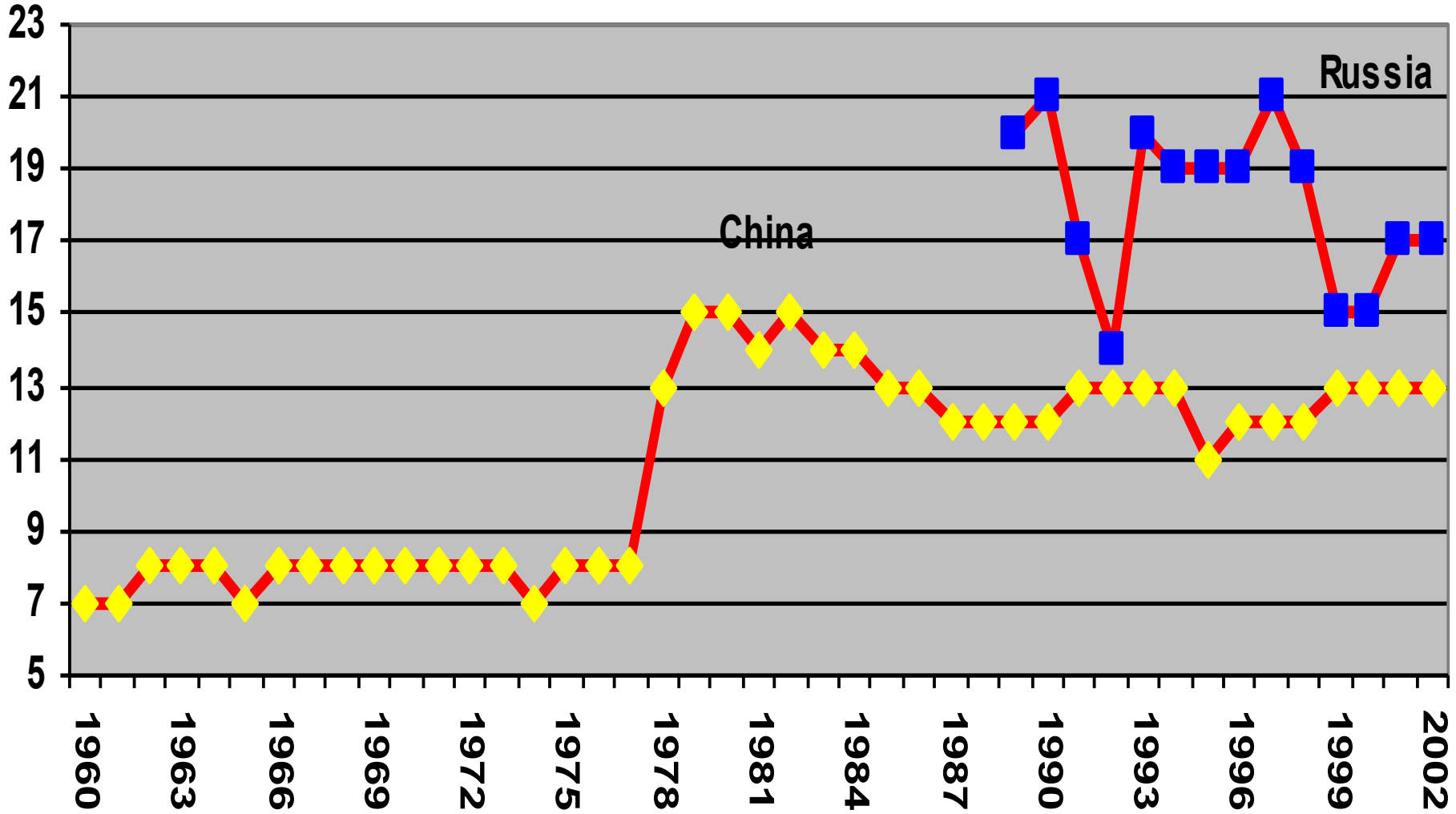


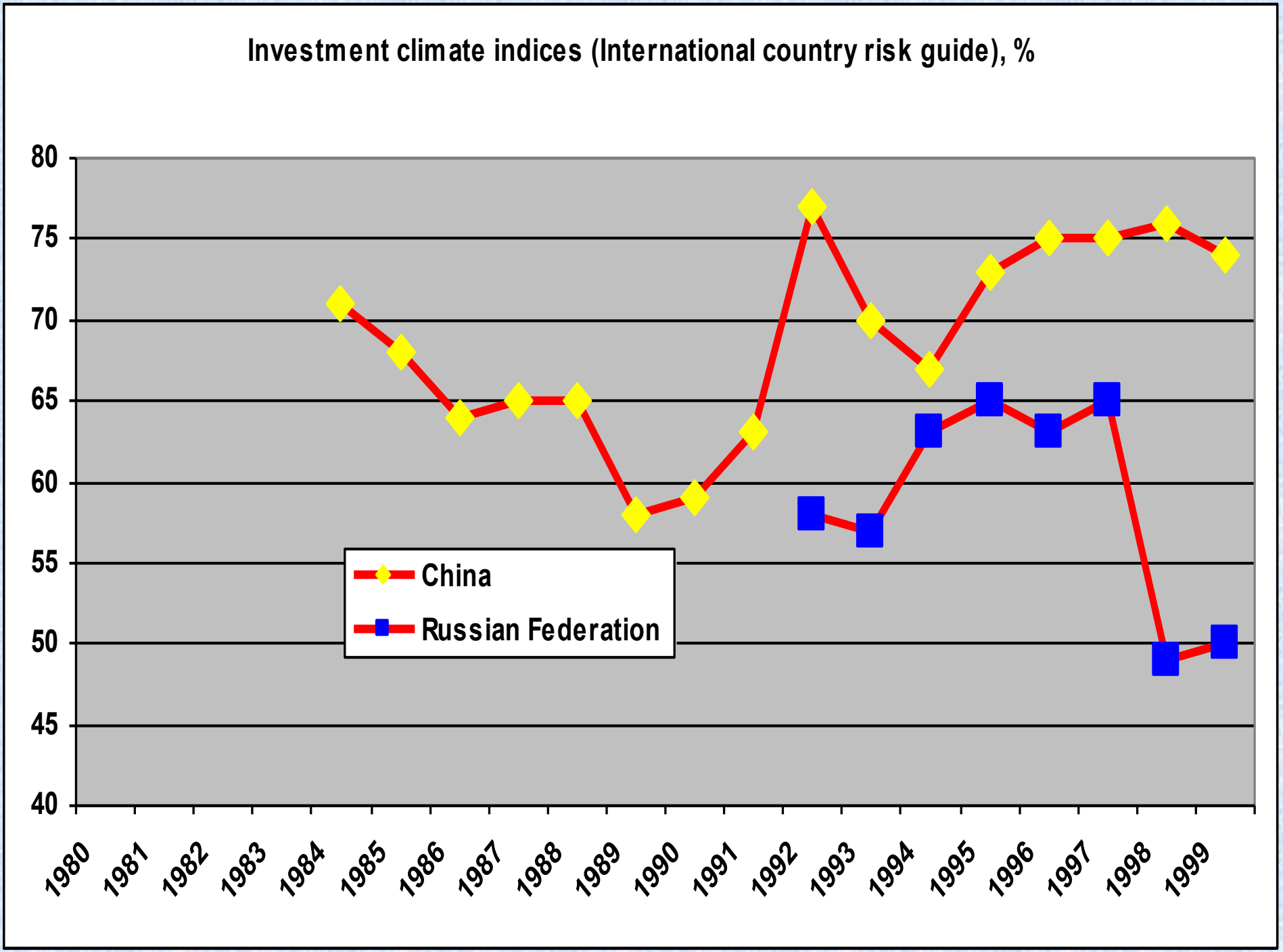
Government collapse: corruption

- In 1980-85 on a list of 54 states the USSR was just about in the middle: the Soviet bureaucracy was cleaner than that of Italy, Greece, Portugal, South Korea and all developing countries, but more corrupt than in other developed states

- In 1996, after the transition to market economy and democracy, Russia in the same list of 54 countries was at the 48-th place, between India and Venezuela.

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




Investment climate indices (International country risk guide), %
80
75
70
65
60
55
50
45
40
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
China
Russian Federation

Evaluating the impact of non-policy and policy factors: institutional capacities added

Table 5. Regression of change in GDP on non-policy and policy-related factors (all coefficients are significant at 5% level except those in brackets)
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=17	6, N=17
Constant	5.23	4.96	5.55	5.71	5.91	6.07
Distortions, % of GDP[a]	-.01	-.01	-.01	-.01	-.00	-.00
1987 PPP GDP per capita, % of the US level	-.01	-.02	-.01	-.01	-.02	-.01
War dummy[b]	-.63	-.58	-.40	-.40	0.26[c]	0.27[c]
Decline in government revenues as a % of GDP from 1989-91 to 1993-96	-.01	-.01	-.01	-.01		
Liberalization index		(.07)		(-0.4)		(-.05)
Log (Inflation, % a year, 1990-95, geometric average)			-.12	-.14	-.12	-.14
Shadow economy as a % of GDP in 1994					-.02	-.02
Adjusted R^2, %	75	75	85	84	92	91

[a]Cumulative measure of distortions as a % of GDP equal to the sum of defense expenditure (minus 3% regarded as the 'normal' level), deviations in industrial structure and trade openness from the 'normal' level, the share of heavily distorted trade (among the FSU republics) and lightly distorted trade (with socialist countries) taken with a 33% weight (see Appendix for details).

[b]Equals 1 for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan and 0 for all other countries.

[c]Significant at 8% level.

Evaluating the impact of non-policy and policy factors: institutional capacities added

Dependent variable = log (1998 GDP as a % of 1989 GDP)
For China - all indicators are for the period of 1979-88 or similar

Equations, Number of observations / Variables	1, N=28	2, N=28	3, N=28	4, N=28	5, N=17	6, N=17	7, N=17	8, N=17
Constant	5.30	4.88	5.68	5.73	5.74	5.43	5.86	6.08
Distortions, % of GDP[a]	-.01	-.01	-.01	-.01	-.01	-.01 [c]	(-.00)	(-.00)
1987 PPP GDP per capita, % of the US level	-.01	-.02	-.01	-.01	-.01	-.02	-.01[c]	(-.01)
War dummy[b]	-.67	-.58	-.38	-.37				
Decline in government revenues as a % of GDP from 1989-91 to 1993-96	-.02	-.01	-.01	-.01				
Liberalization index		(.11)		(-.01)		(.11)		(-.06)
Log (Inflation, % a year, 1990-95, geometric average)			-.15	-.15			-.13	-.16
Shadow economy as a % of GDP in 1994					-.02	-.02	-.01	-.02
Adjusted R^2, %	67	69	80	80	72	73	82	81

[a]Cumulative measure of distortions as a % of GDP equal to the sum of defense expenditure (minus 3% regarded as the 'normal' level), deviations in industrial structure and trade openness from the 'normal' level, the share of heavily distorted trade (among the FSU republics) and lightly distorted trade (with socialist countries) taken with a 33% weight (see Appendix for details).

