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Developing New Measurements of State Institutional Capacity

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Most would agree that state institutional capacity is the ability of the state to provide goods and services that the state is responsible for, although many would disagree on what exactly those responsibilities are. According to a narrow definition, the state's institutional capacity is the ability of the government to enforce laws and regulations. Many subjective indices based on expert estimates (such as control over corruption, rule of law, and government effectiveness) are designed to measure institutional capacity. Many researchers consider them biased, however, and do not think they help to explain economic performance.[*]

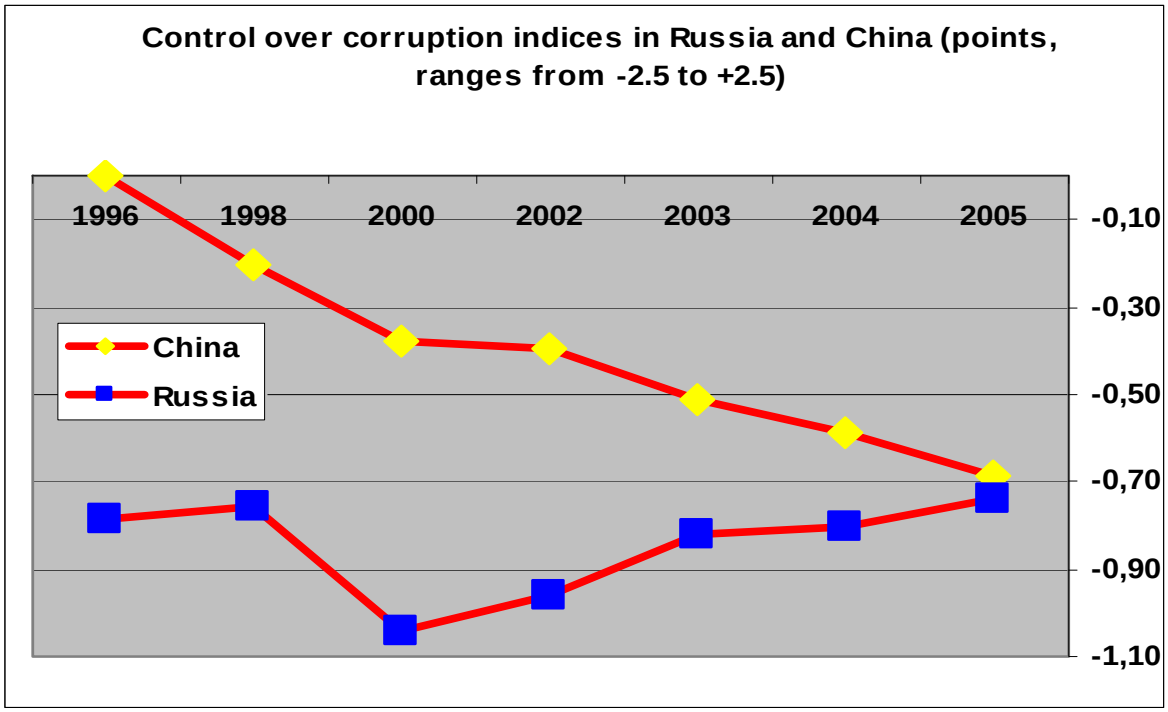
For instance, data from different sources frequently show diverging trends. From 2000 to 2005, according to the World Bank (WB) Control of Corruption index (**Figure 1**), corruption was falling in Russia and increasing in China, whereas theCorruption Perception Index (**Figure 2**) suggests that corruption in Russia increased over this time and did not change much in China.

Objective Measures

Two logical objective measures of state institutional capacity are murder rates—non-compliance with the state's monopoly on violence (**Figure 3**)—and the shadow economy—non-compliance with its economic regulations (**Figure 4**).

