

DEMOCRATIZATION, QUALITY OF INSTITUTIONS AND ECONOMIC GROWTH

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- **The Rawlsian theory puts a very high, if not an absolute, weight on democratic values: civil liberties, including political rights, according to Rawls (1971), “are not subject to political bargaining or to the calculus of social interests” .**
- **On the other hand, the proponents of Asian values, often tracing the origins of their philosophical tradition back to Confucius, argue that the interests of the society as a whole are superior to the interests of an individual; hence civil or political rights can in principle be sacrificed for the benefit of greater good of the community, such as, for instance, more rapid and equitable economic growth.**

Literature review :

- **A survey of 18 studies (Przeworski and Limongi, 1993) produced mixed results –most studies published after 1987 find a positive link between democracy and growth, whereas earlier studies, although not different in samples or periods, generally found that authoritarian regimes grew faster.**
- **Conflicting studies of the impact of democracy on growth in transition economies – Fidrmuc (2002) reports a moderate negative initial and direct effect, which is counterweighted by positive indirect effect (democratization facilitates economic liberalization, which in turn is good for growth).**
- **Popov (2000, 2005) finds a positive effect of ratio of the rule of law to democracy index on economic performance and does not find any positive effect of liberalization on growth at least in the first 10 years of transition.**
- **Clague et al (1996, p.1) show that "the age of a democratic system is strongly correlated with property and contract rights."**
- **Akhmedov and Zhuravskaya (2004) demonstrate that political cycles are deeper and therefore more costly under immature democratic regimes.**

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Literature review :

- **Nelson and Singh (1998) use the Gastil's democracy index to investigate the impact of democracy on growth and find a positive correlation. But Gastil's index includes components that are not exactly the measures of democracy, such as the power of the citizenry to exercise the right to own property, to make free economic resource-allocation decisions and enjoy the fruits of such decisions (Gastil, 1989).**
- **The recent Human Development Report (UNDP, 2002), entitled *Deepening democracy in a fragmented world*, argues that there is no trade-off between democracy and growth and that democracies in fact contribute to stability and equitable economic and social development.**
- **Rodrik (1997) does not find much of the correlation between democracy and economic growth for 1970-89 after initial income, education, and the quality of governmental institutions are controlled for, but provides evidence that democracies have more predictable long-run growth rates, produce greater stability in economic performance, handle adverse shocks much better than autocracies, and pay higher wages.**

Literature review :

- **Przeworski et al. (2000):** while there is no substantial difference in long term growth rates, democracies appear to have smaller variance in the rates of growth than autocracies (fewer growth miracle stories, but also fewer spectacular failures), higher share of labor in value added and lower share of investment in GDP
- **Barro (1996):** that «...the overall effect of democracy on growth is weakly negative». In the same paper Barro considers a nonlinear regression and finds that «the middle level of democracy is most favorable to growth, the lowest level comes second, and the highest level comes third».
- In another paper Barro writes: " the idea that democracy- in terms of electoral rights - is necessary for growth is just as false as the proposition that dictatorship is essential for poor countries to escape poverty....For a country that starts with weak institutions - weak democracy and little rule of law - an increase in democracy is less important than an expansion of the rule of law as a stimulus for economic growth and investment.

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

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

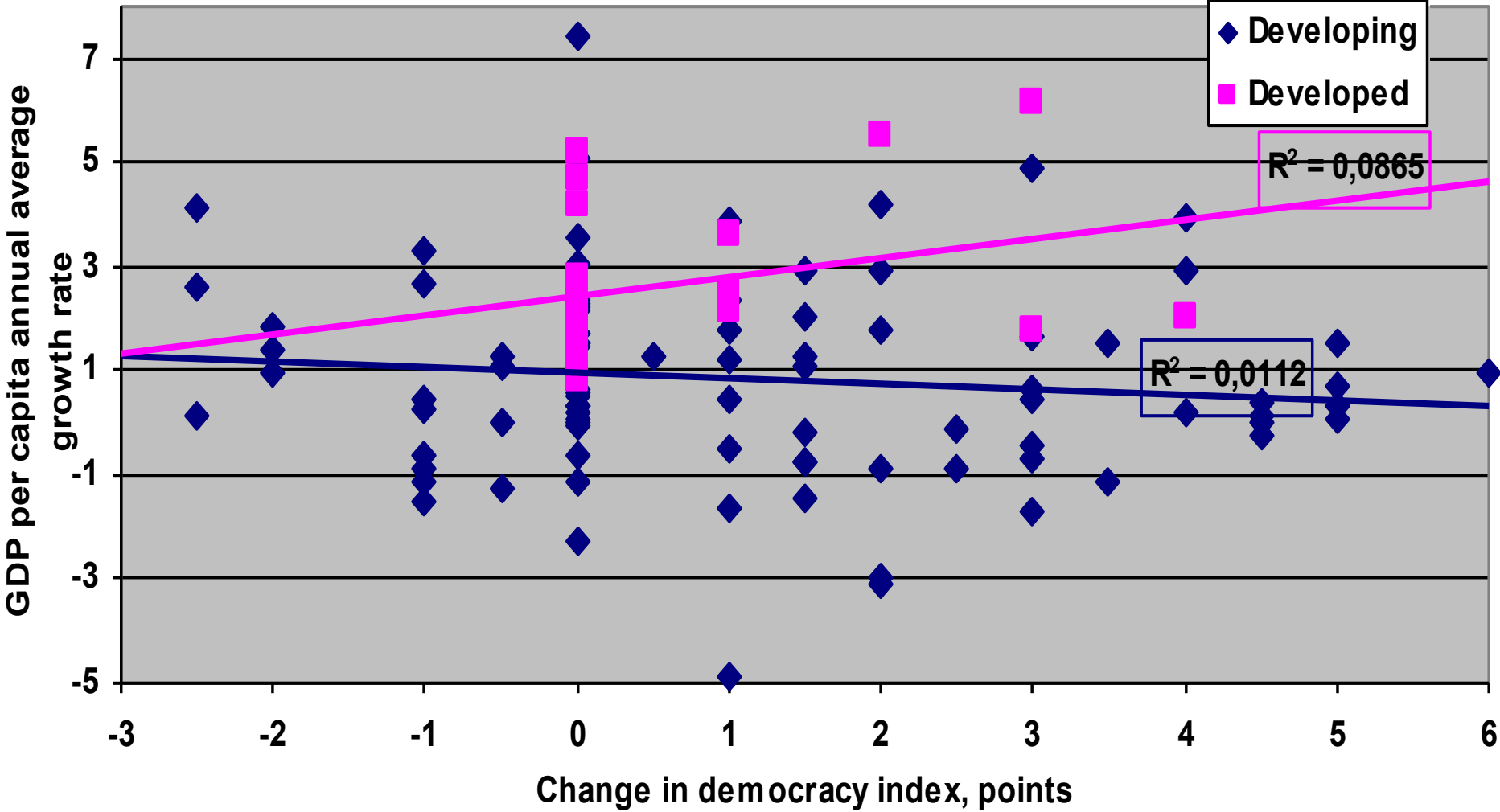


Fig. 2. Ratio of investment climate to increase of democracy index, %, and GDP per capita annual average growth rates in 1975-99, %

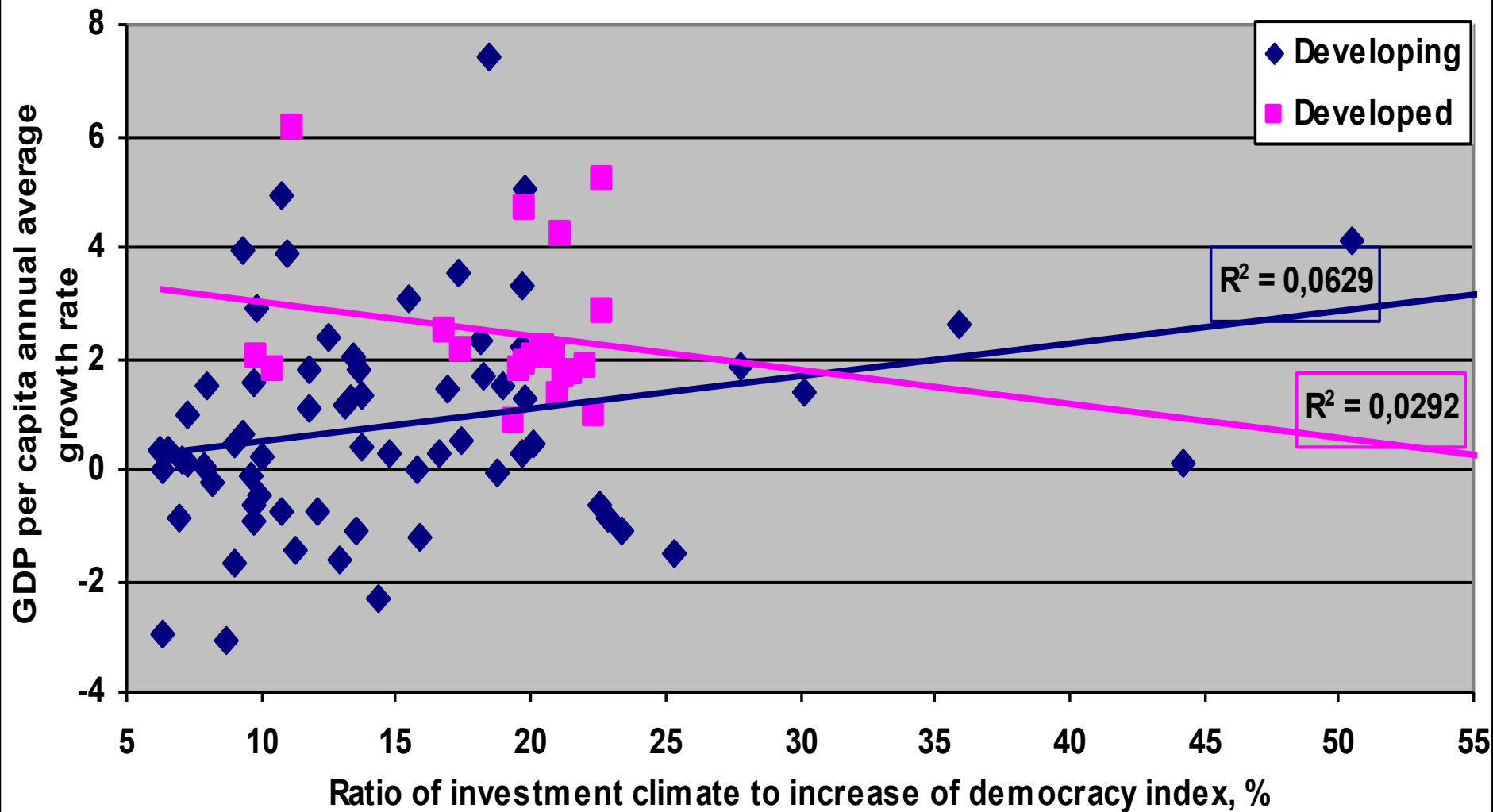


Fig. 3. Changes in the life expectancy, years, and in democracy index, points, in 1970-2000