[b]Equals 1 for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan and 0 for all other countries.

[c]Significant at 8% level.

Best performance: low distortions, strong institutions
Worst performance: high distortions, weak institutions

INITIAL CONDITIONS (DISTORTIONS) AND INSTITUTIONS – CLASSIFICATION OF COUNTRIES

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

Empirical evidence:

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

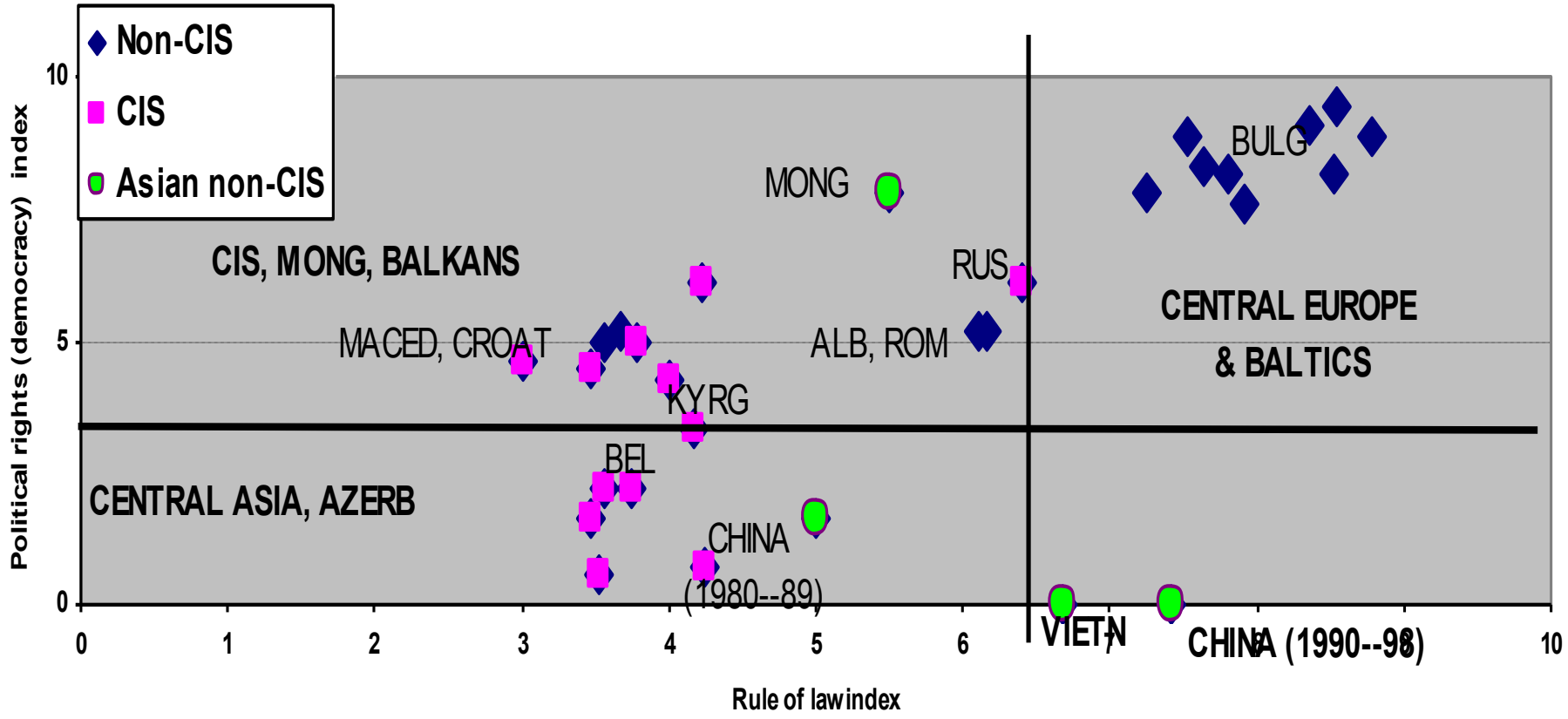
LAW AND ORDER // DEMOCRACY	WEAK LAW AND ORDER	STRONG LAW AND ORDER
MORE DEMOCRATIC	**WEAK (ILLIBERAL) DEMOCRACIES:** **Sub-Sahara Africa, South Asia, Latin America** (most CIS, Mongolia, Balkans)	**STRONG (LIBERAL) DEMOCRACIES:** **OECD countries, S. Korea, Taiwan, Philippines, Argentina, Brazil, Mexico**,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

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

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

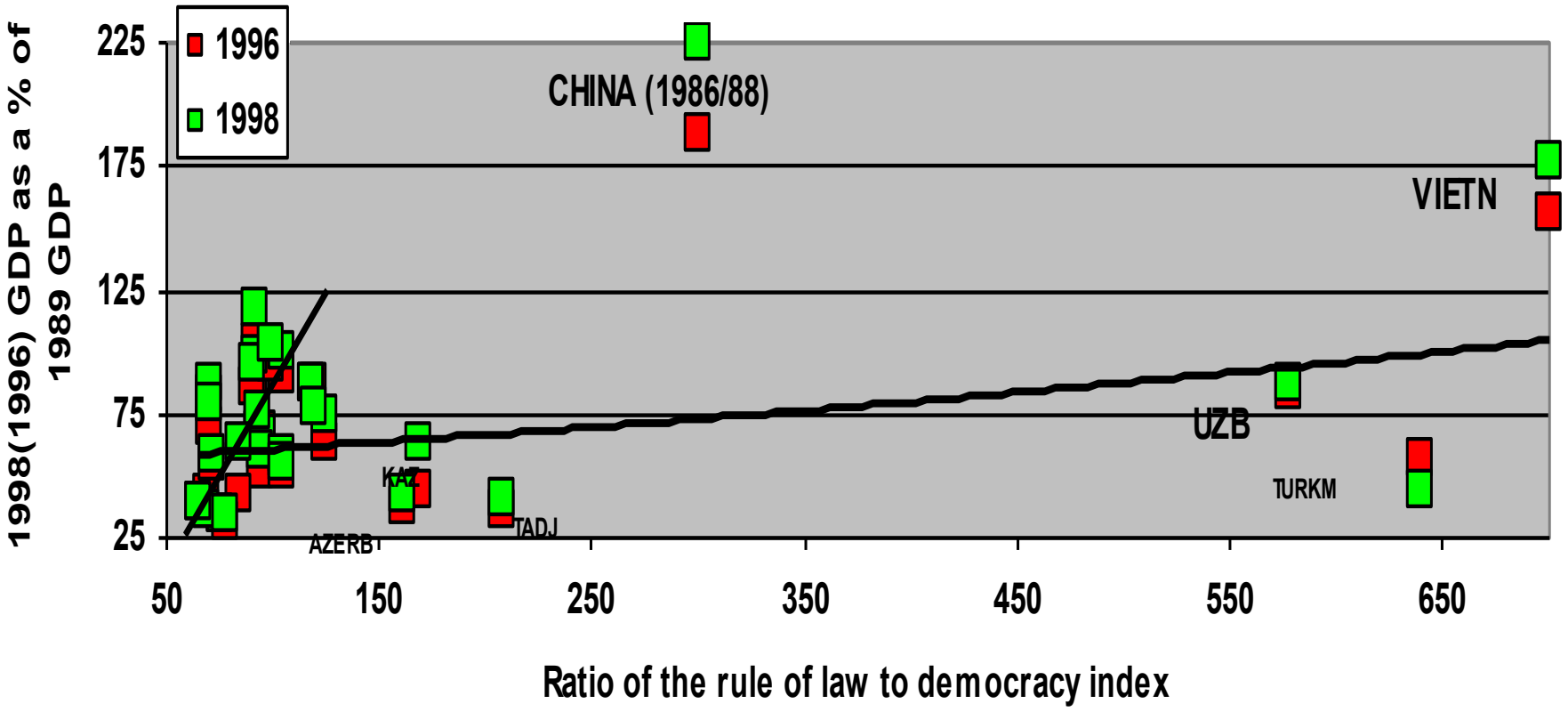
Strong authoritarian regimes (China, Vietnam),
weak authoritarian regimes (Central Asia, Azerbaijan, Belarus),
strong democratic regimes (Central European countries),
weak democratic regimes (most FSU and Balkan states)

Fig. 14. Indices of the rule of law and political rights (democracy), 0-10 scale, higher value represent stronger rule of law and democracy



Democratization without strong rule of law usually leads to the collapse of output

Fig. 15. Ratio of the rule of law to democracy index and output change



Nearly 80%of all variations in output can be explained by only three factors - pre-transition distortions, inflation, and rule-of-law-to-democracy index

Table 7. Regression of change in GDP in 1989-96 on initial conditions, policy factors, and rule of law and democracy indices (all coefficients are significant at 9% level except those in brackets)

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

For China - all indicators are for the period of 1989-96 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
Constant	5.33	5.26	5.26	5.40	5.41	5.50
Distortions, % of GDP[a]	-.004	-.004	(-.003)	-.006	-.007	-.007
1987 PPP GDP per capita, % of the US level				-.007	-.009	-.008
War dummy[b]				-.19	-.36	-.37
Decline in government revenues as a % of GDP from 1989-91 to 1993-96					-.011	-.011
Liberalization index			(.015)			(-.018)
Log (Inflation, % a year, 1990-95, Geometric average)	-.19	-.20	-.20	-.17	-.13	-.14
Rule of law index, average for 1989-97, %	.(007)[c]					
Democracy index, average for 1990-98, %	-.007					
Ratio of the rule of law to democracy index		.088	.090	.060	.048	.046
Adjusted R^2, %	76	79	79	82	88	87

[a] Cumulative measure of distortions as a % of GDP equal to the sum of defense expenditure (minus 3% regarded as the 'normal' level), deviations in industrial structure and trade openness from the 'normal' level, the share of heavily distorted trade (among the FSU republics) and lightly distorted trade (with socialist countries) taken with a 33% weight (see Appendix for details).