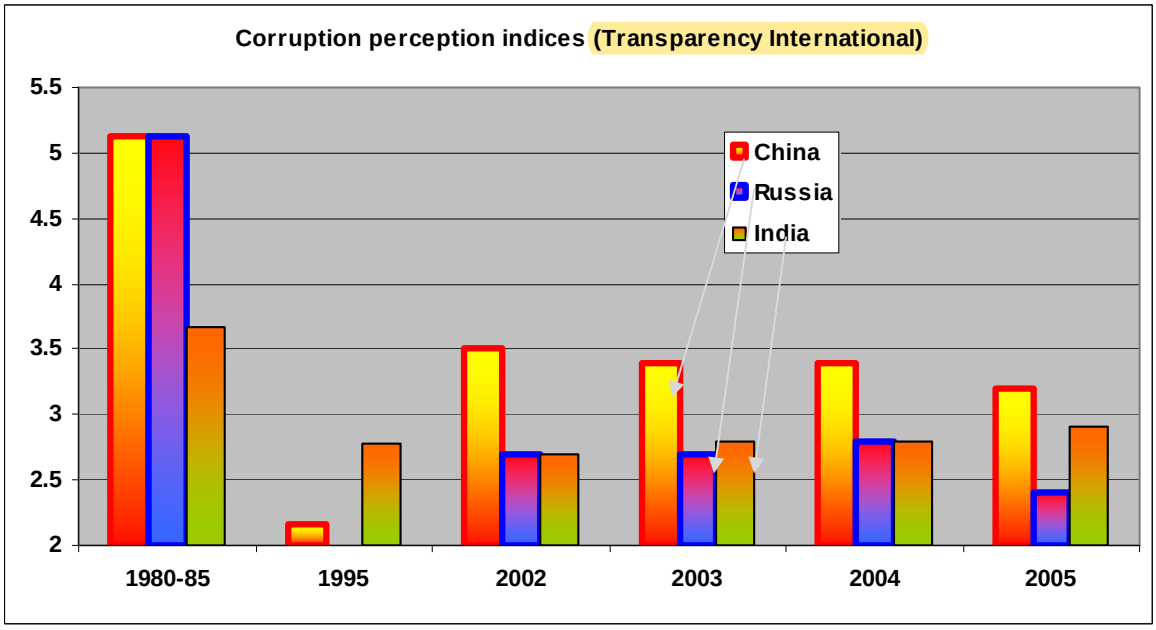
[*] See, for example, Mushtaq H. Khan, "Governance, Economic Growth and Development since the 1960s," DESA Working Paper No. 54, August 2007

Figure 1.