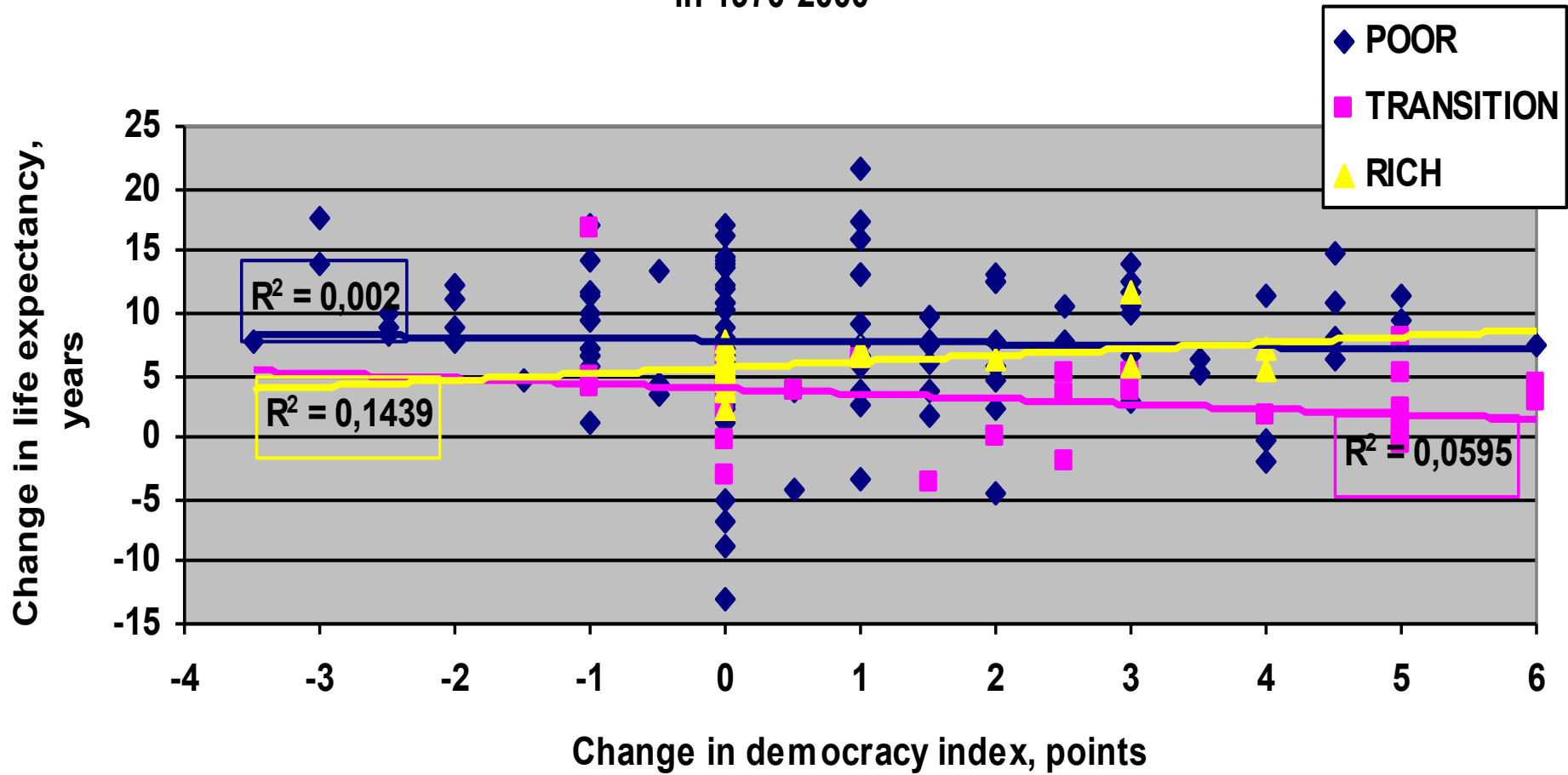


Fig. 4. Changes in the life expectancy, years, and the ratio of investment climate to increase of democracy index, %, in 1970-2000

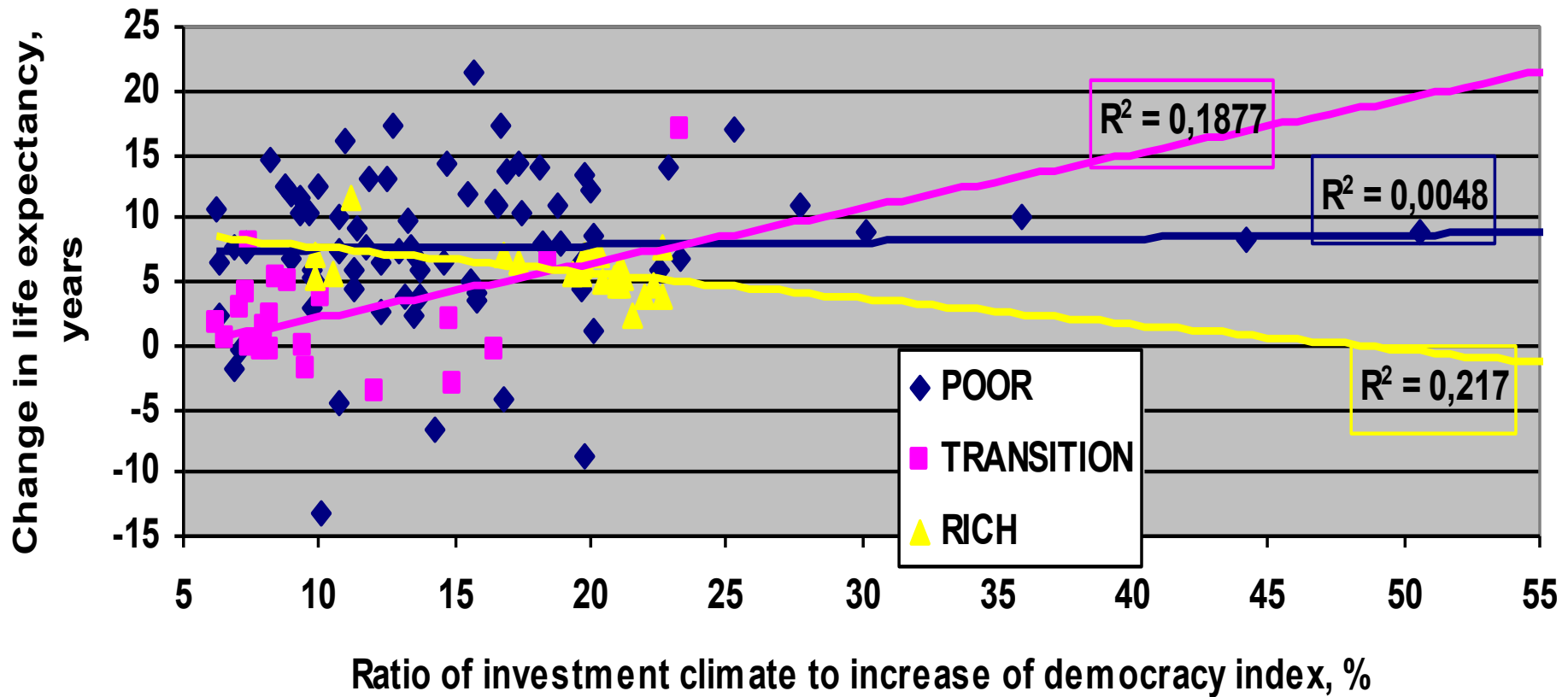


Table 3. Description statistics for new democracies (countries where Freedom House index of political right improved by at least 1.5 points from 1972-75 to 1999-2002)

Countries	ALL NEW DEMOCRACIES (62)	NEW DEMOCRACIES-TRANSITION COUNTRIES (20)	NEW DEMOCRACIES-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, 1 st estimate	35,1	28,2	40,5	21,8	28,2
Unofficial economy, 2 nd 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).

Empirical evidence from transition economies:

GDP in 2004 as a % of 1989

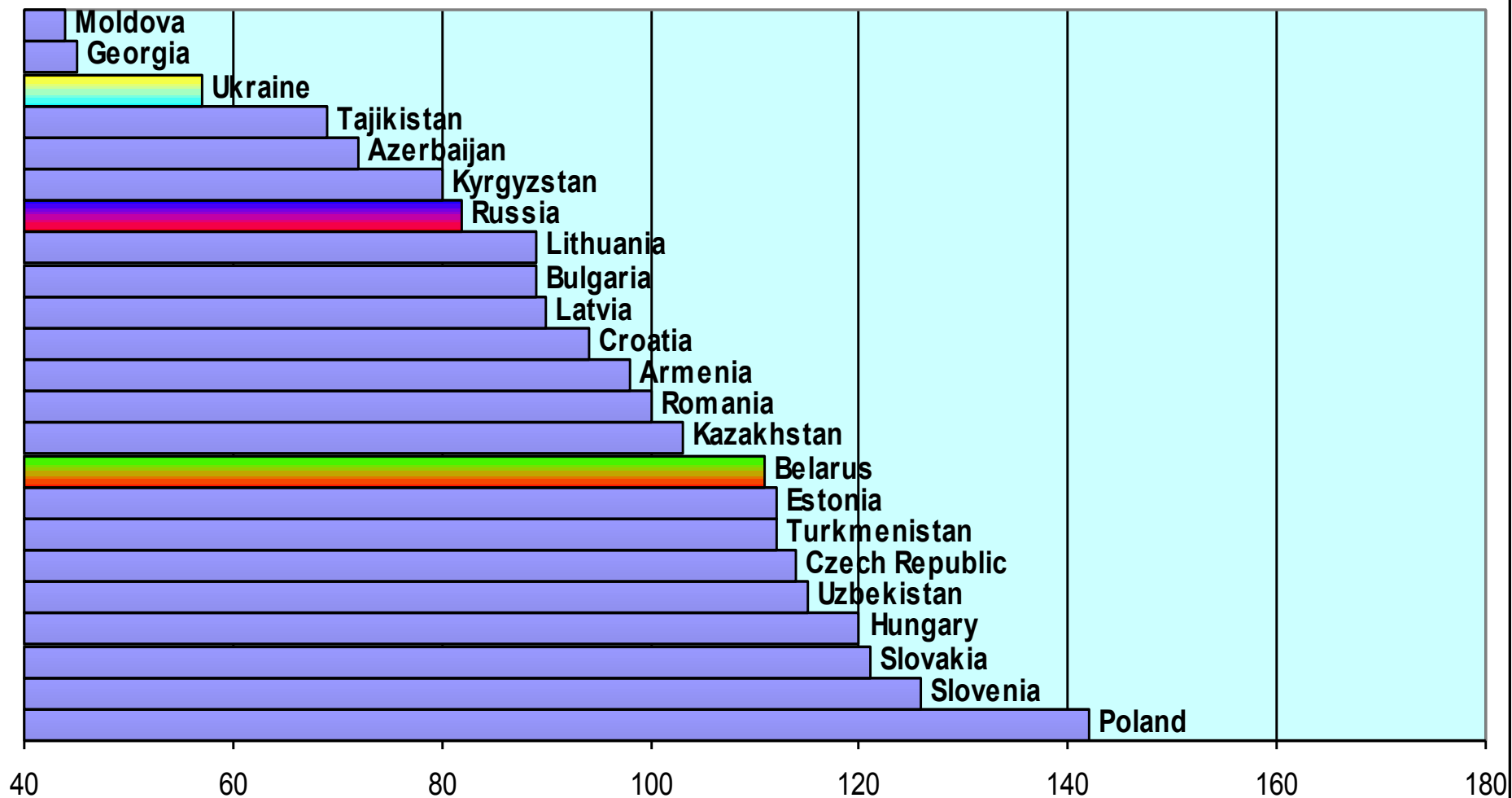
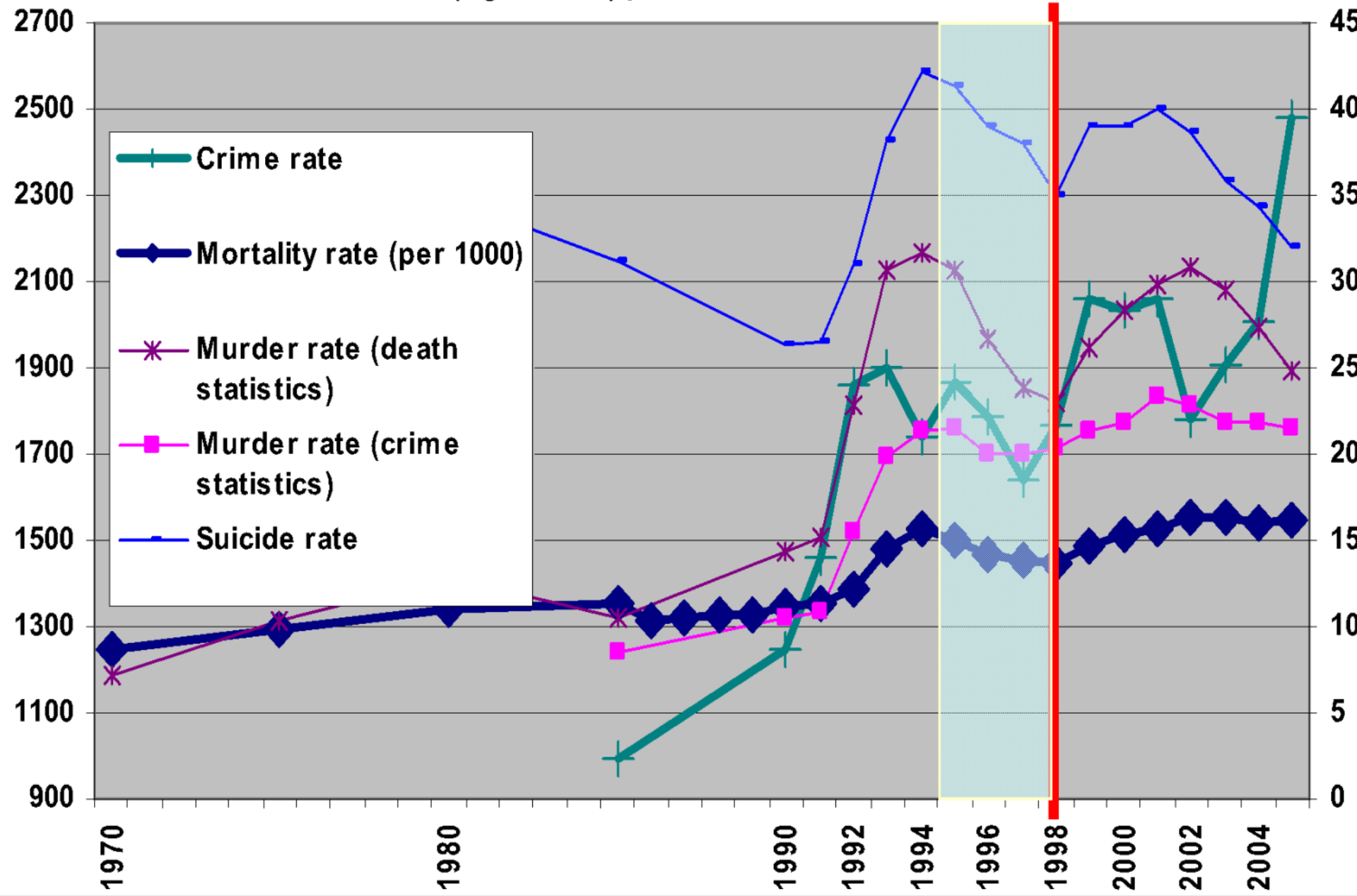
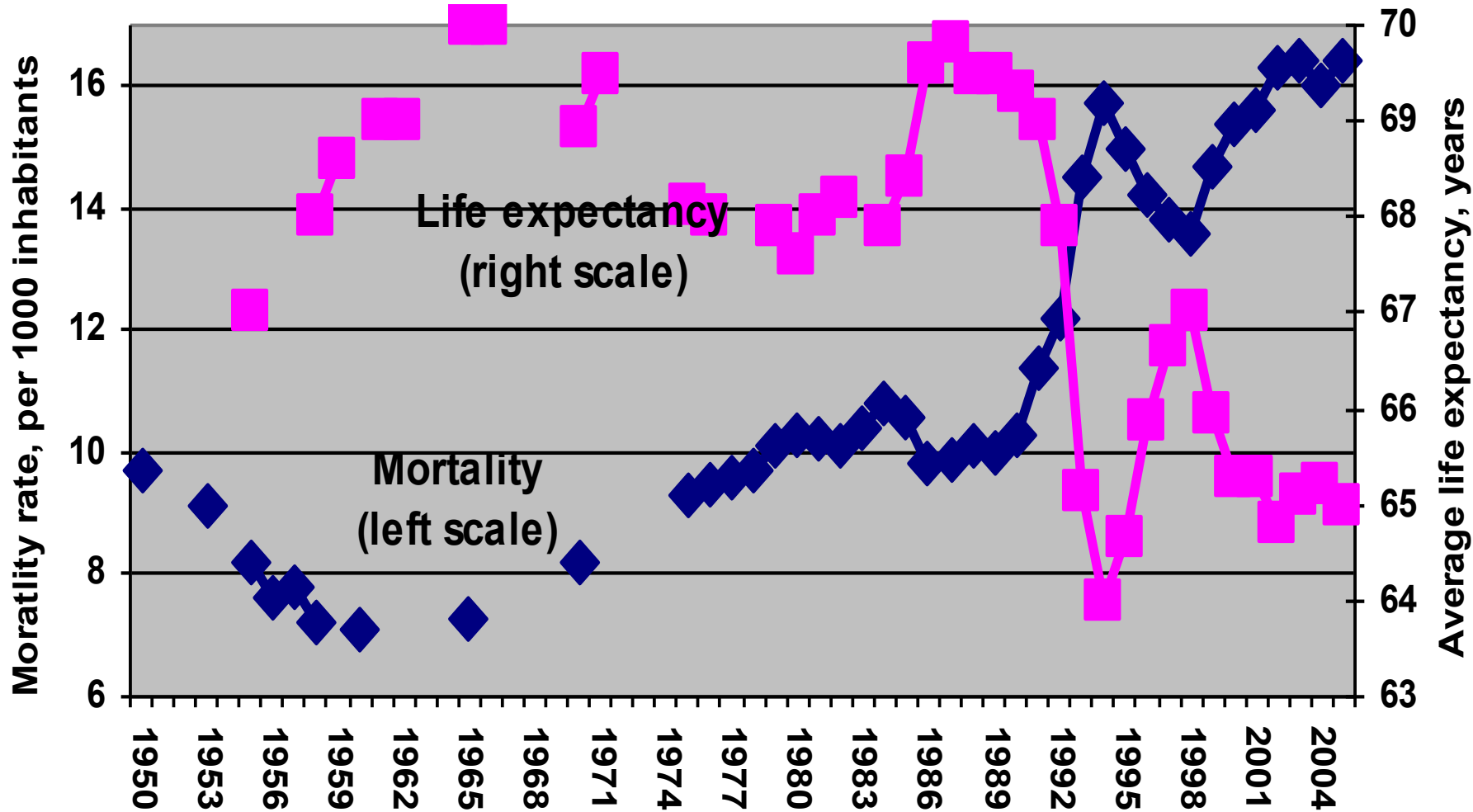


Fig. 5. Crime rate (left scale), mortality rate (per 1000), murder rates and suicide rate (right scale) per 100,000 inhabitants



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



Human Development Index for China, Belarus, Russia and Ukraine

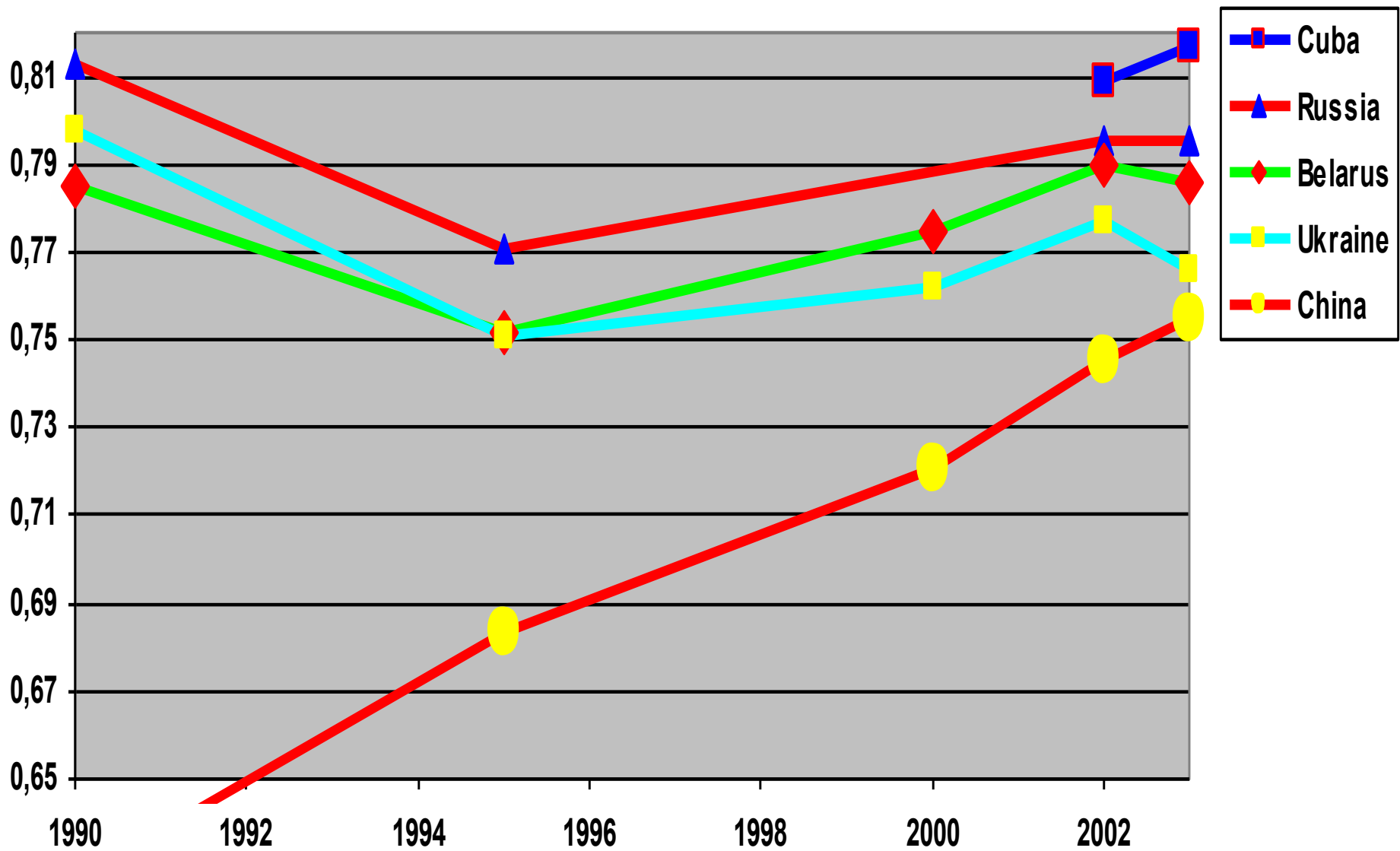


Fig. 5. Indices of the rule of law and political rights (democracy), 0-10 scale, higher value represent stronger rule of law and democracy