[b] Equals 1 for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan and 0 for all other countries.

[c] Significant at 14% level.

Explaining the magnitude of recession: conclusion

- **Differences in performance during transition depend strongly on the initial conditions:**
  - **The higher the distortions (militarization, over-industrialization, "under-openness" of the economy and the share of perverted trade flows), the worse is the performance**
  - **The higher was GDP per capita before transition, the greater were distortions embodied in fixed capital stock, the more difficult it was to overcome these distortions to achieve growth**

Explaining the magnitude of recession: conclusion

- Changes in the institutional capacities of the state have dramatic impact on performance
- Macroeconomic stability matters a great deal for economic performance
- Liberalization index does not appear to be important

Democracy and growth reconsidered: why economic performance of new democracies is not encouraging

- Democracy is widely regarded as one of the goals of development and reforms
- But the performance of the "third wave" democracies – countries that democratized since 1974 – is disappointing
- It appears that the impact of changes in democracy on economic and social development is different for developed and developing countries
    - Especially when the strength of the rule of law is taken into account

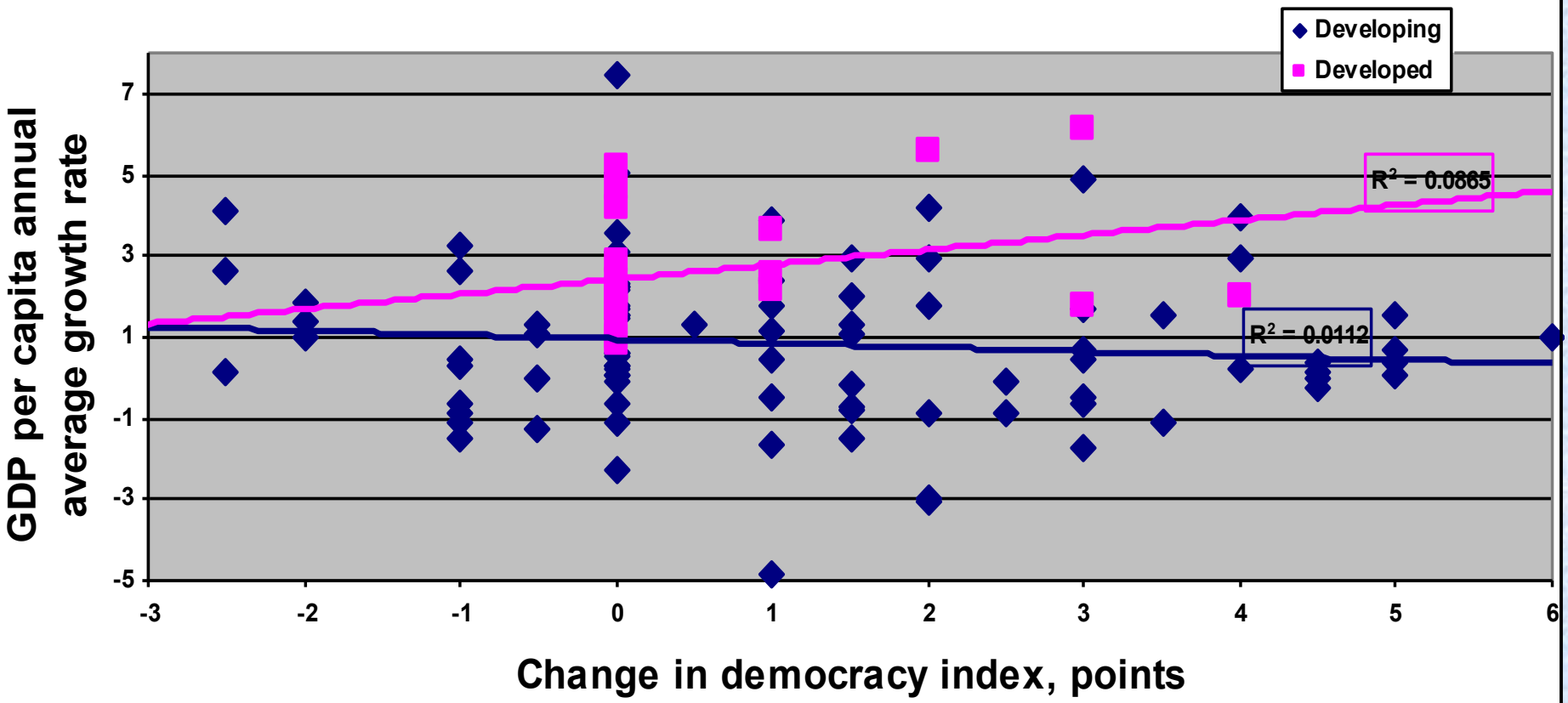
Description statistics for new democracies

Countries	All new democracies (62)	Transition countries (20)	Developing countries (42)	All except new democracies (148)	All countries (210)
Improvement of the index of political rights from 1972-75 to 1999-2002	3,31	3,98	3,00	-0,20	0,98
ICRG risk rating, 2000	65,104	66,017	64,591	68,918	67,417
Ratio of investment climate to increase of democracy index, %	9,013	8,279	9,425	20,184	15,786
PPP GDP per capita in 1999	5510	6900	4885	9588	8059
Increase in life expectancy from 1970-75 to 1995-2000	5,749	1,958	7,550	7,022	6,574
Annual average growth of GDP per capita in 1975-99	0,818	0,296	0,876	1,410	1,225
Index of government effectiveness in 2001	-0,193	-0,162	-0,210	0,088542	-0,007
Unofficial economy, 1st estimate	35,1	28,2	40,5	21,8	28,2
Unofficial economy, 2nd estimate	33,6	24,8	40,4	23,3	28,3
Share of central government revenues in GDP in 1995-99 as a % of 1971-75	132	56	136	164,9652	154
Average annual budget deficit, 1975-99, % of GDP	-4,49	-3,26	-5,01	-3,94308	-4,13
Average annual inflation, 1975-99, %	30,3	16,6	31,1	13,23991	18,8
Average FOREX, months of imports, 1970-99	3,12	2,62	3,35	3,358422	3,27
Increase in FOREX, months of imports, from 1980 to 1999	1,53	3,14	0,81	0,446896	0,84
Ratio of prices of energy to prices of clothing in 1993, % (US=107%)	101,0	48,9	145,1	117,619	110,9

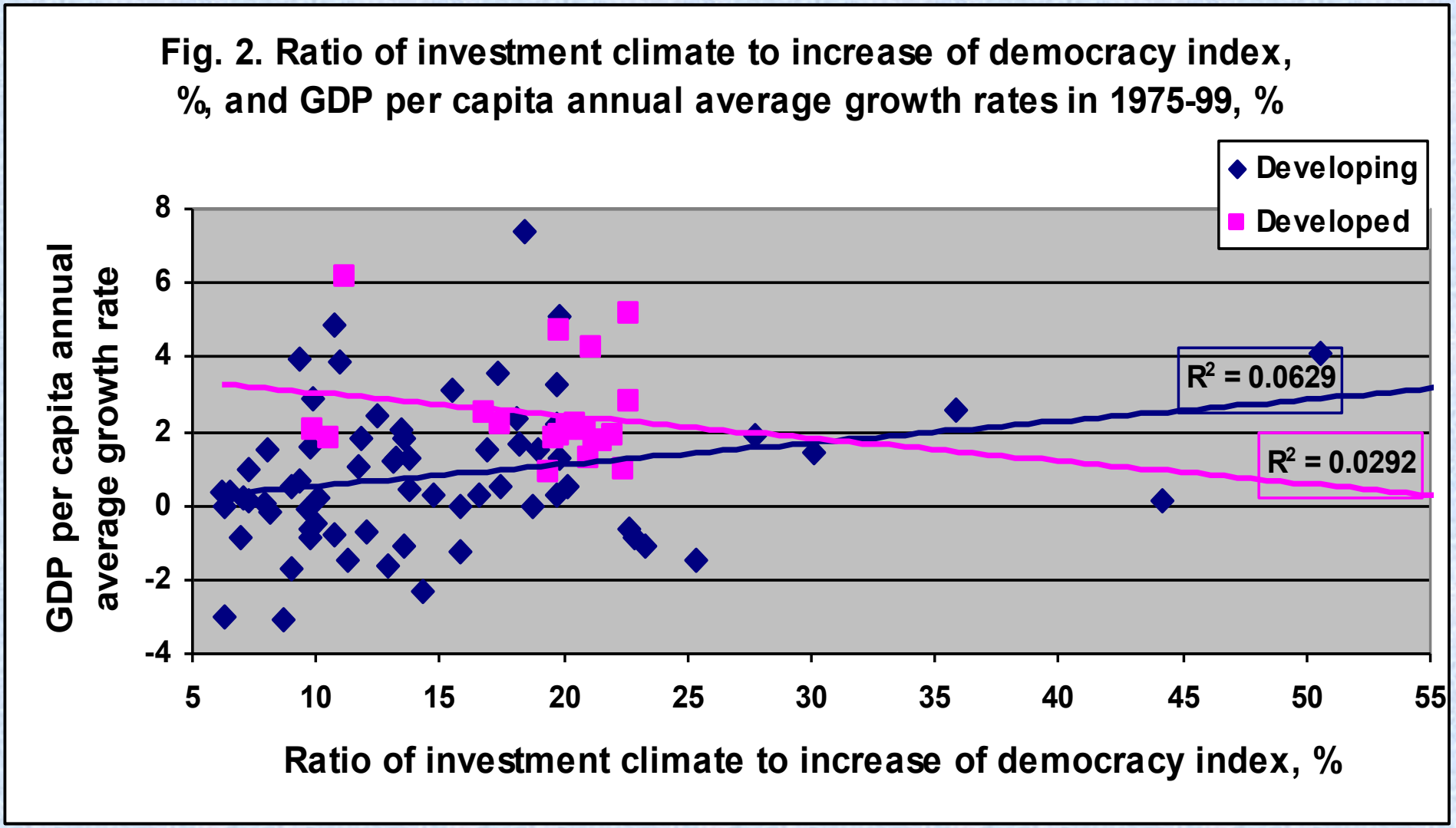
Source: World Bank, 2001; World Development Institute (WDI, 2001); Freedom House; UNDP (2002); Friedman, Johnson, Kaufmann, Zoido-Lobaton (1999).