Source: World Bank

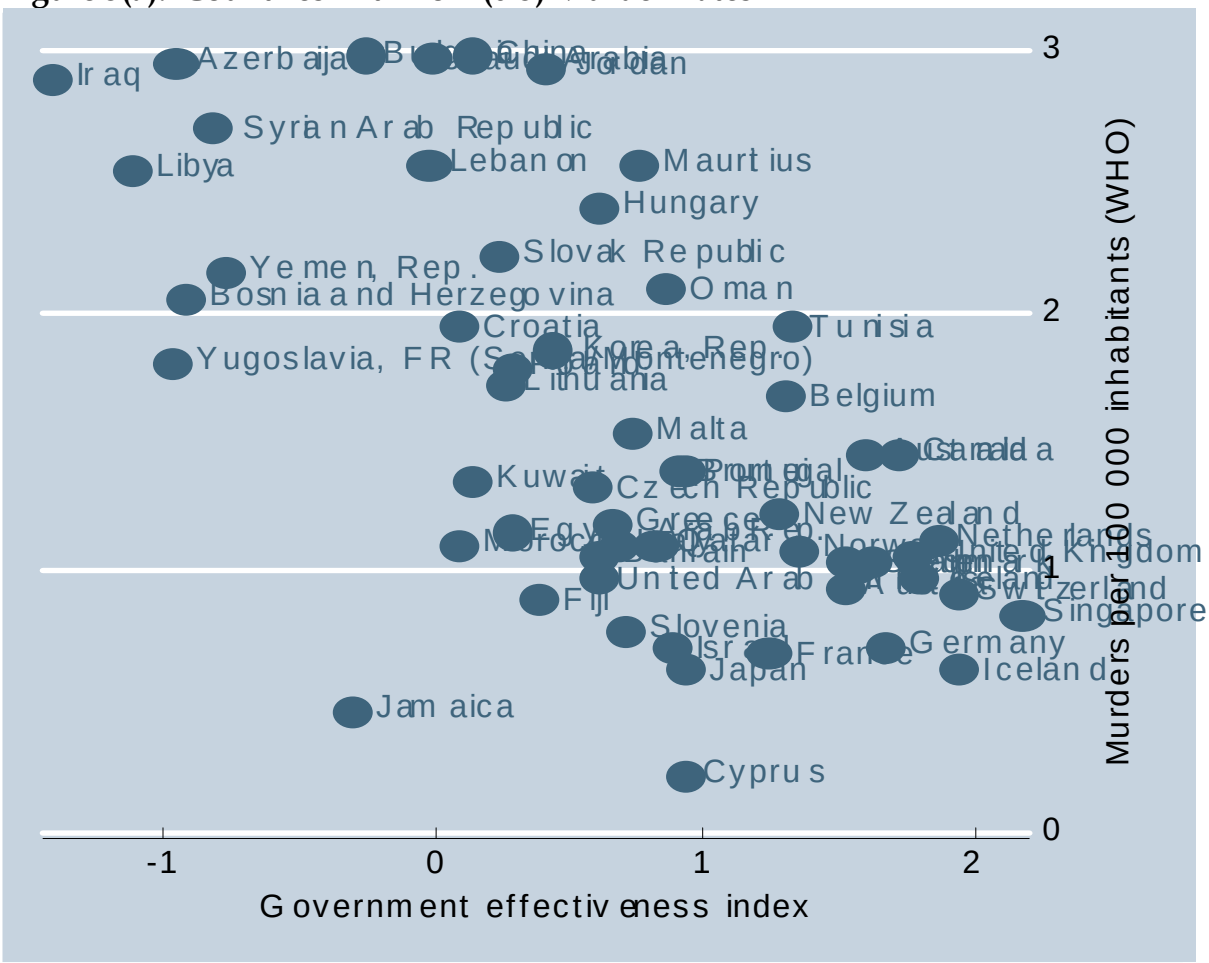
Figure 2.



In principle, crime rate—non-compliance with all state laws—would be a better indicator than the murder rate. However, crimes are registered differently in different countries. Higher crime rates in developed countries seem to be the result of better registration of crimes. By comparison, grave crimes, like murders, appear to be registered quite accurately even in developing countries, so international comparison of murder rates is warranted.

Below, **Figures 3(a) and 3(b)** show for the year 2002 murder rates per 100,000 inhabitants and ratings on a WB government effectiveness index based on surveys of companies, individuals, and experts (scores range from -2.5 to +2.5, the higher the better). † The first chart (3a) shows countries with a murder rate below 3 per 100,000 inhabitants, while the second chart (3b) shows countries with a murder rate above 15 per 100,000 inhabitants (very few countries have rates in between).