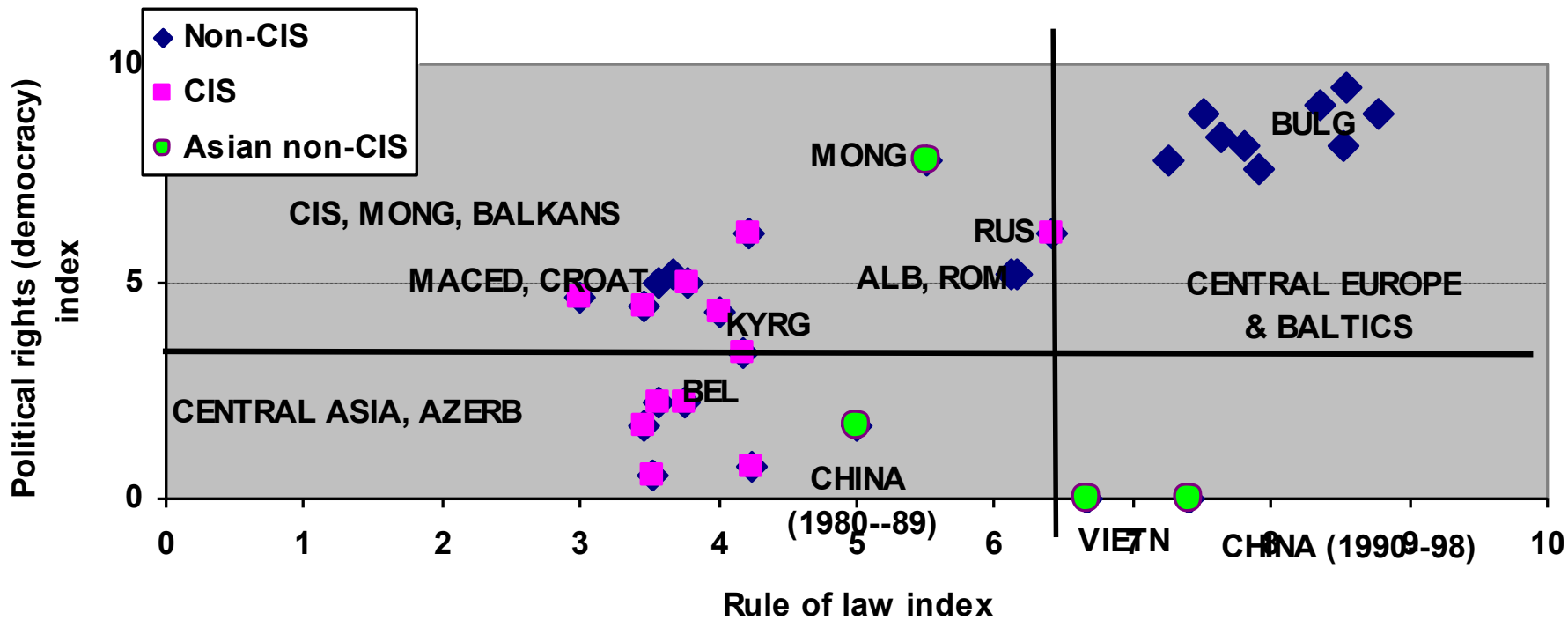
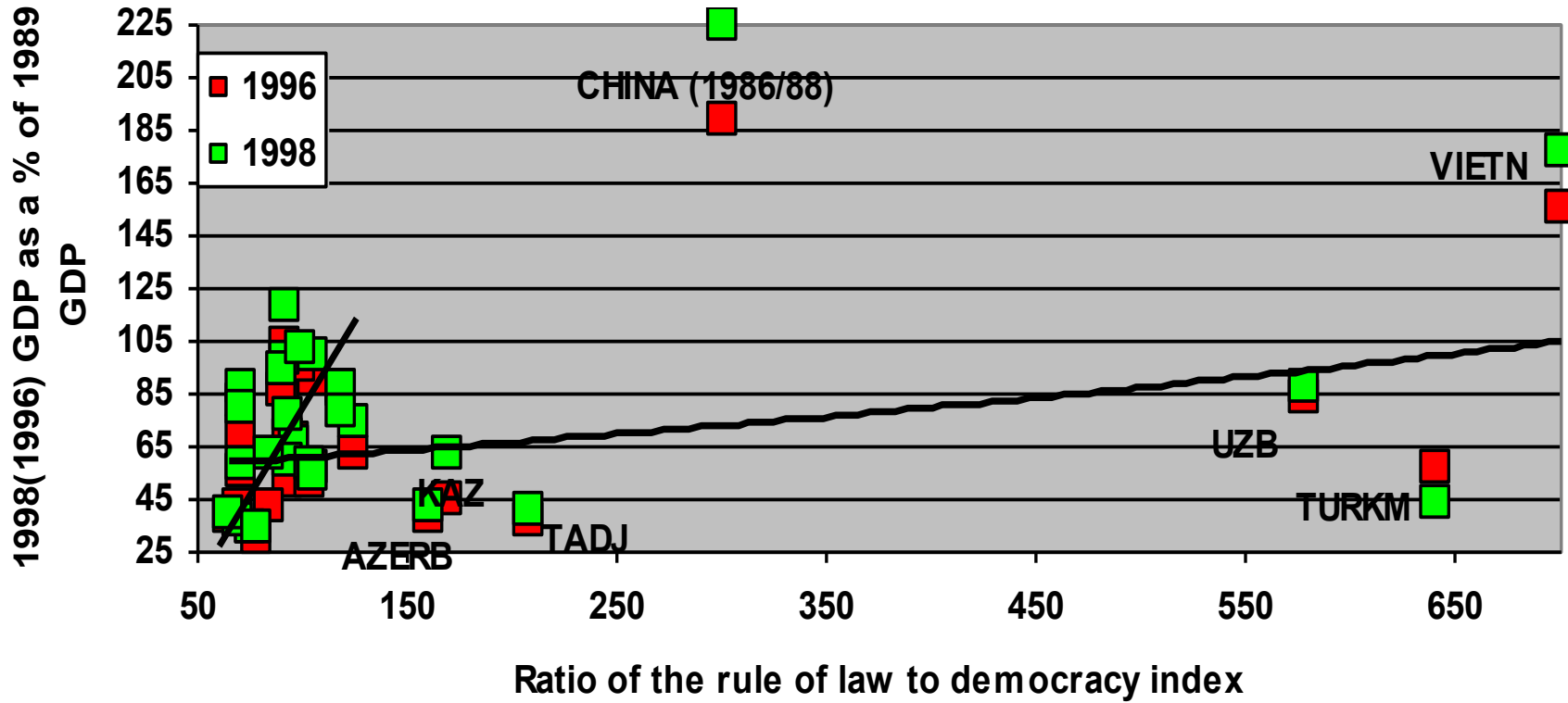


Fig. 6. Ratio of the rule of law to democracy index and output change



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

- where Δ – democratization (change in democracy index in 1970-2000), RL – rule of law index for 2000.
- The critical level of the rule of law index is 0.72 (more than in Czech, Jordan, Malta, Uruguay; but less than in Cyprus, Estonia, Hungary, Slovenia, Tunisia): if the index is higher, democratization has a positive effect on growth, if it is lower, the impact is negative.
- To put it differently, regression shows that only countries that managed to reach a certain level of the rule of law benefited from democratization.

Table 4. 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
2000 investment climate index, ICRG (ranges from 0 to 100%, higher values –better climate)	0.1*** (4.18)		0.07*** (3.40)
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)
Increase in democracy index in 1970-2000 (positive values mean democratization)	-0.13* (-1.65)	-0.11 (-1.56)	-0.13* (-1.83)
Interaction term = Rule of law index *Democratization in 1975-2000	0.19*** (3.15)	0.31*** (6.85)	0.18*** (3.41)
Constant	6.52*** (3.09)	7.33*** (4.09)	4.71** (2.46)
Adjusted R ²	53	56	63

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

- The shortcoming of rule of law indices is that they are available only for recent years, whereas we are interested in the quality of institutions in the beginning (or at least in the middle) of the period of economic growth. Note that using the rule of law indices for the end of the growth period poses the endogeneity problem; we tried to find appropriate instrumental variables but did not succeed.
- Hence later we use other measures of the law and order (investment climate and corruption indices) that are available for the earlier period.
- $y = \text{CONST} + \text{CONTR. VAR.} + 0.0729 \Delta(\text{CPI} - 6.65),$

where *CPI* – is the average corruption perception index in 1980-1985.

Table 5. Factors explaining the average growth rate of GDP per capita in 1975-99 (democratization and corruption) – cross country OLS regression results (t-statistics – in brackets)

Dependent variable	Average growth rate of GDP per capita in 1975-99				
Number of observations	45	45	44	45	45
PPP GDP per capita in 1975	-.0008*** (-4.99)	-.0006*** (-4.80)	-.0008*** (-7.04)	-.0007*** (-4.30)	-.0007*** (-4.18)
Average investment/GDP ratio in 1975-99, %		0.198*** (6.86)	0.139*** (3.47)	0.206*** (6.17)	
Average population growth rate in 1975-99, %	-1.45*** (-4.27)	-1.18*** (-5.26)	-0.950*** (-3.90)	-1.14*** (-4.90)	-1.52*** (-4.48)
Increase in democracy index in 1970-2000 (positive values mean democratization)	-0.485*** (-4.12)	-0.416*** (-4.91)	-0.346*** (-3.84)	-0.356*** (-2.71)	-0.610*** (-3.03)
Interaction term = Corruption perception index in 1980-85*Democratization in 1970-2000	0.073*** (3.84)	0.053*** (3.50)	0.029* (1.91)	0.054*** (3.63)	.069*** (3.99)
2000 investment climate index, ICRG (ranges from 0 to 100%, higher values – better climate)			0.990*** (3.19)		
Level of democracy in 1972-75 (lower values mean more democracy)				-0.119 (-0.62)	0.261 (1.06)
Constant	7.79*** (6.13)	2.10** (1.90)	3.43*** (3.40)	2.10* (1.98)	7.23*** (6.52)
Adjusted R ²	46	73	79	73	48

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

Because we use CPIs for the initial part of the period in consideration, but not for the very beginning of the period, there is a chance that CPI values as well as democratization depend on the rate of economic growth.

•Therefore we tried to instrument democratization and interaction terms using three instrumental variables: initial democracy, *D*, Islam dummy, *I*s, and average share of fuel import for 1960-1975, *FI*.

•They are weakly correlated with rate of growth (correlation coefficients are equal to -0.3, -0.16, and 0.2 respectively) but they explain a substantial part of variation in democratization:

$$\Delta = 3.16 + 0.487D - 1.23I_s + 0.014IF,$$

(11.06) (7.61) (-4.02) (2.75)

Adj R-squared =0.34, Number of obs. = 137, Significance - 1%

The results are presented in Table 6. The fourth column contains the following regression:

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

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

Thus the threshold level of CPI is equal to 5.51, which is close enough to the level found earlier, whereas the significance of democratization variables is still reasonable.

Table 6. Factors explaining the average growth rate of GDP per capita in 1975-99 (democratization and corruption) – cross-country 2-SLS regression results, (t-statistics – in brackets)

Dependent variable	Average growth rate of GDP per capita in 1975-99			
Number of observations	44	44	44	44
PPP GDP per capita in 1975	-0.001** (2.40)	-0.001** (-2.67)	-0.001** (-2.67)	-0.001*** (-2.71)
Average investment/GDP ratio in 1975-99, %			0.157** (2.55)	0.160*** (2.80)
Average population growth rate in 1975-99, %	-1.54*** (3.33)	-1.54*** (-3.43)	-1.57*** (-3.80)	-1.55*** (-3.88)
Increase in democracy index in 1970-2000 (positive values mean democratization)	-0.74* (-1.92)	-0.703* (-1.96)	-0.876** (-2.60)	-0.859** (-2.65)
Interaction term = Corruption perception index in 1980-85*Democratization in 1970-2000	0.151 (1.60)	0.153* (1.79)	0.165* (1.87)	0.156* (1.89)
PPP GDP in 1975		1.16*10 ⁻¹² * (1.77)		
Constant	8.30*** (4.06)	8.10*** (4.04)	5.11** (2.07)	5.03** (2.12)
Instruments	<i>D, Is, FI</i>	<i>D, FI</i>	<i>D, FI</i>	<i>D, Is, FI</i>
Adjusted R ²	9	12	18	25