For developing countries with poor rule of law greater democratization in 1975-99 was associated with lower growth rates

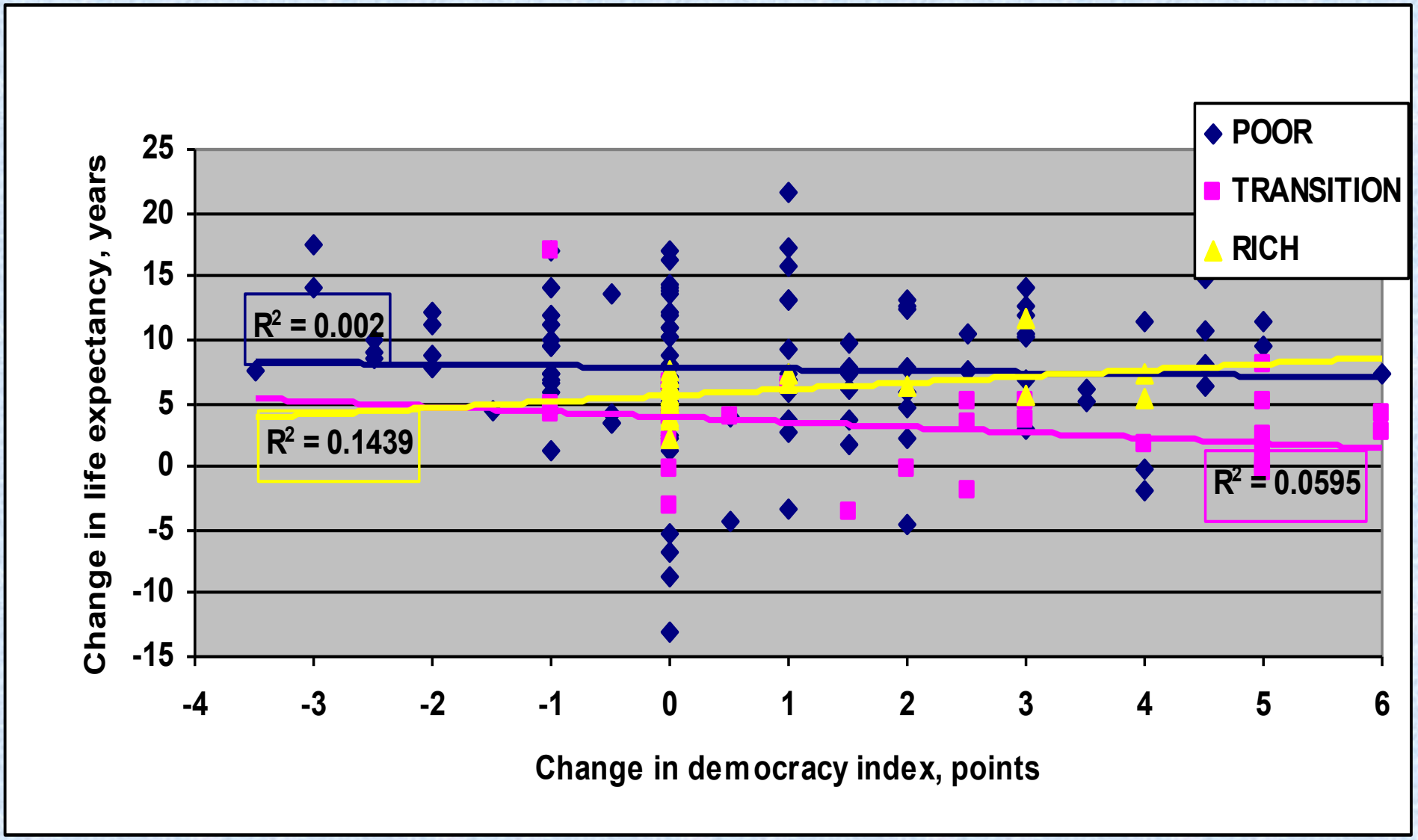
Fig. 1. Change in democracy (political rights) index, points, and GDP per capita annual average growth rates in 1975-99, %



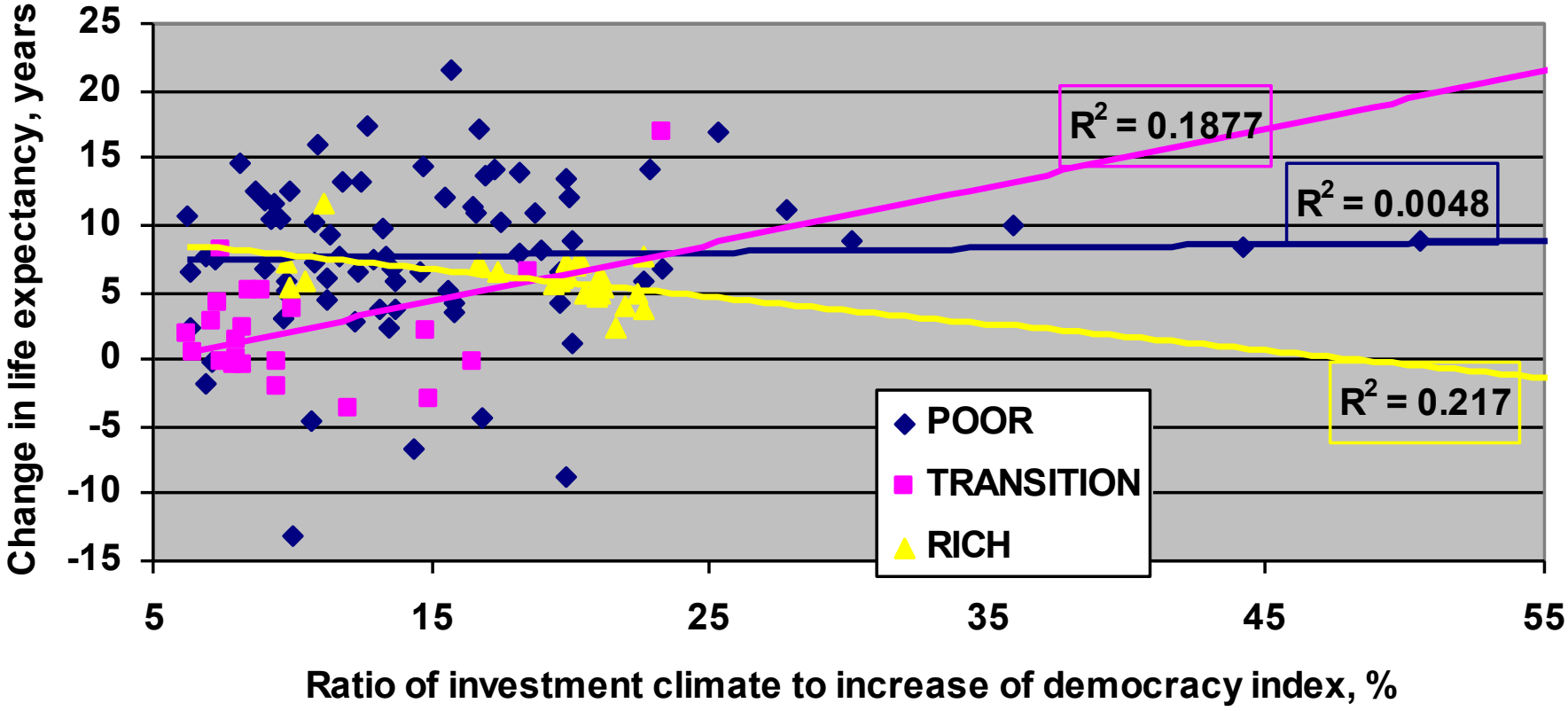
For developing countries with poor rule of law greater democratization in 1975-99 was associated with lower growth rates



Changes in the life expectancy, years, and in democracy index, points, in 1970-2000



Changes in the life expectancy, years, and the ratio of investment climate to increase of democracy index, %, in 1970-2000



For developing countries with poor rule of law greater democratization in 1975-99 was associated with lower growth rates

Factors explaining the average growth rate of GDP per capita in 1975-99 – cross country OLS regression results

Dependent variable	Average growth rate of GDP per capita in 1975-99					
Number of observations	85	85	85	85	85	85
PPP GDP per capita in 1975	-.0005 ***	-.0005 ***	-.0005 ***	-.0005 ***		
2000 investment climate index, ICRG	.11***	.10***	.11***	.11***	.10***	.10***
Average investment/GDP ratio in 1975-99	.11***	.12***	.10***	.12***	.11***	.12***
Average population growth rate in 1975-99	-.58 ***	-.53 ***	-.73 ***	-.84 ***	-.69***	-.83***
Level of democracy in 1972-75 (lower values mean more democracy)		**-.19****				
Increase in democracy index in 1970-2000 (positive values mean democratization)			**-.20 *****	**-.18****		
Ratio of the rule of law (ICRG inv. Index) to democratization in 1975-2000					**.04****	**.04****
Transition economies dummy				-1.03 (Tstat =-1.25)		-1.29 (Tstat =-1.59)
Constant	-6.81 ***	-5.60 ***	-5.90 ***	-5.60***	-6.38 ***	-5.91 ***
Adjusted R^2	54	56	57	57	56	57

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

Threshold regressions

Table 2. Factors explaining the average growth rate of GDP per capita in 1975-99 (democratization and the rule of law) – cross country OLS regression results (T-statistics – in brackets)

Dependent variable	Average growth rate of GDP per capita in 1975-99				
Number of observations	84	97	84	45	45
2000 investment climate index, ICRG (ranges from 0 to 100%, higher values – better climate)	0.1*** (4.18)		0.07*** (3.40)		
PPP GDP per capita in 1975				-.0008*** (-4.99)	-.0006*** (-4.80)
Log PPP GDP per capita in 1975	-3.27*** (-6.22)	-2.43*** (-5.37)	-3.03*** (-6.44)		
Average investment/GDP ratio in 1975-99, %		0.12*** (4.89)	0.12*** (4.44)		
Average population growth rate in 1975-99, %	-0.45** (-2.23)	-0.33* (-1.85)	-0.45*** (-2.51)	-1.45*** (-4.27)	-1.18*** (5.26)
Increase in democracy index in 1970-2000 (positive values mean democratization)	-0.13* (-1.65)	-0.11 (-1.56)	-0.13* (-1.83)	-0.49*** (-4.12)	-0.42*** (-4.91)
Interaction term = Rule of law index *Democratization in 1975-2000	0.19*** (3.15)	0.31*** (6.85)	0.18*** (3.41)		
Interaction term = Corruption perception index in 1980-85*Democratization in 1975-2000				0.07*** (3.84)	0.05*** (3.50)
Constant	6.52*** (3.09)	7.33*** (4.09)	4.71** (2.46)	7.79*** (6.13)	2.10** (1.90)
Adjusted R^2	53	56	63	46	73

*, **, *** - Significant at 10%, 5% and 1% level respectively. Robust estimates for T-statistics and standard errors to control for heteroscedasticity.

