Developing New Measurements of State Institutional Capacity

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New Economic School

March 2011

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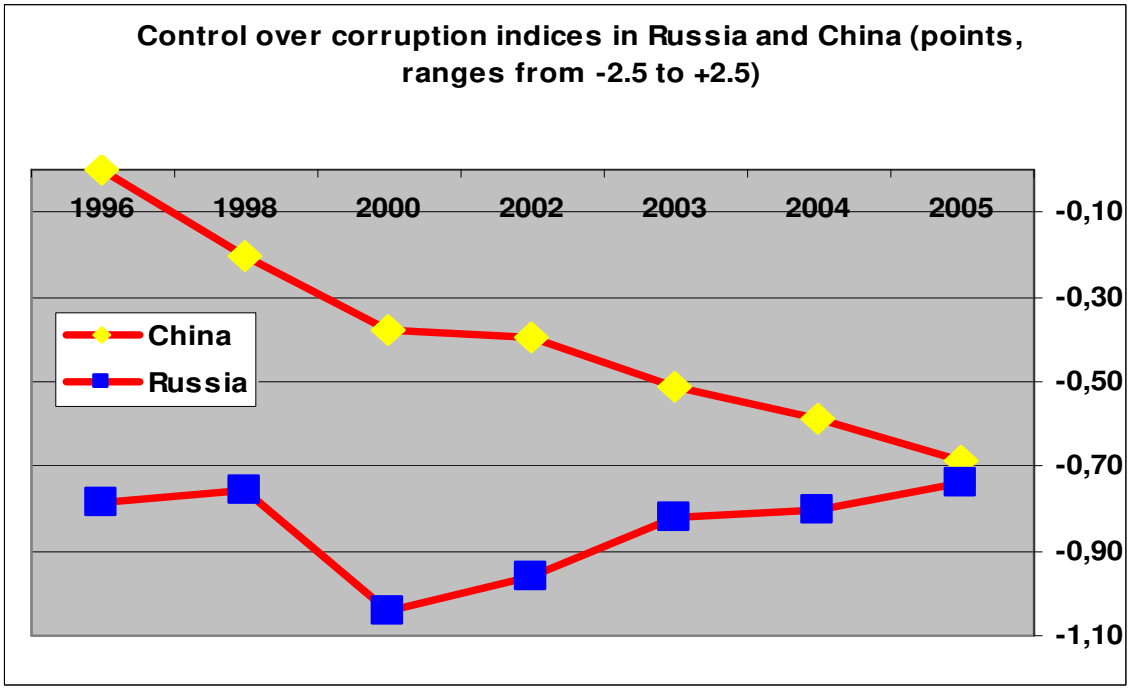
What do we mean by state capacity? Most would agree that this is the ability of the state to provide goods and services that the state is responsible for, although many would disagree on what exactly are the responsibilities of the state. According to a narrow definition, institutional capacity of the state is the ability of the government to enforce laws and regulations. There are a lot of subjective indices (control over corruption, rule of law, government effectiveness, etc.) that are designed to measure the state institutional capacity and are based on experts' estimates. But many researchers consider them biased and do not think they help to explain economic performance[1].

Very often data from different sources show diverging trends. According to the World Bank (WB) control over corruption index (fig. 1), in 2000-05 corruption was falling in Russia and increasing in China, whereas Transparency International corruption perception index (figure 2) suggests that corruption in Russia actually increased and did not change much in China. Moreover, according to the WB control over corruption index, in 2005 Russia and China were at par, whereas judging by Transparency International index China was 2 times cleaner than Russia.