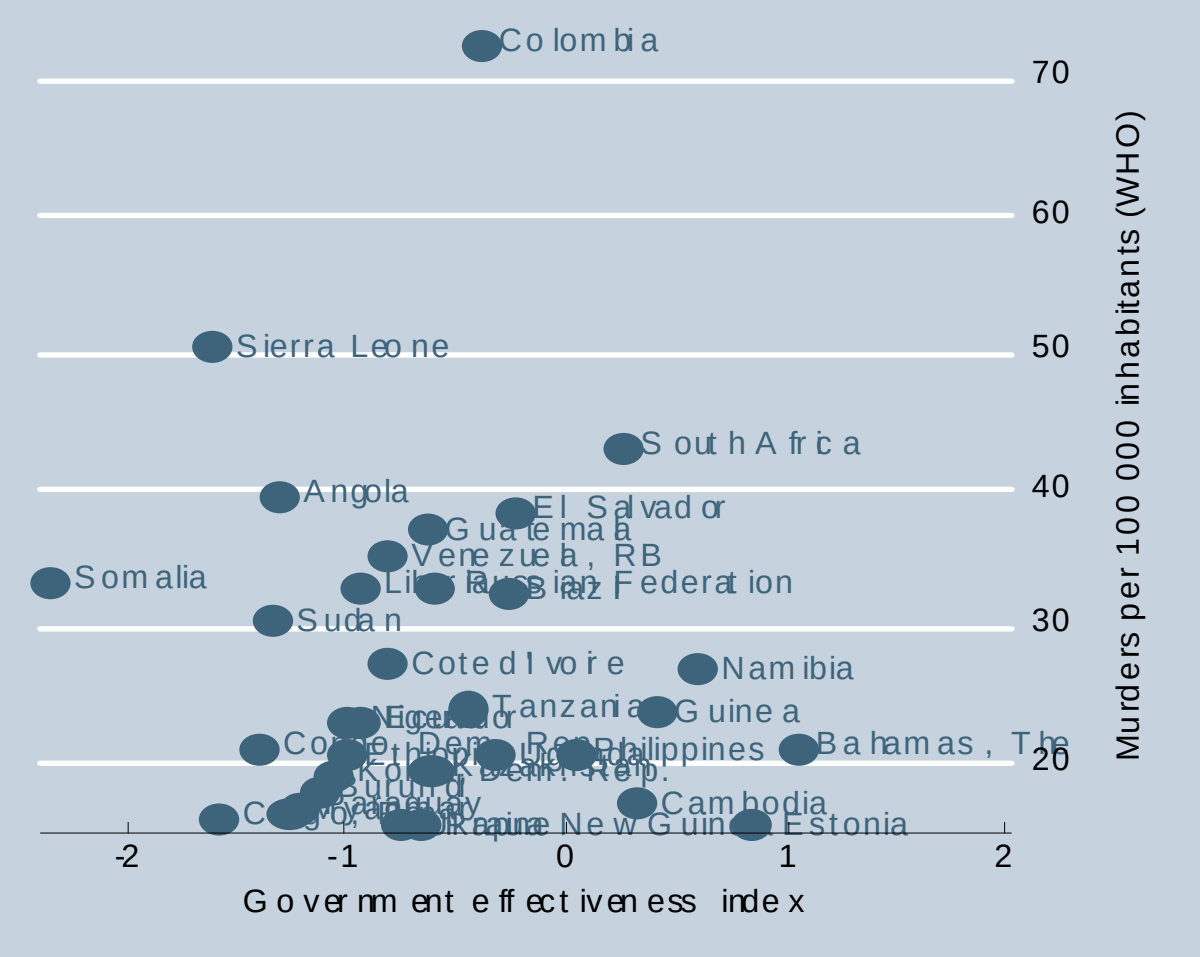
Figure 3(a). Countries with Low (0-3) Murder Rates



Source: WHO, World Bank

† The governance indicators presented here reflect a statistical compilation of responses on the quality of governance given by a large number of enterprise, citizen, and expert survey respondents in industrial and developing countries, as reported by a number of survey institutes, think tanks, non-governmental organizations, and international organizations (see: Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi, "The Worldwide Governance Indicators : A Summary of Methodology, Data and Analytical Issues," World Bank Policy Research, 2010).