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

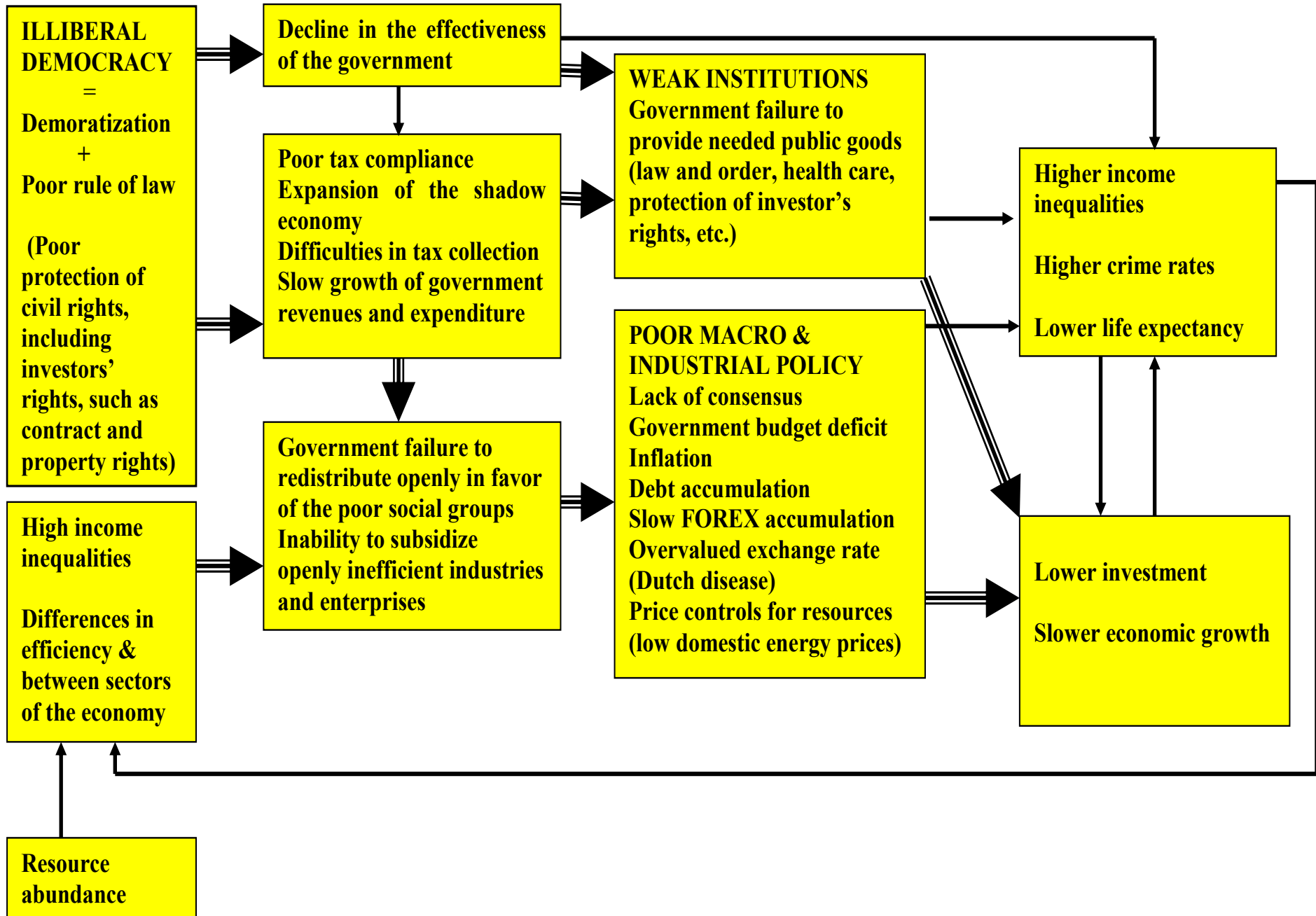
- Another indicator of the law and order is the Investment Climate Index. The best regression:

$$y = 0.883 - 0.0004 Y + 0.122I - 0.559n - 0.981 \Delta + 0.016 \Delta IC =$$

$$= 0.883 - 0.0004 Y + 0.122I - 0.559n + 0.016 \Delta (IC - 61.31).$$

- It reveals the investment climate index (*IC*) threshold, equal to 61.3%. Democratization affected growth positively if and only if *IC* of a country exceeded this threshold level that corresponds to the investment climate index of Albania, Colombia, India.
- Again, the regression may suffer from the endogeneity problem. Unfortunately we were not able to find proper instrumental variables to get a stable result. Using initial democracy, *D*, Islam dummy, *I_s*, and average share of fuel import for 1960-1975, *FI*, as instrumental variables, and controlling for *Y*, we can support the threshold hypothesis with threshold level 57.7, which is close enough to the previous result.
- However, the hypothesis is not supported if one controls for population growth or investment.

SCHEME. ECONOMIC AND SOCIAL COSTS OF ILLIBERAL DEMOCRACIES



DATA

y - average growth rate of PPP GDP per capita in 1975-99,

Y- PPP GDP per capita in 1975,

RL - Rule of Law index for 2000/2001 (World Bank 2002; Kaufmann, Daniel, Kraay, Aart, and Zoido-Lobaton Pablo, 1999); it is based on polls of experts and surveys of residents, and changes from -2.5 to +2.5 (the higher, the stronger the rule of law),

Δ - *Democratization in 1973/75-1999/2002, equal to change of Freedom House indices of political rights, ranging from 1 to 7 for every year; the absolute level shows the degree of authoritarianism, whereas change, or democratization shows the increase in democracy,*

D - *Average level of democracy in 1972-75 (lower values mean more democracy),*

IC - average 1984-90 investment climate index from the International Country Risk Guide: it ranges from 0 to 100%, higher values mean better climate (World Bank, 2001),

IC2000 - *2000 Investment Climate index from the International Country Risk Guide,*

n- average population growth rate in 1975-99,

I - average investment/GDP ratio in 1975-99,

CPI - average Corruption Perception Index for 1980-85 (Transparency International, 54 countries),

CPI 2002 - *average Corruption Perception Index for 2002-2003 (Transparency International),*

GE - Index of government effectiveness in 2001 (WDI, 2001; Kaufmann, Daniel, Kraay, Aart, and Zoido-Lobaton Pablo, 1999),

S1, S2 - *average share of the shadow economy in GDP in the 1990s, 1st and 2nd estimates (Hellman, Jones, and Kaufmann, 2000),*

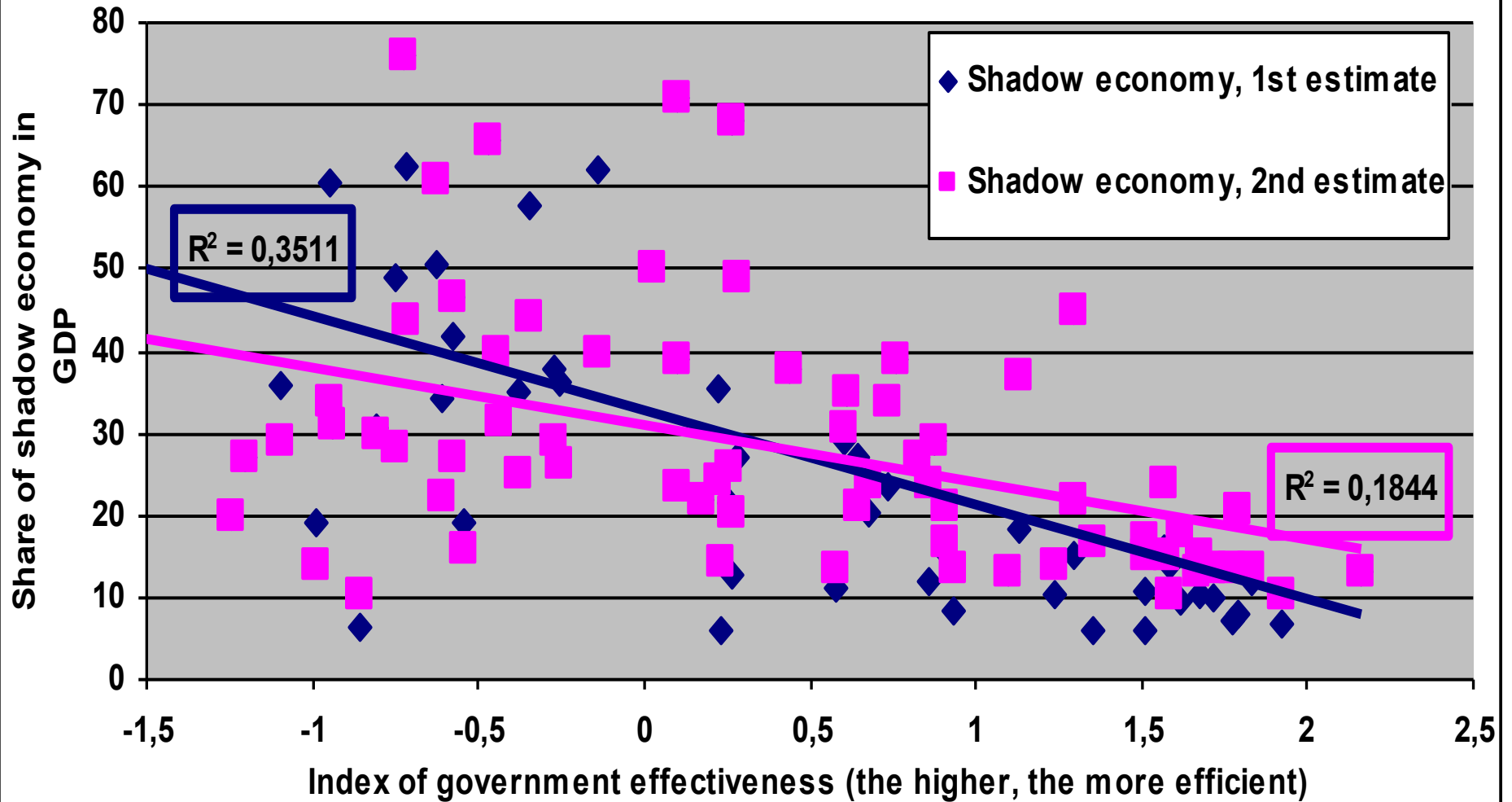
rev1999 - *average share of central government revenues in GDP in 1995-99 as a % of 1971-75*

Rev - *average share of central government revenues in GDP in 1971-75, %*

FI- average share of net fuel import in 1960-75 in total import

Is - dummy, equal to 1 if a country belongs to The Organization of the Islamic Conference.

Fig. 3. Index of government effectiveness in 2001 and the share of shadow economy in GDP in the 1990s



SHADOW ECONOMY

- $S1 = 37.50 - 0.002Y - 22.70Tr + 3.74 \Delta - 0.86CPI \Delta,$
(4.25) (-2.44) (-4.16) (4.83) (-6.59)
- Adj R-squared = 0.78, Number of obs. = 33, Significance - 2%,
- $S1 = 37.50 - 0.002Y - 22.70Tr + 0.86 \Delta(4.35 - CPI),$ (1)
- where, as above, Δ – democratization in 1970-2000, CPI – corruption perception index in 1980-85, Y - PPP GDP per capita in 1975; Tr denotes a dummy variable for transition countries. Thus in relatively “clean” countries democratization reduces the share of shadow economy, but in corrupt countries democratization leads to the increase of unofficial economy. The threshold level of corruption perception index in 1980-85 was 4.35 – in between Portugal and Greece.
- For the second measure of the shadow economy one gets a similar result (2). Threshold level though is higher and is equal to 5.64.
- $S2 = 35.31 - 0.022Y - 21.45Tr + 3.78 \Delta - 0.67CPI \Delta,$ (2)
(3.23) (-2.09) (-3.39) (4.83) (-4.22)
- Adj R-squared = 0.78, Number of obs. = 33, Significance - 2%.
- If we include CPI as a linear term in (1) or (2), it turns out to be most insignificant and does not increase R-squared. Thus our threshold hypothesis is supported.

RULE OF LAW

- $RL = -0.28 - 0.17 \Delta + 0.056CPI \Delta = -0.28 + 0.056 \Delta(CPI- 3.04)$ (3)
(-0.09) (-2.81) (7.69)

Adj R-squared =0.55, Number of obs. = 52, Significance - 1%

However, if we control for CPI in 1980-85 and initial GDP per capita level the signs of democratization and interaction terms changes (see (2)), and we get quite different conclusion: democratization strengthens rule of law.

- $RL = -2.44 + 0.00011Y + 0.44CPI + 0.26 \Delta - 0.039CPI \Delta$ (4)
(-5.18) (2.37) (4.22) (3.10) (-2.20)

- Adj R-squared =0.78, Number of obs. = 44, Significance - 5%

- The regression explains almost 80 per cent of variation, it is significant and stable. Additions of others potential regressors, including initial democracy level, do not change the conclusion.