Threshold regressions reorganized

- **Equation 3 in the previous table can be reorganized as:**

GROWTH= CONST. + CONTR.VAR. + D*(0.18RofL – 0.13),
where D – democratization (change in democracy index in 1970-2000), RofL – rule of law index.

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**

- **The forth equation in table is:**

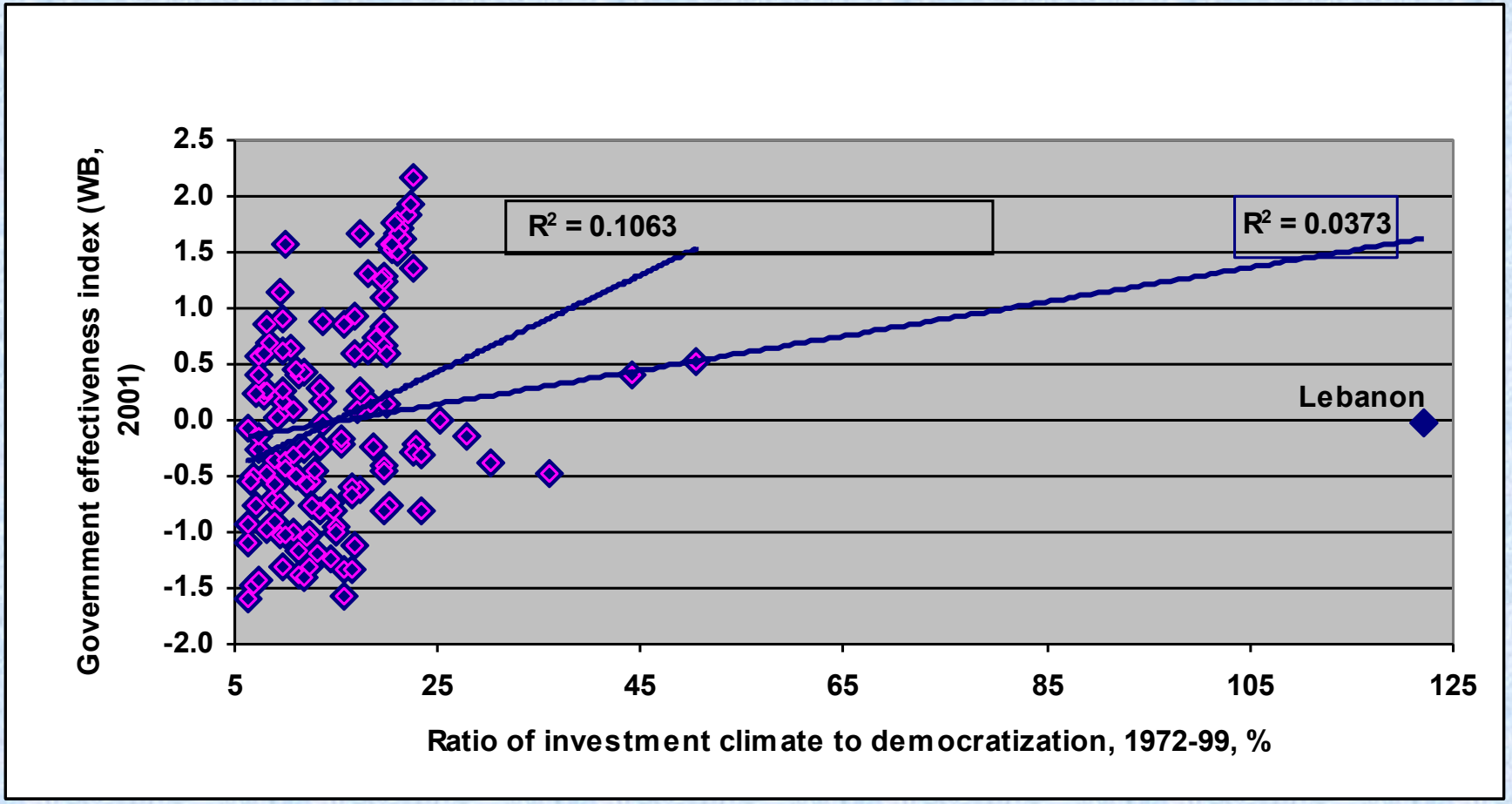
GROWTH = CONST + CONTR. VAR. + D*(0.0729CORR – 0.485),
where CORR is the corruption perception index.
The critical level of corruption index is 6.65

- **approximate level of corruption in Chile, Malaysia, Spain in the early 1980s), democratization**
- **if the index is higher, democratization has positive impact on growth. If it is lower, democratization has significant negative impact on growth.**

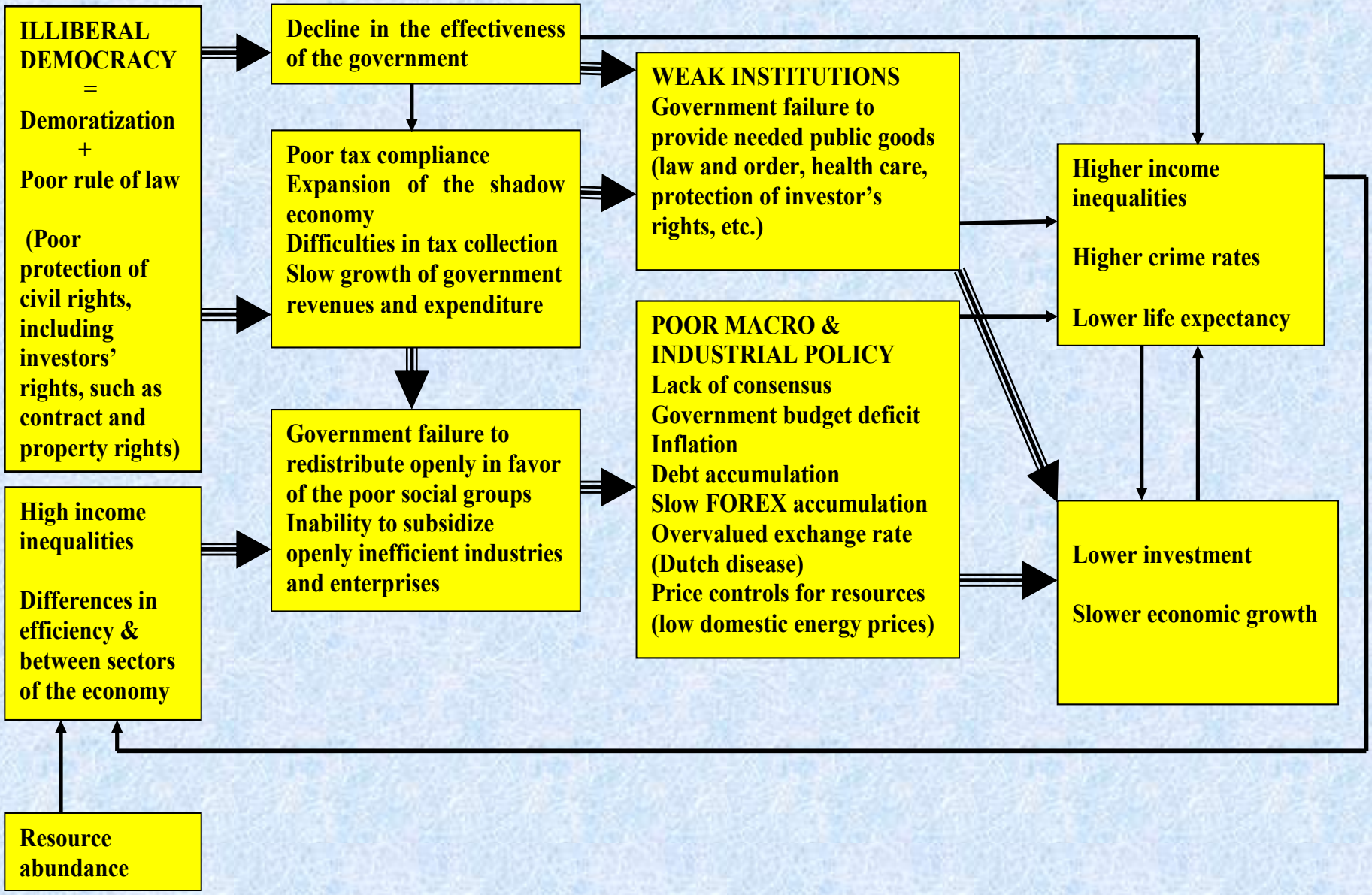
Mechanism of such influence: hypotheses

- Democratization under poor rule of law leads to the decay of state institutional capacity
  - because it undermines the effectiveness of the government regulations, including tax regulations (leads to the expansion of the shadow economy) and limits the growth of government revenues
- Democratization under poor rule of law makes it difficult to carry out prudent macroeconomic policy and export oriented industrial strategy
  - because the state becomes the hostage of industrial lobbies and populist groups

Government effectiveness index (WB, 2001) and the ratio of investment climate to democratization, 1972-99



ECONOMIC AND SOCIAL COSTS OF ILLIBERAL DEMOCRACIES



Factors explaining government effectiveness in 2001

Dependent variable	Government effectiveness in 2001				Difference between the government effectiveness and rule of law indices		
Number of observations	155	131	154	45	113	101	87
PPP GDP per capita in1975						.00003***	-.00005***
Log GDP per capita in 1975				.93***			
1999 GDP per capita		.00001*			-.00002**		
2000 investment climate index, ICRG					.01**		.007*
Rule of law index (WDI, 2001)	.92***	.83***	.41***				
Transparency and accoun-tability index (WDI, 2001)			.09*				
Political stability index (WDI, 2001)			.11**				
Control of corruption index (WDI, 2001)			.25***				
Quality of regulations index (WDI, 2001)			.18***				
Increase in democracy index in 1970-2000 (positive values mean democratization)	**-.03****	**-.03***	**-.06*****	0.10**	**-.04****	**-.04****	**-.04***
Interaction term = democratization*corruption perception index in 1980-85				0.03***			
Constant	0.13*	.04	.28***	2.78***	-.63**	.14***	-.31
Adjusted R^2	86	87	90	70	7	7	10

*, **, *** - Significant at 10%, 5% and 1% level respectively. Robust estimates for T-statistics and standard errors to control for heteroscedasticity.