Figure 3(b). Countries with High (15-75) Murder Rates

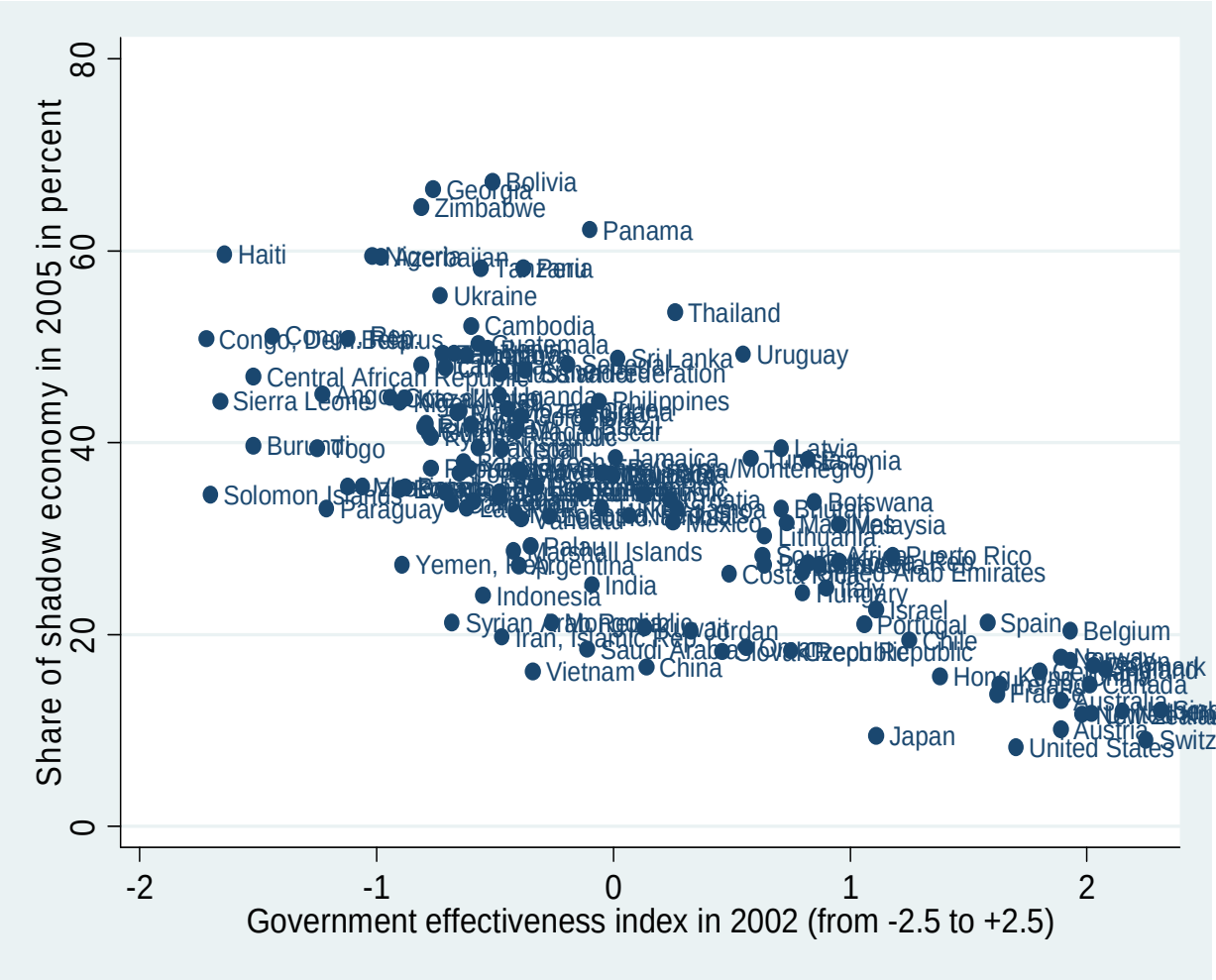


Source: WHO, World Bank

As for shadow economies, estimates are not very reliable, but at least they are not subjective: they are derived from comparisons between official output and variables closely tied to output but believed to be registered better than output (energy and electricity consumption, transportation activity, tax revenues, employment, demand for real cash balances). Estimates of the shadow economy derived by each of these methods vary a great deal but presumably reflect some real phenomena.‡

‡ Data on shadow economies from Friedrich Schneider, "Shadow Economies and Corruption All Over the World: What Do We Really Know?" Economics Discussion Papers, No 2007-9 (http://www.economics-ejournal.org/economics/discussionpapers/2007-9).