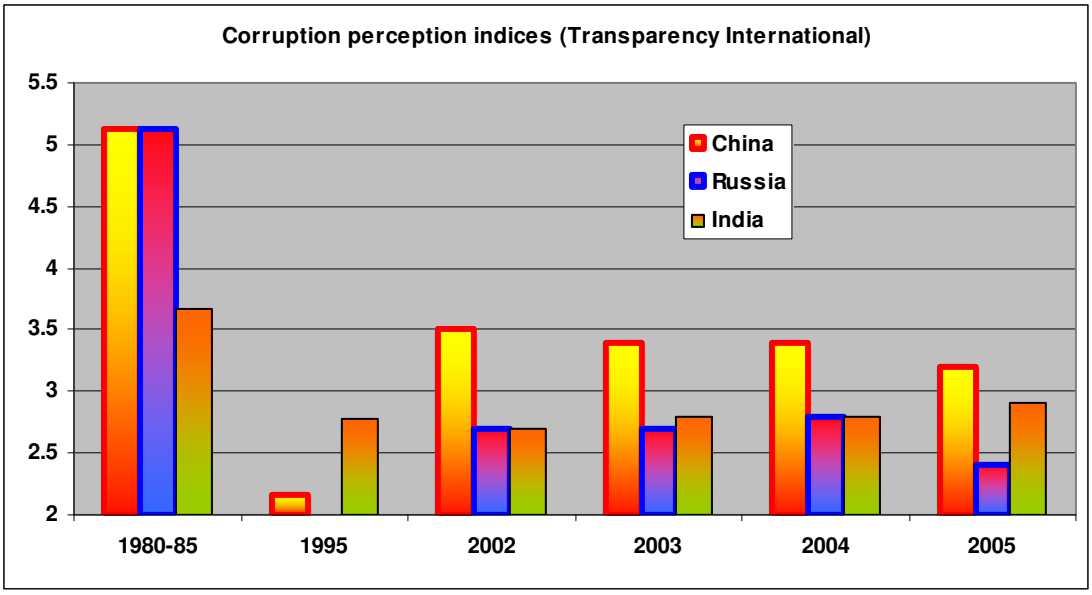
[1] Mushtaq H. Khan. Governance, Economic Growth and Development since the 1960s. DESA Working Paper No. 54, August 2007. http://www.un.org/esa/desa/papers/2007/wp54_2007.pdf

Figure 1



Source: World Bank.

Figure 2

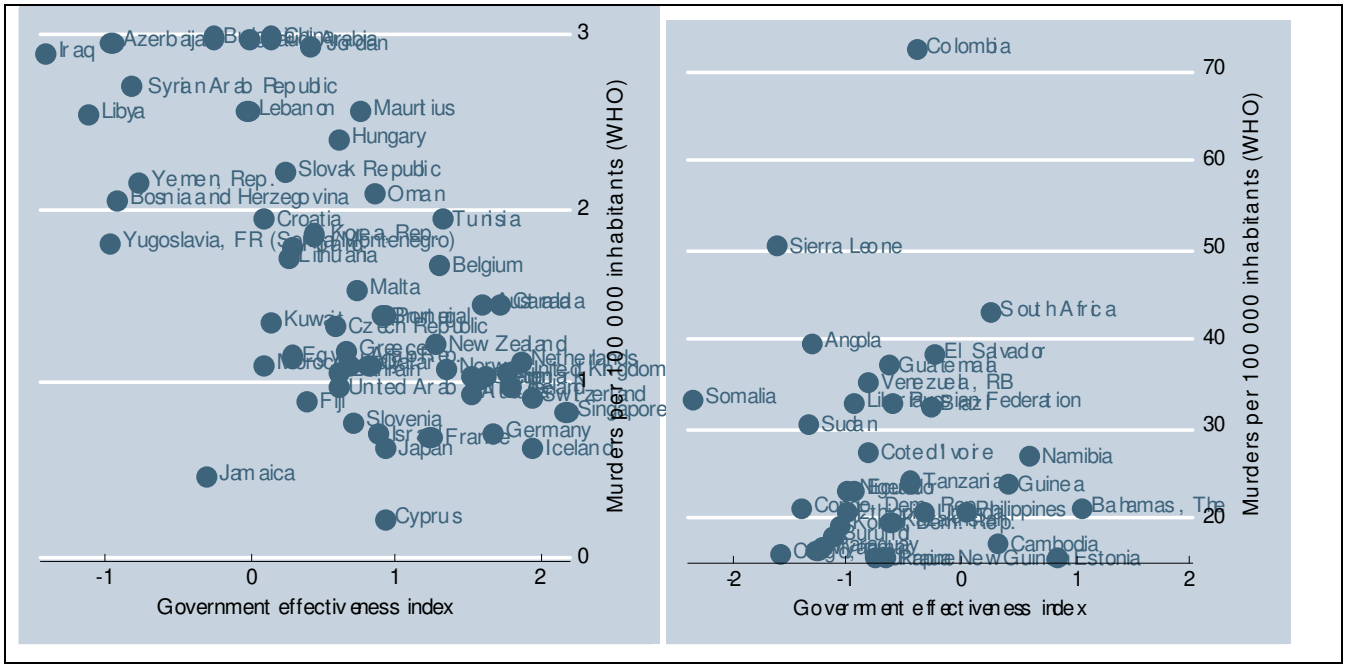


Source: Transparency International.