- It may result from the endogeneity between the rule of law index on the one hand and democratization variable and CPI index on the other. We tested this possibility via instrumenting democratization and the interaction term like we did earlier, and got the following result:

- $RL = -0.26 - 0.27 \Delta + 0.09CPI \Delta = -0.26 + 0.09 \Delta (CPI- 3)$ (3a)
(-0.56) (2.50) (8.77)

- Adj R-squared =0.42, Number of obs. = 48, Significance - 2%, Instruments for democratization and interaction term – level of democracy in 1972-75, Islam dummy, and net fuel import in 1960-75.

- Unlike the equation (3), this equation (3a) cannot be transformed into equation similar to (4) via introducing control variables.

Corruption and democratization

$$CPI2002 = 2.84 + 0.00044Y - 0.31\Delta + 0.10CPI\Delta = -0.28 + 0.00044Y + 0.10\Delta(CPI - 3.1) \quad (5)$$

- (4.28) (4.00) (-2.51) (4.83)
- Adj R-squared = 0.73, Number of obs. = 45, Significance - 2%
- The threshold here is remarkably close to its value in (3) and 3(a). Initial democracy level, being included, turns out to be insignificant and it does not change the significance of other variables too much. All coefficients retain significance at a level of 10% or less and adjusted R-squared increases up to 0.81 if one adds y and average PPP GDP per capita growth rate for 1975-1999 to the set of explanatory variables.
- One can get another form of threshold regression using a term of interaction between democratization and initial PPP GDP per capita, Y :
$$CPI2002 = 4.62 + 0.26y + 0.31T - 0.41\Delta + 0.00021Y\Delta = 4.62 + 0.26y + 0.31T + 0.00021\Delta(Y - 1952) \quad (6)$$

(5.06) (2.11) (5.54) (4.83)
- Adj R-squared = 0.47, Number of obs. = 73, Significance - 5%,
- where T is the average ratio of the sum of export and import to GDP for 1980-1999. This parameter is an indicator of economic openness. The threshold of GDP per capita in 1975 (\$1952) is close to the level of Algeria, Colombia, Peru, Turkey.
- Nevertheless, if one controls for initial corruption level, CPI , all regressions described above fall apart. The best regression we got to explain corruption in 2002-2003 does not contain democratization at all:
$$CPI2002 = 0.51 + 0.32y + 0.01T + 0.00048Y + 0.37CPI \quad (7)$$

(1.41) (3.25) (2.68) (4.67) (3.62)
- Adj R-squared = 0.87, Number of obs. = 45, Significance - 2%.
- Here democratization does not help to explain final level of cleanness at all. Note, however, that the difference in quality of regressions (5) and (7) is not very substantial and that growth itself depends on democratization, as was shown earlier.

Investment climate and democratization

$$IC_{2000} = 63.45 + 0.0013Y - 4.51\Delta + 0.084IC\Delta = 63.45 + 0.0013Y + 0.084\Delta(IC - 53.7)$$

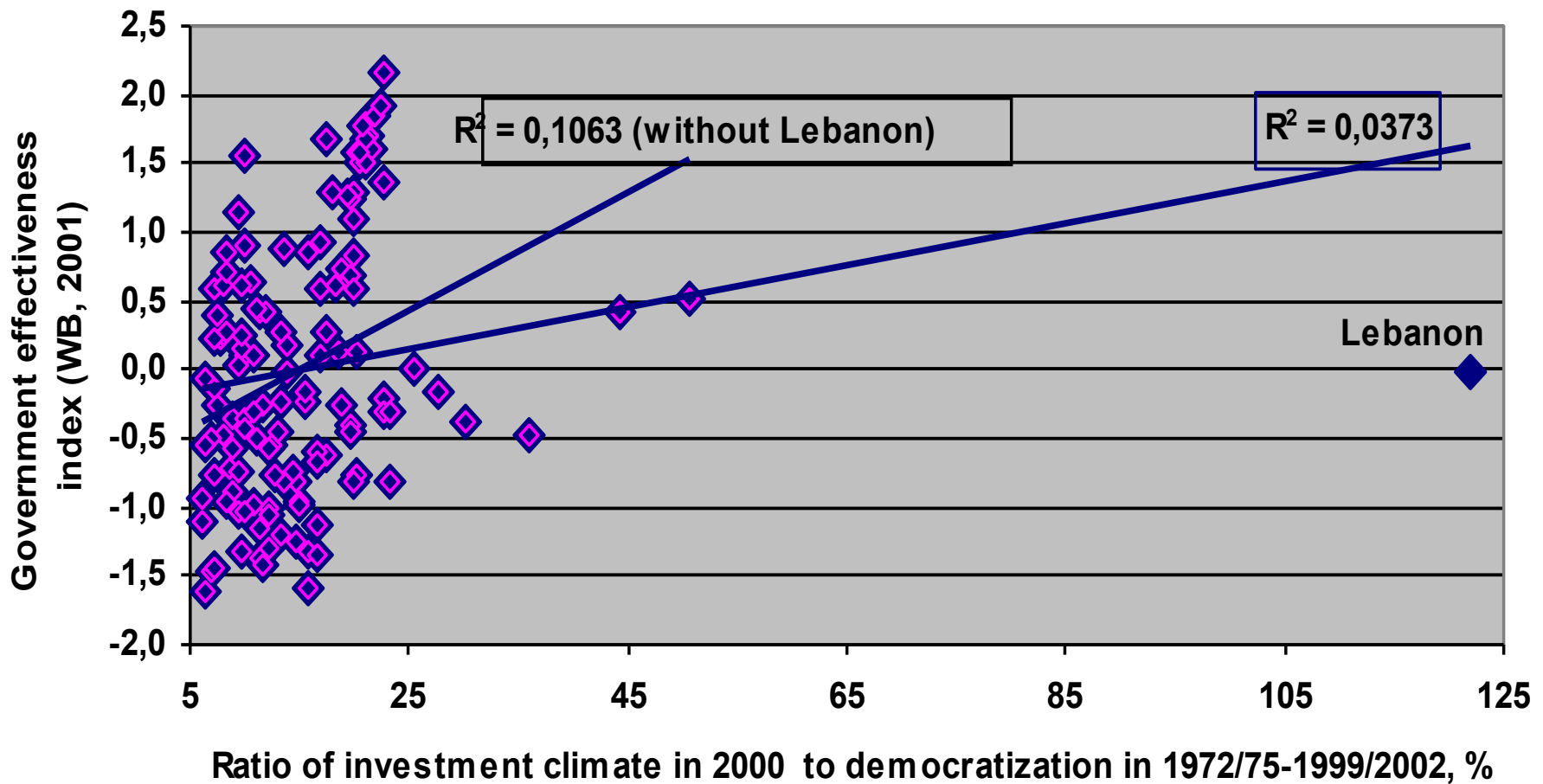
(2.57) (4.34) (-5.03) (6.59)

- Adj R-squared = 0.59, Number of obs. = 86, Significance - 1%.
- Democratization has positive influence only if average 1984-1990 Investment Climate index IC is larger than a threshold level 53.7. This is a level of Ghana, Indonesia, and Pakistan.
- However democratization turns out to be insignificant if we include a linear IC term. There is an appropriate linear regression that does not contain democratization at all:
- $$IC_{2000} = 40.20 + 0.0011Y + 0.433 IC.$$

(11.93) (4.70) (7.65)
- Adj R-squared = 0.61, Number of obs. = 86, Significance - 1%.
- Thus one has two different explanations of the IC dynamics. One interpretation may be that CPI index and Investment Climate index are subjective measures that tend out to be highly correlated for different periods in the same countries. Besides, like in the previous cases, there may be endogeneity between investment climate index and democratization, but we did not succeed in finding instrumental variables for democratization that are not correlated with investment climate index.

Government effectiveness and democratization

Fig. 4. Government effectiveness index (WB, 2001) and the ratio of investment climate to democratization in 1972/75-1999/2002



Government effectiveness and democratization

Table 8. Factors explaining government effectiveness in 2001 – cross-country OLS regression results

Dependent variable	Government effectiveness in 2001			
	155	131	154	45
Number of observations				
Log PPP GDP per capita in 1975				.93***
Log PPP GDP per capita in 1999		.00001*		
2000 Investment climate index, ICRG				
2000 Rule of law index (WDI, 2001)	.92***	.83***	.41***	
2000 Transparency and accountability index (WDI, 2001)			.09*	
2000 Political stability index (WDI, 2001)			.11**	
2000 Control of corruption index (WDI, 2001)			.25***	
2000 Quality of regulations index (WDI, 2001)			.18***	
Increase in democracy index in 1970-2000 (positive values mean democratization)	-.03**	-.03*	-.06***	-0.095**
Interaction term = democratization*corruption reception index in 1980-85				0.03***
Constant	0.13*	.04	.28***	2.78***
Adjusted R ²	86	87	90	70

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

Government effectiveness and democratization

- $GE = 2.8 + 0.93\log Y + 0.03\Delta (CPI - 0.33)$ – forth column of table 8 regression - (10)

where Δ – democratization in 1970-2000, CPI – corruption perception index in 1980-85.

- It means that democratization in relatively “clean” countries (with CPI over 3.3 – higher than in Colombia, but lower than in India) raises the effectiveness of the government, whereas in corrupt countries it undermines the effectiveness of the government.
- True, as in the case with explaining corruption and investment climate index, it is possible to find a better equation without the democratization variable at all:

- $GE = -2.63 + 0.19CPI + 0.67\log Y$ (10a)

- $(-4.67) \quad (5.02) \quad (3.18)$

- Adj R-squared = 0.75, Number of obs. = 45, Significance - 1%.

- But it may well be that this is the result of the endogeneity between government effectiveness index and CPI (even though CPI is for 1980-85 period).

- To test for such a possibility, we instrumented democratization and interaction term with CPI in (10) with the level of democratization in 1972-75, Islam dummy and net fuel imports in 1960-75 variables; whereas in (10a) CPI was instrumented with net fuel imports in 1960-75 variable (CPI depends on fuel imports, but government effectiveness does not). The resulting two equations (11) and (11a) have virtually the same goodness of fit, i.e. we were not able either to confirm or to reject the hypothesis.

- $GE = 0.02 + 0.07\Delta (CPI - 3.2)$ (11)

- $(7.96) \quad (-2.58)$

- AdjR2= 0.5, N=49, significance – 1%, Instruments for democratization and interaction term – level of democracy in 1972-75, Islam dummy, and net fuel import in 1960-75.