Factors explaining increase in government revenues in 1975-99 and the share of shadow economy in GDP in the 1990s

Dependent variable	Share of central gov. revenues in GDP in 1995-99 as a % of 1971-75		Share of the shadow economy in GDP in the 1990s				
			1st estimate				2nd estimate
Number of observations	66	56	47	47	47	33	47
PPP GDP per capita in 1975						0.002 **	
Log GDP per capita in 1975	.80***	.80***	-37.9 ***	-36.8 ***	-29.5 ***		-33.5***
2000 investment climate index, ICRG					-.58 **		
Share of central government revenues in GDP in 1971-75, %	-10.80 ***	-13.10 ***					
Level of democracy in 1972-75 (lower values mean more democracy)	67.71 ***	73.01 ***					
Increase in democracy index in 1970-2000 (positive values mean democratization)	-34.08**				2.00*	3.74***	
Ratio of the rule of law (ICRG inv. index) to democratization in 1975-2000		7.70**	-.77**	-.94 ***			-.79**
Interaction term = democratization*corruption perception index in 1980-85						-.86***	
Transition economies dummy				-9.5 (Tst = -1.2)	-13.3 (Tst = -1.6)	-22.7***	-14.0*
Constant	73.0	-218.3 *	171.4 ***	170.8 ***	163.3 ***	37.50 ***	159.0***
Adjusted R^2	64	69	58	59	60	78	58

*, **, *** - Significant at 10%, 5% and 1% level respectively. Robust estimates for T-statistics and standard errors to control for heteroscedasticity.

Impact on investment and growth of government revenues in 1975-99 and the share of shadow economy in GDP in the 1990s

Dependent variable	Average investment/GDP ratio in 1975-99		Average growth rate of GDP per capita in 1975-99			
Number of observations	56	51	62	62	47	47
PPP GDP per capita in 1975	-.001***	-.001***	-.0002*	-.0003**		
Log PPP GDP per capita in 1975					-4.97***	-4.99***
2000 investment climate index, ICRG	.32***	.21***			.15***	.16***
Average population growth rate in 1975-99			-.93***	-1.08***		
Share of central gov. rev. in GDP in 1971-75, %	.15**	.14*		.05(Tst= 1.62)		
Share of central gov. rev. in GDP in 1995-99 as a % of 1971-75	**.011*** **	**.05** **	**.011***	**.014***		
Share of the shadow economy in GDP in the 1990s, 1st estimate					**-.044*** **	
Share of the shadow economy in GDP in the 1990s, 2nd estimate						**-.044*** **
Log of annual average inflation in 1975-99		-1.51**				
Transit. economies dummy				-3.82*		
Constant	-.21	5.62	2.61**	1.88	9.31***	8.49***
Adjusted R^2	32	34	12	16	61	59

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

Factors explaining inflation, budget deficit and accumulation of foreign exchange reserves (FOREX) in 1975-99

Dependent variable	Logarithm of average annual inflation in 1975-99, % (GDP deflator)		Average annual budget surplus as a % of GDP in 1975-99	Policy-induced change in FOREX/GDP ratio in 1970-99, p.p.		Average ratio of FOREX to import in 1970-99, months
Number of observations	87	83	115	122	122	123
Log PPP GDP per capita in 1975		.66**				
2000 investment climate index, ICRG	-.05***	-.07***	.25***	.23***		
Share of central government revenues in GDP in 1971-75, %						
Level of democracy in 1972-75 (lower values mean more democracy)	**-.15****	**-.11 (Tst = 1.59)**	**.55****			
Increase in democracy index in 1970-2000 (positive values mean democratization)	**.19*****	**.19*****		**-.92****		
Ratio of the rule of law (ICRG inv. Index) to democratization in 1975-2000					**.51*****	**.08*****
Constant	6.5***	5.1***	-23.6***	10.0	7.3***	2.1***
Adjusted R^2	30	32	16	8	35	17

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

Factors explaining ratio of domestic to international prices

Dependent variable	Average ratio of domestic to the US prices in 1975-99, %			Ratio of relative (as a % of the US) domestic energy prices to relative clothing prices	
Number of observations	149	102	105	68	68
PPP GDP per capita in 1975		.004***	.003***		
Log PPP GDP per capita in 1999				-13.2***	-11.9***
2000 investment climate index, ICRG					
Average ratio of trade to PPP GDP in 1980-99	.37***	.34***	.31***		
Net fuel imports as a % of total import, average 1960-99	-.46***		-.40***	.73*	.87**
Interaction term = (change in democracy index)*(ratio of fuel exports to fuel imports)		**.07****			
Level of democracy in 1972-75 (lower values mean more democracy)	**-7.28*****		**-4.18*****	**9.54***	**15.4*****
Increase in democracy index in 1970-2000 (positive values mean democratization)	**2.43****		**1.45 (Tst= 1.0)**	**-11.9****	**-3.94 (Tst=-0.74)**
Transition economies dummy					-109***
Constant	62.5***	36.1***	51.6***	194***	144***
Adjusted R^2	52	48	55	18	35

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

Democracy and growth reconsidered: conclusions

- Two reasons why research on the link between democracy and growth may produce conflicting results:
  - Not only the level of democracy, but also changes in this level (democratization) matter
  - Distinction between the rule of law (liberalism or civil rights) and democracy (political rights) should be made
- In *illiberal democracies* - countries with poor tradition of the rule of law undergoing rapid democratization – there was a deterioration of institutions that had an adverse effect on economic growth
  - The weakening of the state institutional capacities occurred due to slow growth of government revenues and expenditure, as well as due to poor enforcement of government regulations (larger shadow economy)

Democracy and growth reconsidered: conclusions

- Illiberal democracies were not able to carry out reasonable macroeconomic and industrial policies
- There is a trade-off between democratization in poor-rule-of-law countries and other developmental goals.
    - Early transition to electoral democracies in countries with weak rule of law is detrimental to growth and inflicts high economic and social costs

Growth theory and transformational recession

Annual average growth rates of GDP per capita:

- **OECD – 2.5%**
- **East Asia – 4.5%**
- **South Asia – 1.8%**
- **MENA – 1.7%**
- **Latin America – 1.6%**
- **Sub-Sahara Africa – 0.3%**

GROWTH PERFOMANCE IN 1960-90, % PER ANNUM

REGIONS	Annual average growth rates of				
	GDP	Labor (# of workers)	Human capital (labor 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

Growth theory and transformational recession: if growth accounting is applied to the period of transformational recession, the results are very odd

- **Large sample of countries:**
- **Barro (1991):**
- **Per capita GDP growth = 0.03 - 0.008Yo + 0.03PRIM + 0.03SECOND - 0.12 GOV**

- **Levine and Renelt (1992):**
- **Per capita GDP growth = - 0.83 -0.35Yo - 0.38POP +3.17SECOND + 17.5INV**
- **R^2 >50%**

- **25 transition economies:**

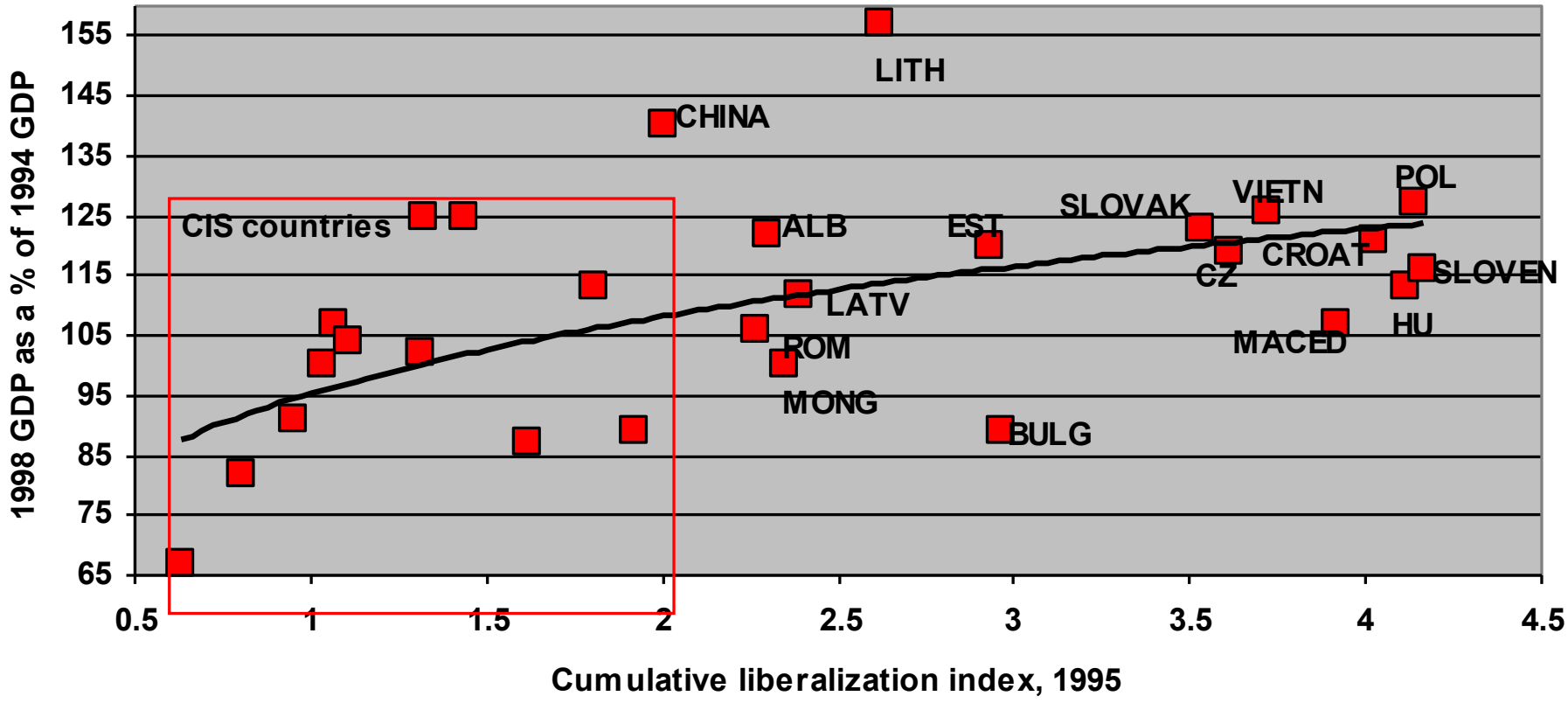
- **Barro (1991):**
- **Per capita GDP growth = - 6.6 + 0.0007Yo + 0.04PRIM - 0.07SECOND + 0.16 GOV**
- **R^2 = 0.026**