The logical objective measures of the state institutional capacity are the murder rate – non-compliance with the state's monopoly on violence (figure 3), and the shadow economy – non compliance with the economic regulations (see figure 4).

Figure 3. Murder rate per 100,000 inhabitants and government effectiveness index (ranges from -2.5 to +2.5) in 2002

Left chart – countries with low (0-3) murder rate; right chart – countries with high (15-75) murder rate

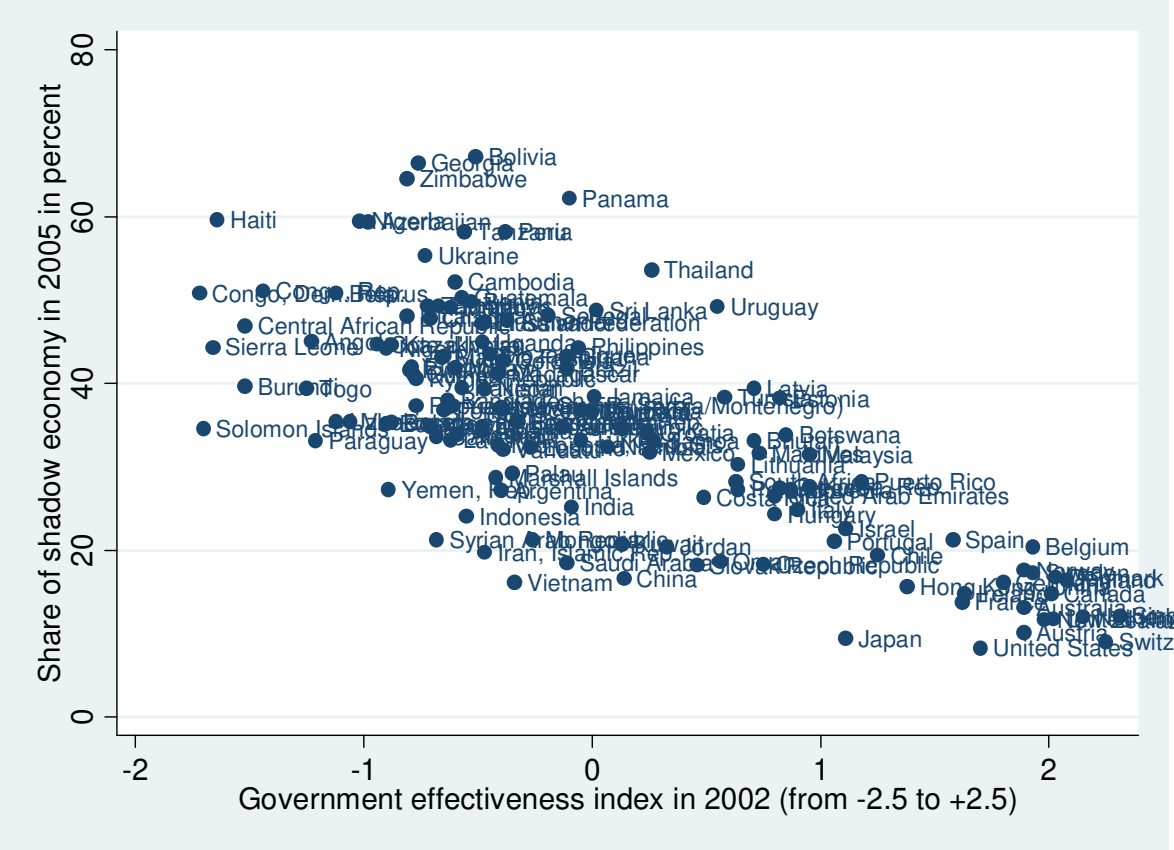


Source: WHO, World Bank.

Crime rate – non-compliance with all state laws – would be an even better indicator. But crimes are registered differently in different countries — higher crime rates in developed countries seem to be the result of better registration of crimes. However, grave crimes, like murders, appear to be registered quite accurately even in developing countries, so international comparison of murder rates is well warranted.

Shadow economy estimates are not very reliable, but at least they are not subjective. They are derived from the comparison of official output and variables that are closely tied to output and are 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 hopefully reflect some real phenomena (see source to figure 4).