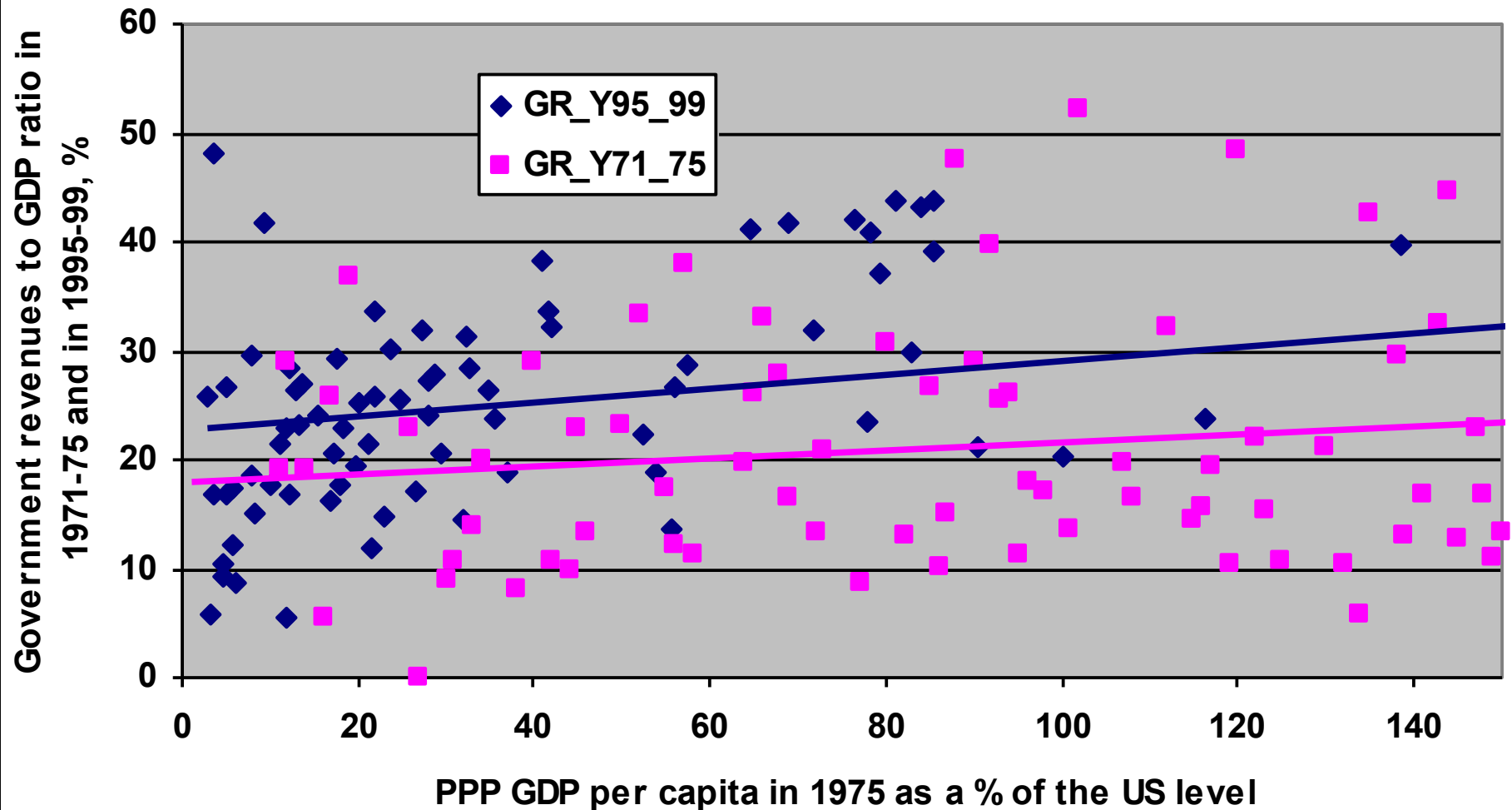
- $GE = -1.58 + 0.19CPI$ (11a)

- $(-2.96) \quad (4.29)$

- Adj R2 = 0.49, Number of obs. = 49, Significance - 1%. Instrument for CPI – net fuel import in 1960-75.

Democratization and the size of government

Government revenues to GDP ratio in 1971-75 and in 1995-99, %, and PPP GDP per capita in 1975 as a % of the US level

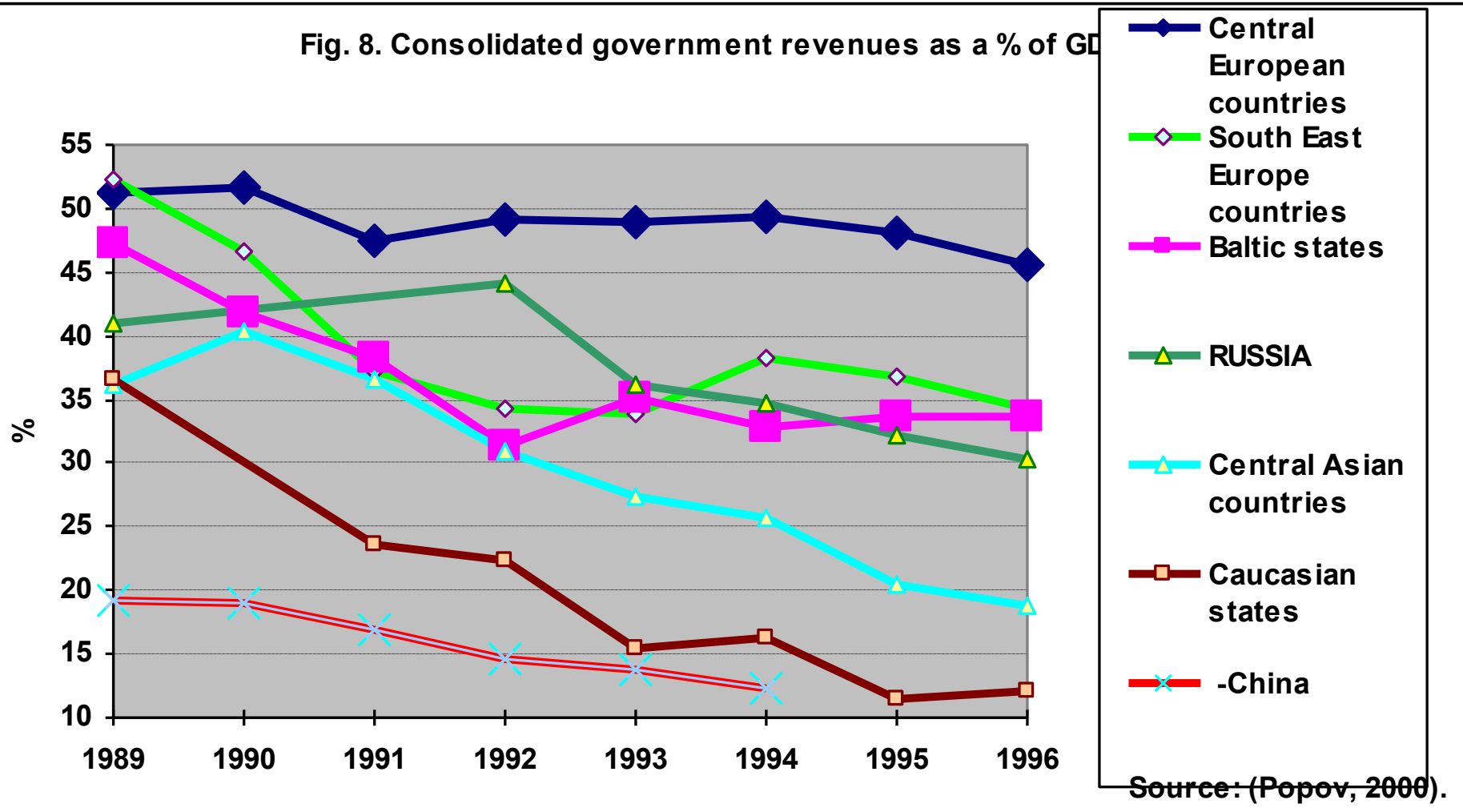


Democratization and the size of government

- $rev1999 = 73.02 + 0.075Y - 10.80Rev + 67.71 D - 34.08 \Delta$
- Adj R-squared = 0.67, Number of obs. = 66, Significance – 5%.
- **rev1999** is average share of central government revenues in GDP in 1995-99 as a percentage of the 1971-75 level,
- **D** is a level of democracy in 1972-75 (lower values mean more democracy).
- Thus the increase in the ratio of government revenues to GDP in 1975-99 depends positively on initial levels of GDP per capita, **Y**, and negatively on both initial levels of the average share of central government revenues in GDP in 1971-75, **Rev**, and democracy. It is the most important that democratization, Δ (positive values denote increases in democracy) slows down the growth of central government revenues.
- Democratization and other variables (except **Rev**) lose their significance if one adds **CPI** into the set of control variables, but the goodness of fit falls down dramatically (to 25% and less).

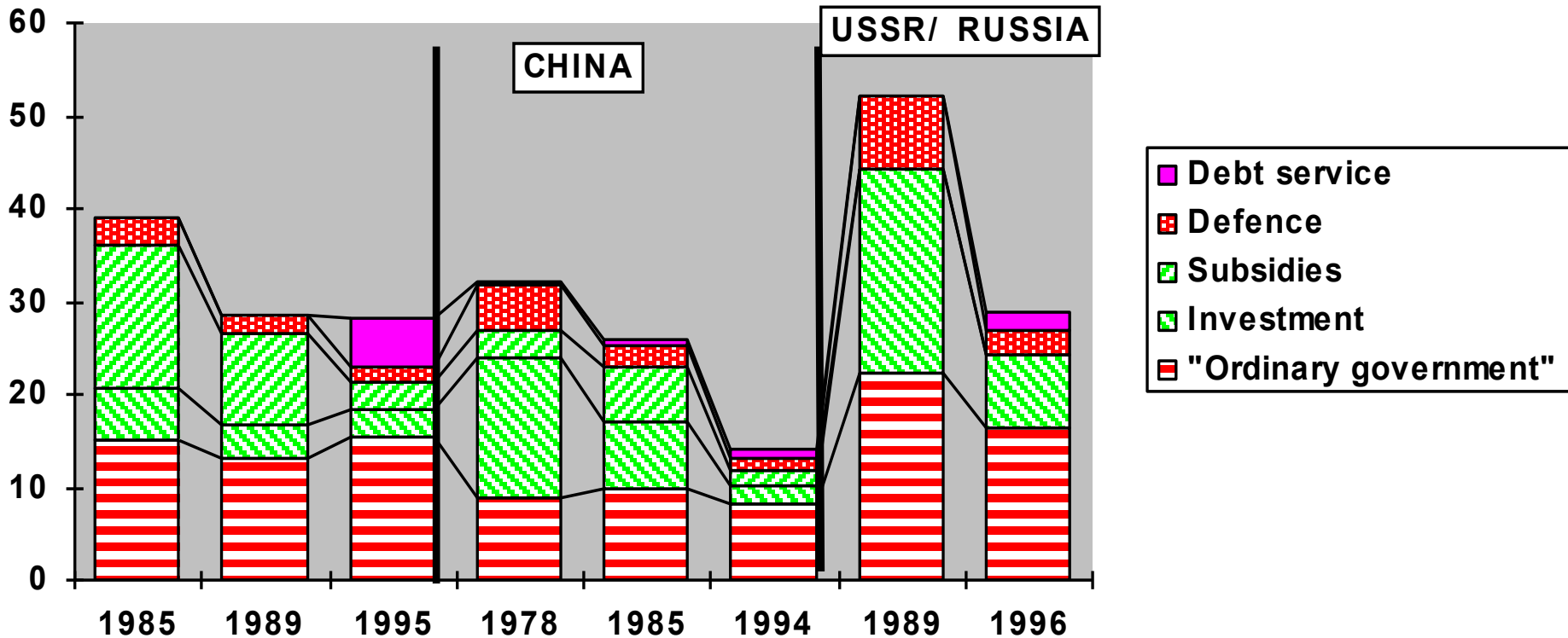
Democratization and the size of government: post-communist economies