- **Levine and Renelt (1992):**
- **Per capita GDP growth = - 2.1 + 0.01Yo + 1.8POP - 0.12SECOND – 0.17.5INV**
- **R^2 = 0.039**

From recession to recovery:

at the recovery stage there is a positive relationship between liberalization and performance

Fig. 2. Liberalization index by 1995 and performance in 1994-98



From recession to recovery: By the end of the 1990s many countries were already recovering from recession

Table 6. Regression of change in GDP in 1994-98 on non-policy and policy-related factors (all coefficients are significant at 15% level except those in brackets)
Dependent variable = log (1998 GDP as a % of 1994 GDP)
For China - all indicators are for the period of 1984-88 or similar

Equations, Number of Observations / Variables	1, N=28	2, N=28	3, N=28	4, N=28	5, N=28
Constant	4.51	4.25	4.56	4.32	4.60
Distortions, % of GDP[a]		.004	.005	.003	.003
1987 PPP GDP per capita, % of the US level					
War dummy[b]			.15		
Decline in government revenues as a % of GDP from 1989-91 to 1993-96				-.003 [c]	-.004
Liberalization index	.07	.12	.09	.10	.07
Log (Inflation, % a year, 1990-95, Geometric average)			-.06		.04
Adjusted R^2, %	21	27	37	29	33

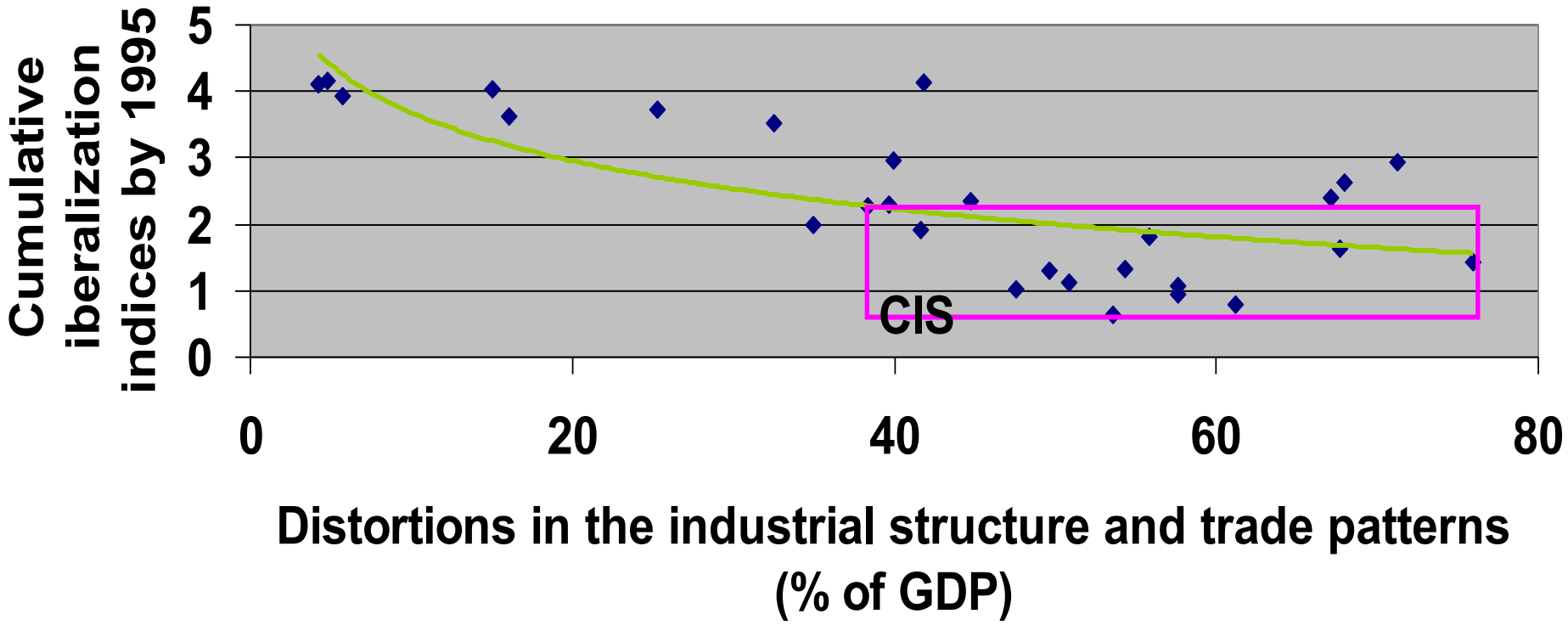
[a] Cumulative measure of distortions as a % of GDP equal to the sum of defense expenditure (minus 3% regarded as the 'normal' level), deviations in industrial structure and trade openness from the 'normal' level, the share of heavily distorted trade (among the FSU republics) and lightly distorted trade (with socialist countries) taken with a 33% weight (see Appendix for details).

[b] Equals 1 for Armenia, Azerbaijan, Croatia, Georgia, Macedonia, and Tajikistan and 0 for all other countries.

[c] Significant at 21% level.

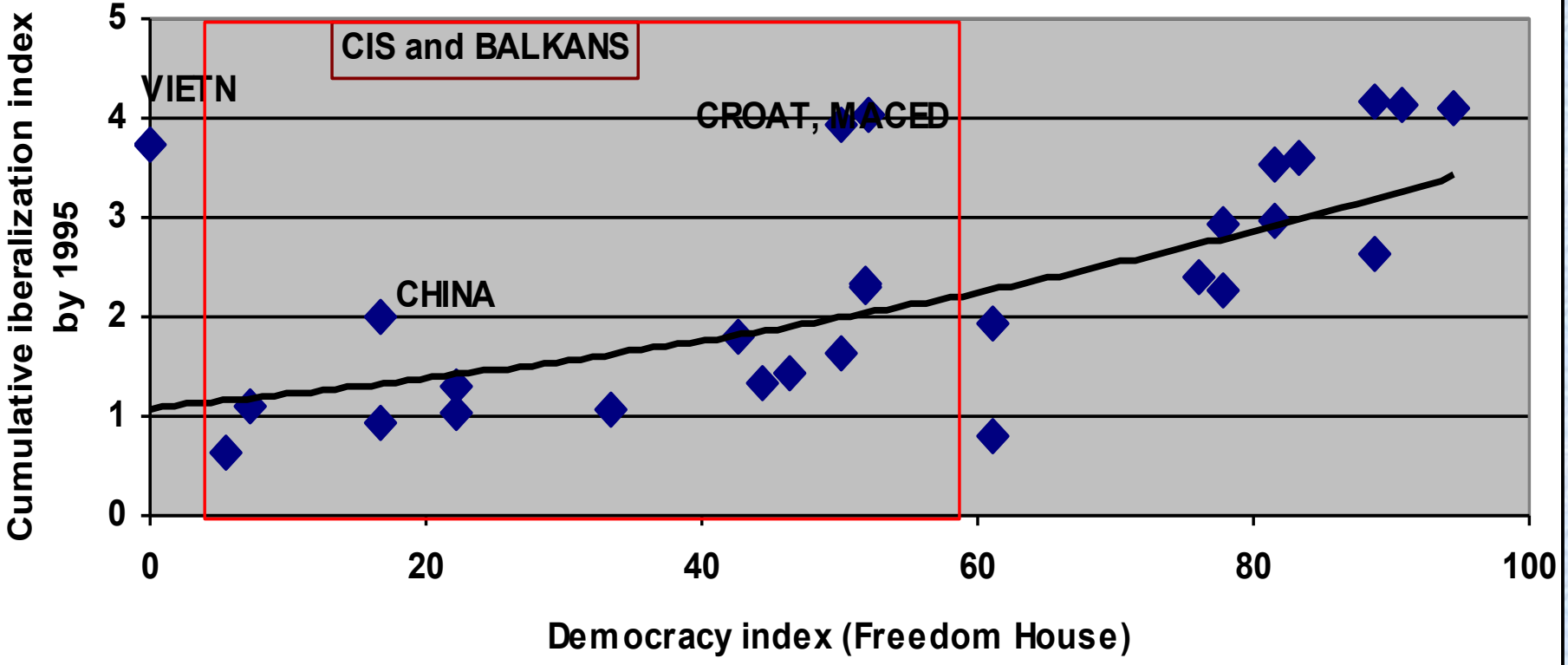
Speed and extent of liberalization may be endogenous

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



GDP during transition, GDP per capita before transition, liberalization index, inflation, democracy and rule of law indices

COUNTRY	1987-88 PPP GDP per capita, % of the US level	1996 GDP as a % of 1989 GDP	1998 GDP as a % of 1989 GDP***	1998 GDP as a % of 1994 GDP	Cumulative WB libera-lization index by 1995	Inflation, in 1990-95, geo-metric average, % a year	Democracy (political rights) index, average for 1990-98, %*	Rule of law index, average for 1989-97 or similar period*
Albania	6.8	87	88	122	2.3	76.4	52	61
Belarus	25.1	63	75	107	1.07	878.8	33	42
Bulgaria	23.5	68	66	89	2.96	81.2	82	78
China**	5.8	189	225	140	2	4	17	50
Czech Republic	44.1	89	98	119	3.61	18.3	83	76
Estonia	29.9	69	77	120	2.93	151.4	78	73
Hungary	28.9	86	95	113	4.11	22.3	95	86
Kazakhstan	24.2	45	63	102	1.31	805.5	22	38
Kyrghyzstan	13.5	52	60	113	1.81	337.3	43	40
Latvia	24.1	52	58	112	2.39	149.1	76	79
Lithuania	33.8	42	63	157	2.62	241.4	89	75
Moldova	22.4	35	34	87	1.62	355	50	38
Mongolia	5	83	88	106	2.27	126.7	78	55
Poland	21.4	104	118	127	4.14	34.9	91	84