Figure 4. Share of the Shadow Economy in GDP in 2005 (Percentages) and Government Effectiveness Index in 2002



General Patterns

Objective measures of institutional capacity are strongly correlated. The general pattern is that developed countries and countries of East Asia (EA), Middle East and North Africa (MENA), and Eastern Europe (EE) usually have better indicators of institutional capacity, whereas Sub-Sahara Africa (SSA), Latin America (LA), and the post-Soviet Commonwealth of Independent States (CIS) lag behind. The first group of countries in most cases had less than 3 murders in 2002 per 100,000 inhabitants: 1-2 in Europe and Japan (although over 5 in the United States), and 2-3 in East Asia and MENA (with exceptions, like the Philippines and Thailand), whereas in LA, SSA, and many CIS states, murder rates were normally higher by an order of magnitude. The same goes for the shadow economy—it is larger in SSA, LA, and CIS states (about 50 percent of GDP), but in EA and MENA it is close to the low levels of Western states (10-30 percent of GDP). South Asia is in between these two groups on most indicators of institutional capacity.

The Devil is in the Details

However, differences between country rankings on subjective (government effectiveness) and objective (murder rate and shadow economy) measures are significant. The subjective index of government is measured on a scale of -2.5 to +2.5; the higher the score, the greater the government effectiveness. EA and MENA states do not get the same high rankings in government effectiveness as they do in their ability to contain the murder rate and the shadow economy.

Moreover, though one might expect the share of the shadow economy to be lower in states with better institutional capacity, this turns out not to be the case. While Figure 4 suggests some correlation between the share of shadow economy and the government effectiveness index, this is due only to the fact that both indicators are driven by GDP per capita: poorer countries generally have a lower index of government effectiveness and a higher shadow economy. When the latter is adjusted for GDP per capita, there is no correlation whatsoever. In fact, none of the subjective indices (corruption perception, investment climate, rule of law, or government effectiveness) helps explain the share of shadow economy in GDP after controlling for the level of GDP per capita. This is very much against intuition and raises serious concerns about the quality of these subjective indices.

Also, it appears that regime type (democratic or authoritarian) matters for subjective rankings. It can be shown, for instance, that out of two states with the same murder rate, the one that was more democratic on average in the past (1970s-1990s) and in the year when government effectiveness was measured (2002) consistently receives a higher ranking in government effectiveness.[§] This result holds for all other five WB subjective indices of institutional capacity: rule of law, control of corruption, voice and accountability, political stability, and regulation quality. This also holds for the shadow economy: out of two states with the same share of shadow economy, the more democratic one ranks higher in government effectiveness.

Concrete examples help provide a clearer picture. The murder rate in China, for instance, is less than three persons per 100,000 inhabitants—one of the best records in developing countries. As well, China's shadow economy is less than 17 percent of GDP, lower than in Belgium, Portugal, and Spain, whereas in developing countries it is typically around 40 percent, sometimes even over 60 percent. Few other developing countries have such a low share of shadow economy (the exceptions being Vietnam and some MENA states like Iran, Jordan, Saudi Arabia, and Syria). However, in terms of government effectiveness, China (0.1) is close to Panama (-0.1), which has a murder rate of 19 people per 100,000 inhabitants and a shadow economy that makes up over 60 percent of GDP.