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



Democratization and the size of government: post-communist economies

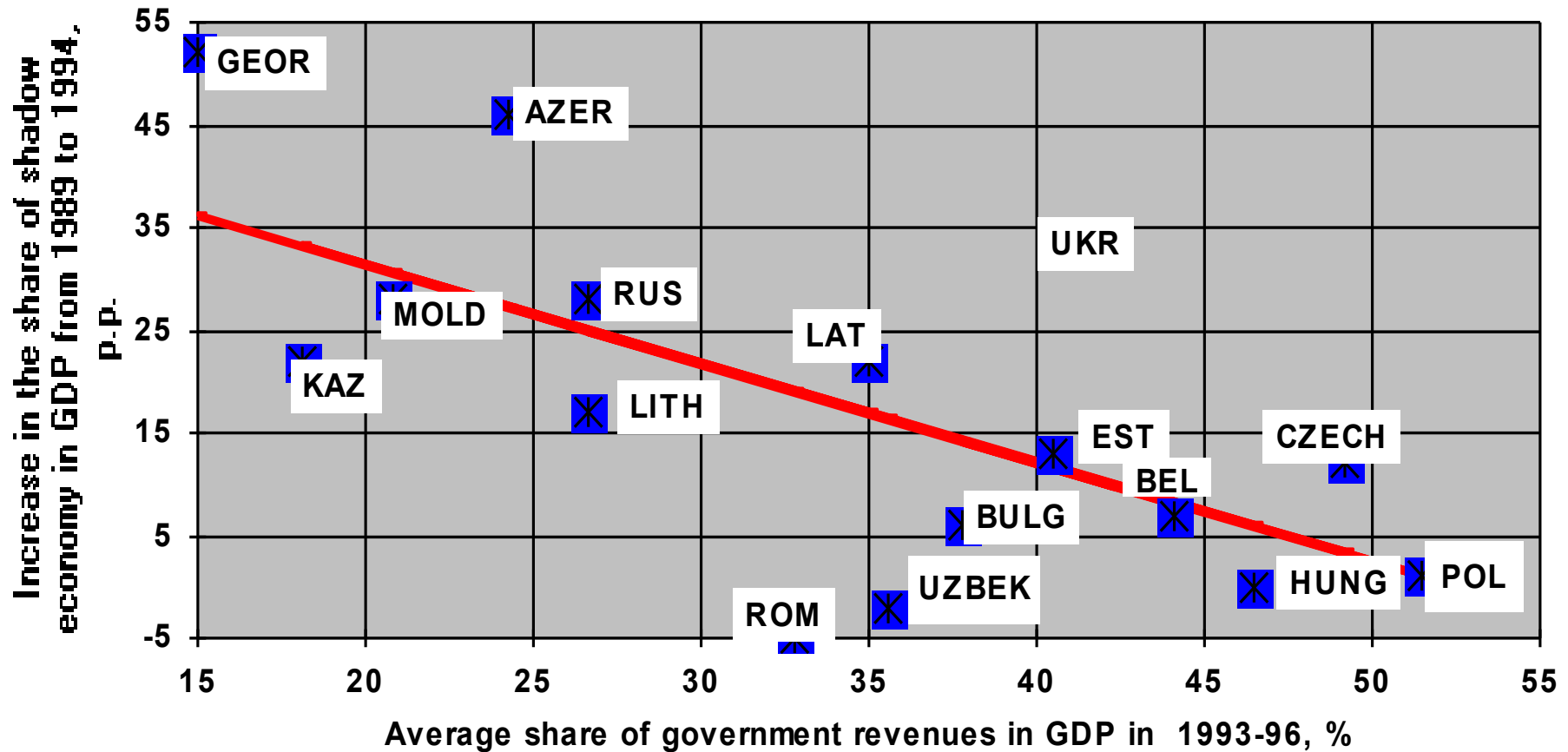
Fig. 9. Government expenditure, % of GDP



Source: (Popov, 2000).

Democratization and the size of government: post-communist economies

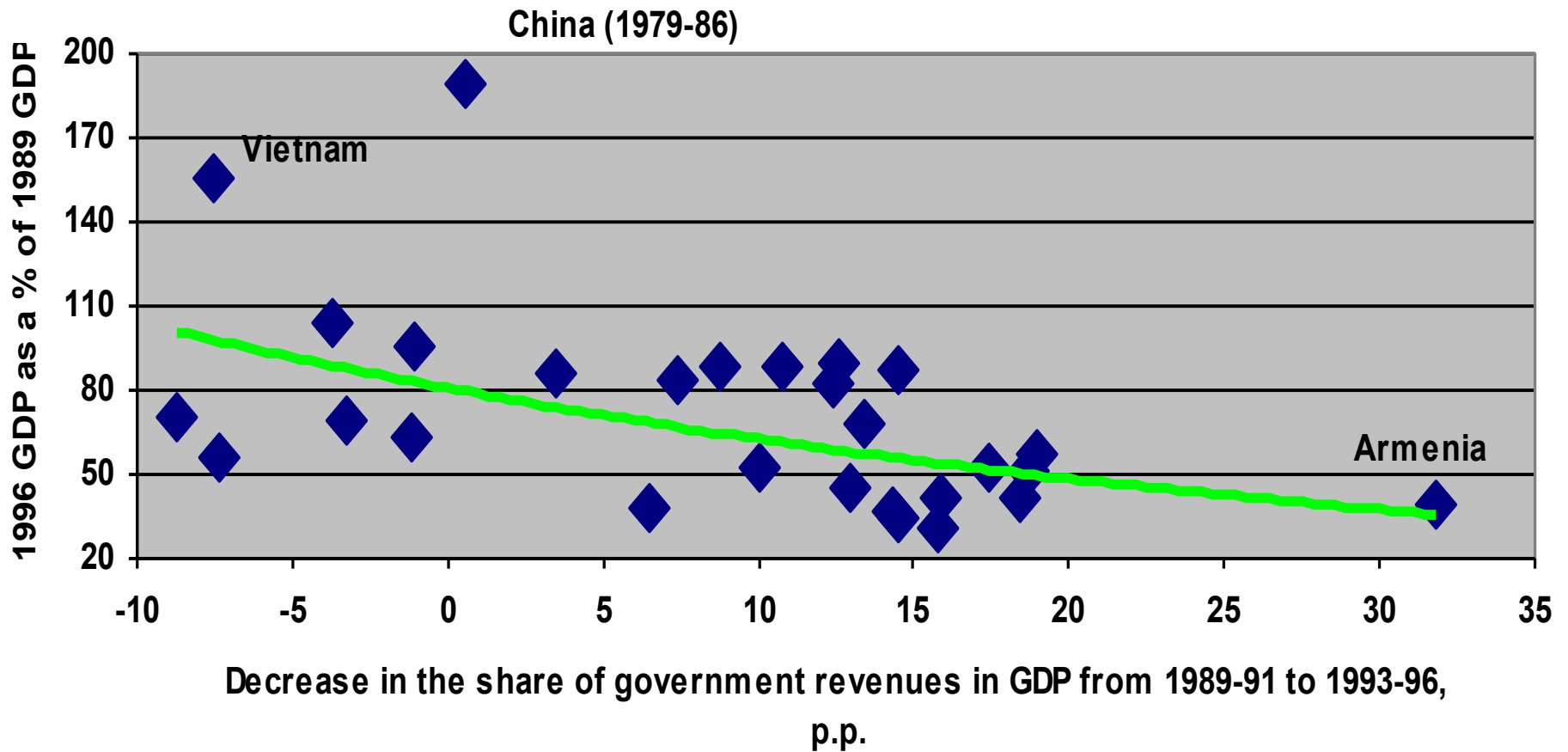
Fig. 4. Government revenues and shadow economy, % of GDP, 1989-96



Source: (Popov, 2000).

Democratization and the size of government: post-communist economies

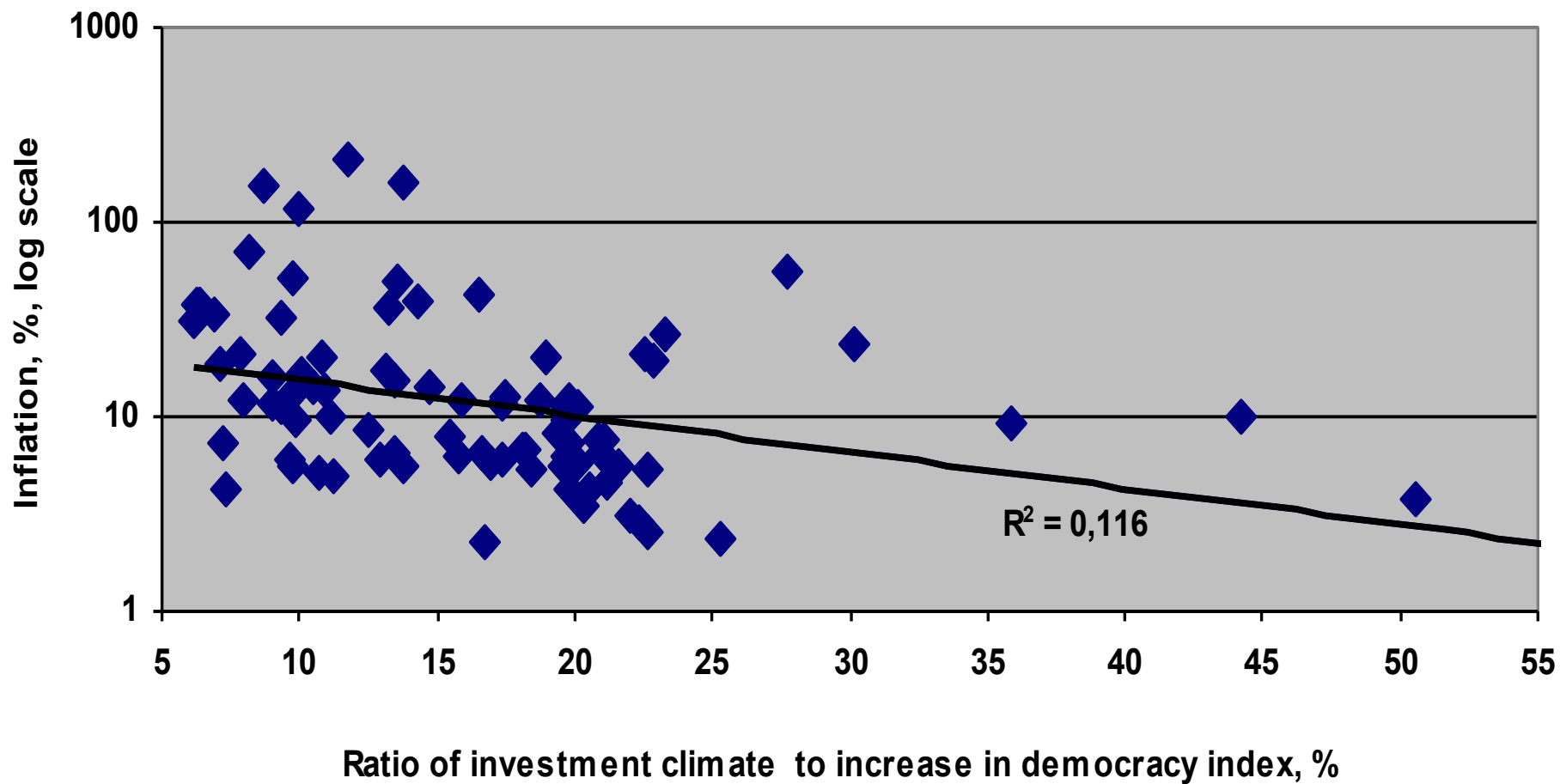
Fig. 11. Change in government revenues and GDP



Source: (Popov, 2000).

Democratization and macroeconomic policy

Fig. 13. Inflation and the ratio of investment climate to increase in democracy index in 1975-99



Democratization and macroeconomic policy

Table 9. Factors explaining inflation– cross country OLS regression results, robust estimates

Dependent variable	Logarithm of average annual inflation in 1975-99, % (GDP deflator)		
Number of observations	91	87	83
Log PPP GDP per capita in 1975		.64**	
Annual average inflation, 1960-99, %			.03***
Average investment climate index for 1984-90, ICRG	-.05***	-.06***	-.03***
Level of democracy in 1972-75 (lower values mean more democracy)	-.2***	-.14**	-.10***
Increase in democracy index in 1970-2000 (positive values mean democratization)	.18***	.16***	.10***
Constant	5.9***	4.18***	3.85***
Adjusted R ²	44	46	81

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

Conclusions:

- **There may be several reasons why extensive research on the link between democracy and growth produces conflicting results. First, previous papers looked mostly at the level of democracy, but not at changes in this level. Our regressions show that the influence of initial democracy level on the institutional quality is positive or insignificant, but the influence of democratization (increase in the level of democracy) is often negative.**
- **Second, and probably most important, very often the distinction between the law and order (civil rights) and democracy (political rights) is not rigorous. This paper controls for the law and order, which is defined as the ability of the state to enforce rules and regulations based not on arbitrary practices, but on well established legal rules (measured by the corruption, rule of law and investors' climate indices), and examines the impact of democratization on economic growth.**
- **A certain threshold level of the law and order is required to reap the benefits of democratization.**
- **In countries with poor tradition of the law and order, rapid democratization undermines institutional capacity and the quality of macroeconomic policy with predictable adverse effect on economic growth.**