GDP during transition, GDP per capita before transition, liberalization index, inflation, democracy and rule of law indices (continued)

COUNTRY	1987-88 PPP GDP per capita, % of the US level	1996 GDP as a % of 1989 GDP	1998 GDP as a % of 1989 GDP***	1998 GDP as a % of 1994 GDP	Cumulative WB libera-lization index by 1995	Inflation, in 1990-95, geo-metric average, % a year	Democracy (political rights) index, average for 1990-98, %*	Rule of law index, average for 1989-97 or similar period*
Romania	22.7	88	78	100	2.35	158.4	52	62
Russia	30.6	57	55	89	1.92	517	61	64
Slovakia	33.0***	90	100	123	3.53	16	82	85
Slovenia	33.3	96	103	116	4.16	62.1	89	88
Turkmenistan	18.7	57	44	67	0.63	1167	6	35
Ukraine	20.4	42	37	82	0.8	1040.5	61	42
Uzbekistan	12.5	84	88	104	1.11	628.4	7	42
Vietnam	2.0***	156	177	126	3.72	26.3	0	67
Armenia	26.5	39	40	125	1.44	896.6	46	30
Azerbaijan	21.7	38	42	100	1.03	747.6	22	36
Croatia	30.0***	70	80	121	4.02	328	52	37
Georgia	26.5***	31	35	125	1.32	2280.2	45	35
Macedonia FYR	25.0***	56	59	107	3.92	397.9	50	36
Tajikistan	12.1	37	41	91	0.95	399.1	17	35

* The **democracy** index is taken from Freedom House (http://www.freedomhouse.org/rankings.pdf), but inverted and calibrated, so that complete democracy coincides with 100%, whereas complete authoritarianism with 0%. The rule of law index is taken from (Campos, 1999b) and for China, Vietnam and Mongolia – from International Country Risk Guide, 1984 to 1998, and calibrated, so that 100% corresponds to the highest possible rule of law.

** For China - all indicators are for the period 10 years earlier.

***Estimate.

From recession to recovery

See next PPP and the 2006 paper:

Shock Therapy versus Gradualism Reconsidered: Lessons from Transition Economies after 15 Years of Reforms. TIGER Working paper No. 82, 2006

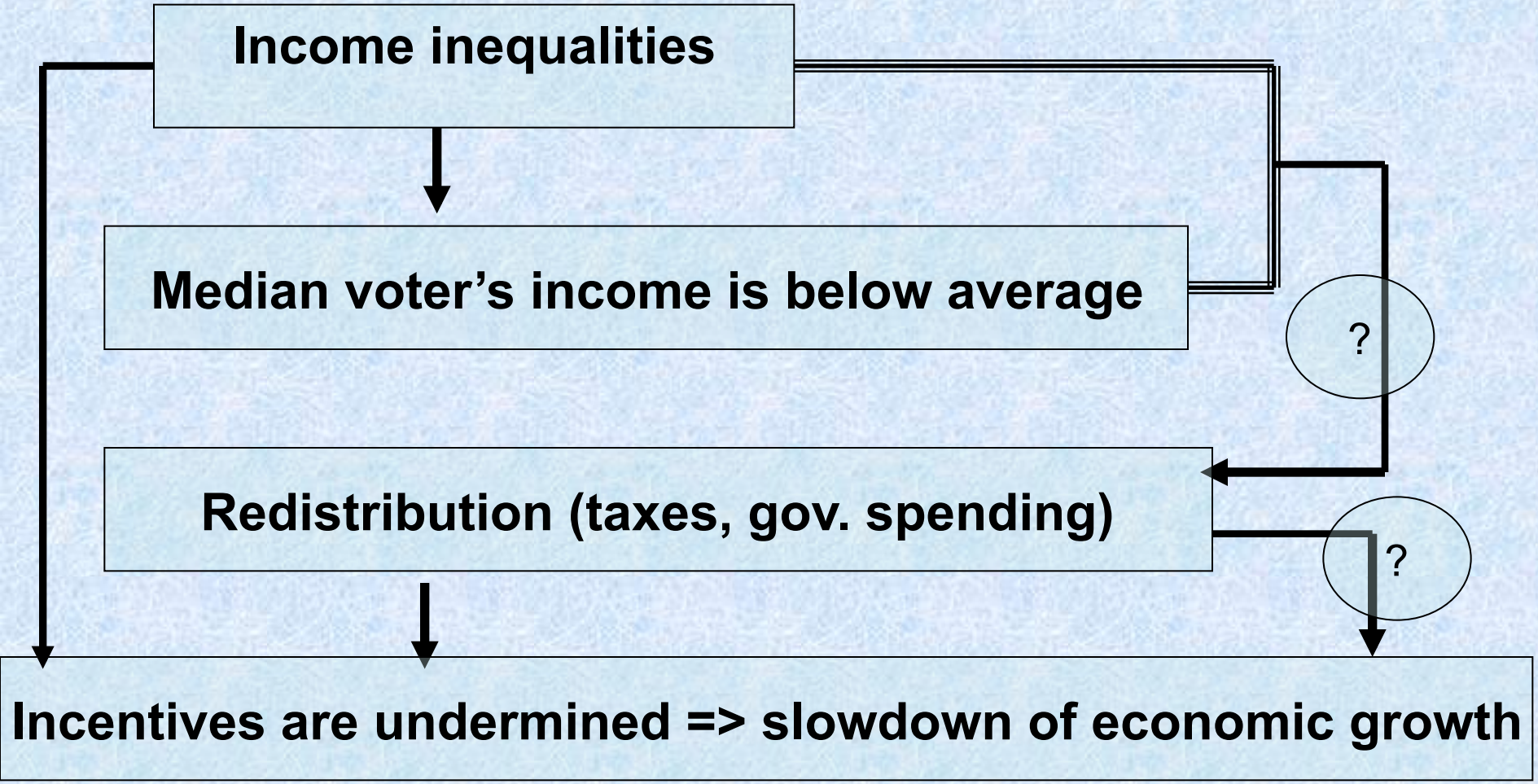
http://www.tiger.edu.pl/publikacje/TWPNo82.pdf

Political economy of transition

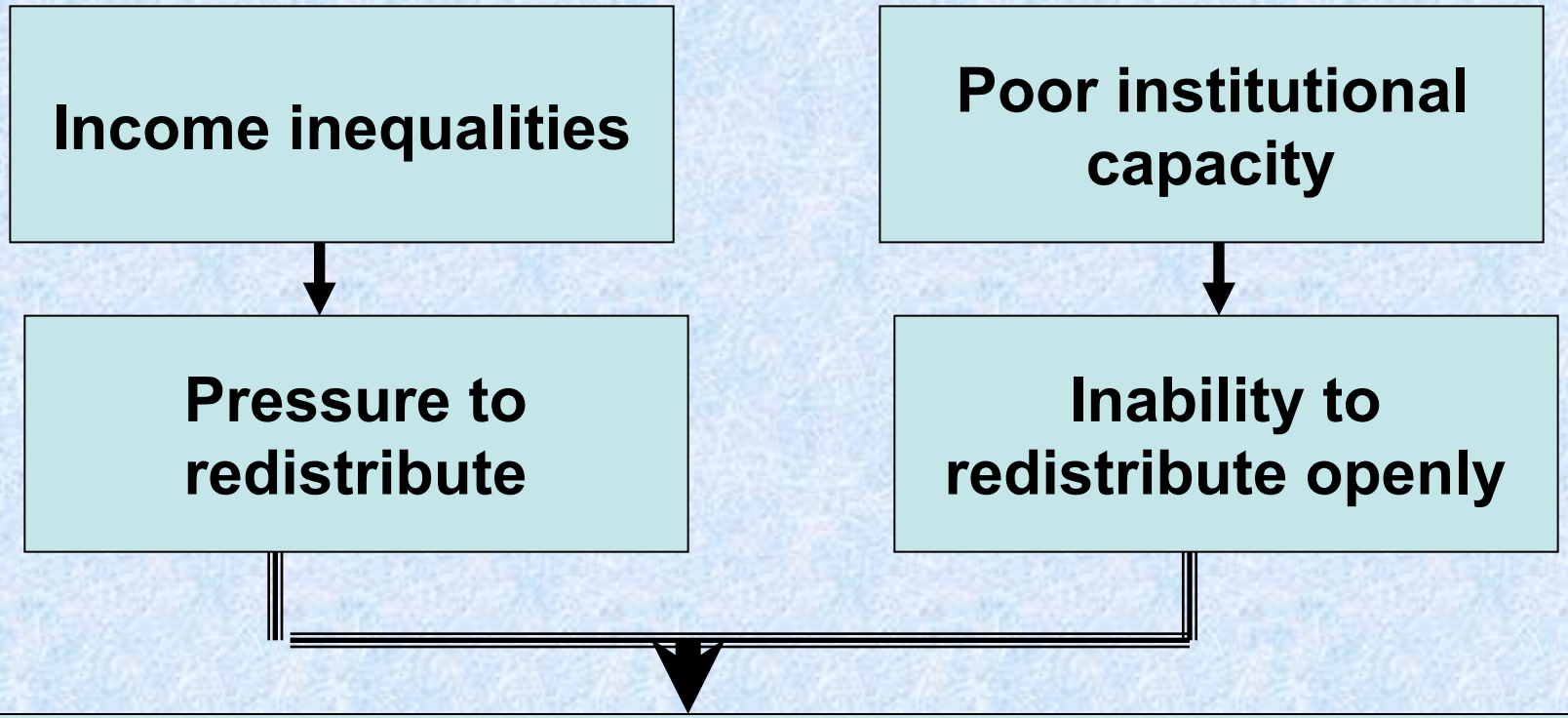
- Gain from reforms - $10 billions for 10 people
- Loses – 1 billion for 100 people

This reform will not be supported at the polls, if there are no guarantees of redistribution of gains

Political economy of transition



Political economy of transition



- Price controls
- Inflationary financing of the government budget deficit
- Debt financing of the government budget deficit
- Redistribution via overvalued real exchange rate
- Redistribution via arrears