Figure 4. Share of the shadow economy in GDP in 2005, %, and government effectiveness index in 2002

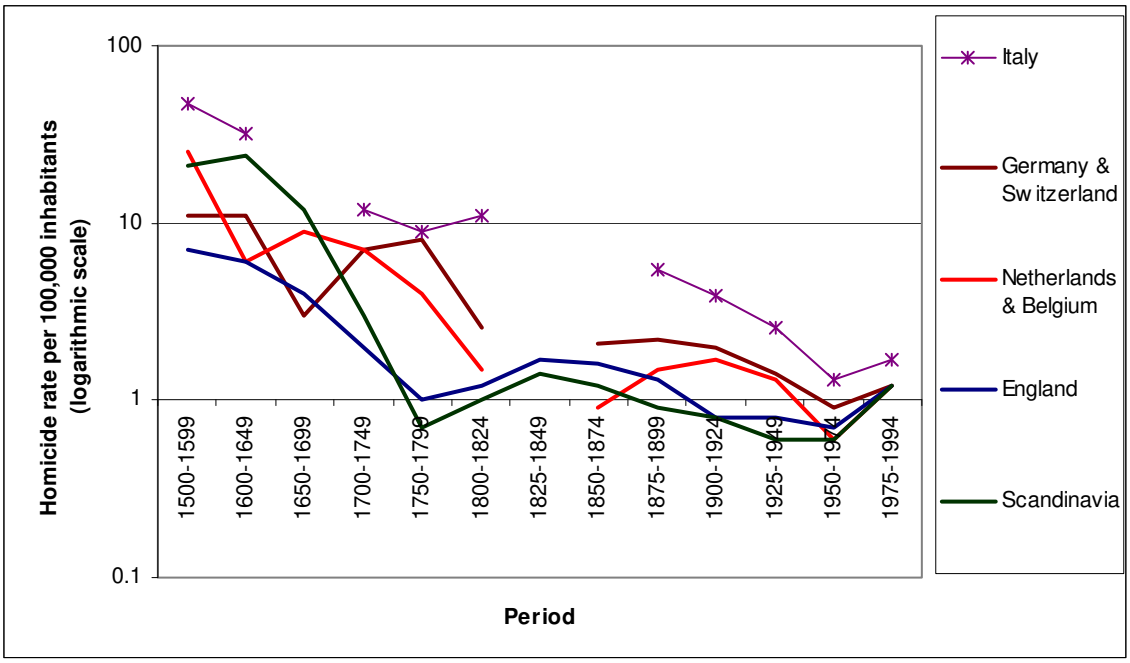


Source: World Bank. Data on shadow economy are from: Friedrich Schneider. Shadow Economies and Corruption All Over the World: New Estimates for 145 Countries. – Economics. Open Access, Open Assessment E-Journal, No. 2007-9 July 24, 2007 (measures of the shadow economy are derived from divergence between output dynamics and electricity consumption, demand for real cash balances, etc.).

General patterns

All measures of institutional capacity are strongly correlated. The general pattern is that developed countries, East Asia (EA) and Middle East and North Africa (MENA) and Eastern Europe (EE) countries usually have better indicators of institutional capacity, whereas in Sub-Sahara Africa (SSA), Latin America (LA) and 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 US) and 2-3 in East Asia and MENA (once again, there are exceptions, like Philippines and Thailand) , whereas in LA, SSA, many CIS states murder rates were normally higher by the order of magnitude. By way of comparison, it took Western Europe 300 years to move from a murder rate of over 40 per 100,000 inhabitants in the 16th century to current levels of 1-2 murders per 100,000 inhabitants in the 19th century and beyond (figure 5).

Figure 5. Homicide rates in some Western countries since 1500



Source: M. Eisner. Long-Term Historical Trends in Violent Crime, published in Crime and Justice, Vol. 30 (2003), pp 83-142.

The same goes for shadow economy – it is larger in SSA, LA, and CIS countries (about 50% of GDP), but in EA and MENA it is close to the low levels of Western countries (10-30% of GDP). South Asia is in between these two groups on most indicators of institutional capacity.

The devil is in details…

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

It could be expected that the share of the shadow economy is lower in countries with better institutional capacity of the state. But in fact this is not the case. Neither of the subjective indices (corruption perception index, investment climate index, rule of law index, government effectiveness index) helps to 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.