[§] **GE2002** =1.36 - 0.03**MURDER2002** - 0.22**DEMaver** - 0.08**DEM02**
(-4.83) (-4.93) (-2.11)

Adj R-squared = 0.52, Number of obs. = 186, Significance - 4% or less (T-statistics in brackets below). **GE2002** - Index of government effectiveness in 2002. **MURDER2002** - murder rate (per 100,000 inhabitants) in 2002. **DEMaver** and **DEM02** - levels of authoritarianism - average for 1972-2002 and in 2002 respectively (political rights index ranging from 1 to 7; the higher the more authoritarian).

Meanwhile, among the three Baltic states of Estonia, Latvia, and Lithuania (which became members of the European Union in 2004), high murder rates and shares of shadow economy were observed in Estonia and Latvia (13-15 per 100,000 inhabitants and 38-39 percent respectively), while in Lithuania the indicators were better (2 per 100,000 and 30 percent respectively). However, indices of government effectiveness were higher in Estonia and Latvia (0.7-0.8) than in Lithuania (0.6). Moreover, China has a much better record in containing the shadow economy and violent crime than the Baltic states, but it has a government effectiveness index close to zero.

Another comparison: Iran's government effectiveness index in 2002 (-0.5) was the same as Russia's (-0.47), but the murder rate in Russia was over eight times higher (33 against 4) and share of shadow economy more than two times higher (47 percent against 20 percent).

More Indicators of Government Capacity are Needed

It is possible that governments that are less efficient in fighting violent crime and in containing the shadow economy have a better record in other areas of government management. However, it is also possible that subjective indices are biased: democratic governments are getting better ratings in government effectiveness, rule of law, control of corruption, and other indices. Sometimes these indicators are strongly correlated, whereby improvement in institutional capacity goes hand in hand with an increase in democracy. However, democratization can also undermine institutional capacity in developing countries, as has frequently been observed.

Statistical analysis counterintuitively shows that democratization, leads to a deterioration in institutional capacity, if this capacity was poor to begin with.[**] This is true not only for subjective measures, but also for objective ones – the share of shadow economy and the murder rate. There is in fact a threshold relationship: if institutional capacity is above a certain threshold, democratization improves the quality of institutions, but if it is below the threshold, democratization leads to a deterioration in institutional quality.[††]

There is a need to develop new measures of institutional capacity based on objective indicators of provision of public goods, like law and order, health care, education, social services, and infrastructure. These would not be indicators of government expenditure in these areas, but indicators of achievements (such as higher life expectancy, lower morbidity, higher literacy, and better scores in international math competitions). The problem, of course, is to determine to what extent these achievements should be attributed to government activity as opposed to private efforts.

[**] Victor Polterovich andVladimir Popov, "Democratization, Quality of Institutions and Economic Growth," in *Political Institutions and Development. Failed Expectations and Renewed Hopes*, eds. Natalia Dinello and Vladimir Popov (2007).

[††] The typical relationship is this one: $\boldsymbol{S} = 37.50 - 0.002\boldsymbol{Y} - 22.70\boldsymbol{Tr} + 0.86\,\Delta\,(4.35 - \boldsymbol{CPI})$

(4.25) (-2.44) (-4.16) (4.83) (-6.59)

Adj R-squared =0.78, Number of jobs. = 33, Significance - 2% or less (T-statistics in brackets below), where ***S*** – share of shadow economy, Δ – democratization in 1970-2000 (increase in political rights index, points), ***CPI*** – corruption perception index in 1980-85, ***Y*** – PPP GDP per capita in 1975; ***Tr*** denotes a dummy variable for transition countries. It means that in relatively "clean" countries democratization reduces the share of the shadow economy, but in corrupt countries democratization leads to its increase. The threshold level of the corruption perception index in 1980-85 was 4.35 – in between Portugal and Greece. If CPI is included as a linear term, it turns out to be most insignificant and does not increase R-squared. Thus, the threshold hypothesis is supported.