Besides, it appears that political regime (democratic or authoritarian) matters for the subjective ranking. It could be shown, for instance, that out of two countries with the same murder rate, government effectiveness is higher in countries that were more democratic in the past (1970s-1990s on average) and in the year (2002) when government effectiveness was measured.[2] This result holds for all other five WB subjective indices of institutional capacity – rule of law, control over corruption, voice and accountability, political stability and regulation quality. And

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[2] ***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 of the Freedom House, ranging from 1 to 7, the higher the more authoritarian).

they hold also for the share of shadow economy: out of two countries with the same share of shadow economy, government effectiveness is higher in a more democratic one.

Concrete examples may help to get a clearer picture. The shadow economy in China is less than 17% of GDP, lower than in Belgium, Portugal, Spain, whereas in developing countries it is typically around 40%, sometimes even over 60%. Only few developing countries have such low share of shadow economy, in particular, Vietnam and some MENA countries (Iran, Jordan, Saudi Arabia, Syria). The murder rate in China is less then 3 persons per 100,000 inhabitants – one of the best records in developing countries. However, in terms of government effectiveness index, China (0.1) is close to Panama (-0.1) with the murder rate of 19 people per 100,000 inhabitants and the shadow economy of over 60% of GDP.

Among three Baltic states – Estonia, Latvia and Lithuania – that became members of the European Union in 2004 the highest murder rates and the shares of shadow economy were observed in Estonia and Latvia (13-15 per 100,000 inhabitants and 38-39% respectively), whereas in Lithuania the indicators were better (2 per 100,000 and 30% respectively). However the indices of government effectiveness were higher in Estonia and Latvia (0.7-0.8) than in Lithuania (0.6). Not to speak about China with much better record of containment of shadow economy and violent crime, but with government effectiveness index close to zero.

Government effectiveness index in 2002 in Iran (-0.5) was the same as in Russia (-0.47), but the murder rate in Russia was over 8 times higher (33 against 4), the share of shadow economy – more than 2 times higher (47% against 20%).

More indicators of government capacity are needed

It is possible that governments, which are less efficient in fighting violent crimes and in containing the shadow economy, have a better record in other areas of government management. But it is also possible that subjective indices are biased: more democratic governments are getting better ratings in government effectiveness, rule of law, control over the corruption and other indices. Sometimes these indicators are strongly correlated, i.e. the improvement of the institutional capacity goes hand in hand with the increase in democracy,

but in many instances in developing countries democratization undermines institutional capacity.

Statistical analysis shows that despite intuition, democratization, as measured by increase in the political rights index of the Freedom House, leads to the deterioration of institutional capacity, if was poor quality to begin with[3]. This is true not only for subjective measures, but also for the objective ones – the share of shadow economy and the murder rate. There is in fact a threshold relationship: if institutional capacity is above the threshold, democratization improves the quality of institutions, but if it is below the threshold, democratizations leads to the deterioration of institutional quality[4].

There is a need to develop new measures of institutional capacity that are based on objective indicators of provision of public goods, like law and order, health care, education, social services, infrastructure. These are not indicators of government expenditure in these areas, but the indicators of the achievements in the area where the government spends the money (higher life expectancy, lower morbidity, higher literacy, better scores in international maths competitions, etc.). The problem, of course, is to determine to what extent these achievements should be attributed to the government activities and to what extent they are due to private efforts.

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[3] Victor Polterovich, Vladimir Popov. Democratization, Quality of Institutions and Economic growth. – In: Political Institutions And Development. Failed Expectations and Renewed Hopes. Edited by Natalia Dinello and Vladimir Popov. Edward Elgar Publishing, 2007.

[4] The typical relationship is this one:

$$\boldsymbol{S} = 37.50 - 0.002\boldsymbol{Y} - 22.70\boldsymbol{Tr} + 0.86\,\Delta\,(4.35 - \boldsymbol{CPI}),$$
$$(4.25) \quad (-2.44) \quad (-4.16) \quad (4.83) \quad (-6.59)$$

Adj R-squared =0.78, Number of obs. = 33, Significance - 2% or less (T-statistics in brackets below),

where $\boldsymbol{S}$ – share of shadow economy, Δ – democratization in 1970-2000 (increase in political rights index, points), ***CPI*** – corruption perception index in 1980-85, $\boldsymbol{Y}$ – PPP GDP per capita in 1975; $\boldsymbol{Tr}$ denotes a dummy variable for transition countries.

It means that 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.

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.