

The Evolution of Personal Wealth in the Former Soviet Union and Central and Eastern Europe^{*}

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We discuss evolution of personal wealth in transition economies. While the data availability is still a problem, the available indirect evidence suggests privatization has resulted in an increase in personal wealth but also in personal wealth inequality – especially in the countries that lagged behind in building effective institutions. Another source of wealth inequality is the high income inequality due to wage decompression coupled with the low saving rates among the poor. We pay a special attention to one of the most noticeable implications of this rise in personal wealth and wealth inequality – the emergence of so called “oligarchs”. Using the comprehensive dataset of Muscovites’ incomes we show that surveys that do not take into account the first- and second-tier rich (billionaires and millionaires) may drastically underestimate inequality.

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Introduction

Transition from plan to market is a natural experiment of historical significance. It has affected economic relationships, social and political structures and – what is most important – lives of 1.5 billion people in almost 30 countries. While the transformational recession, subsequent recovery and other aggregate processes have been studied extensively, our understanding of the evolution of personal wealth and of the distributional effects of transition is still far from complete. This is not because these issues are unimportant. On one hand, transition countries are on average rather wealthy. Figure 1 and Table 1 show the standing of transition countries in terms of wealth with regard to other economies comparable per capita GDP.¹ Unlike the pre-transition years, much of this wealth is now owned by individuals. Privatization has provided many citizens of transition countries with property rights for assets they were de facto controlling and using during the communist era.

¹ The graph presents national wealth including natural resources, production capital, infrastructure but excluding human capital. The graph for production capital/GDP looks similar.

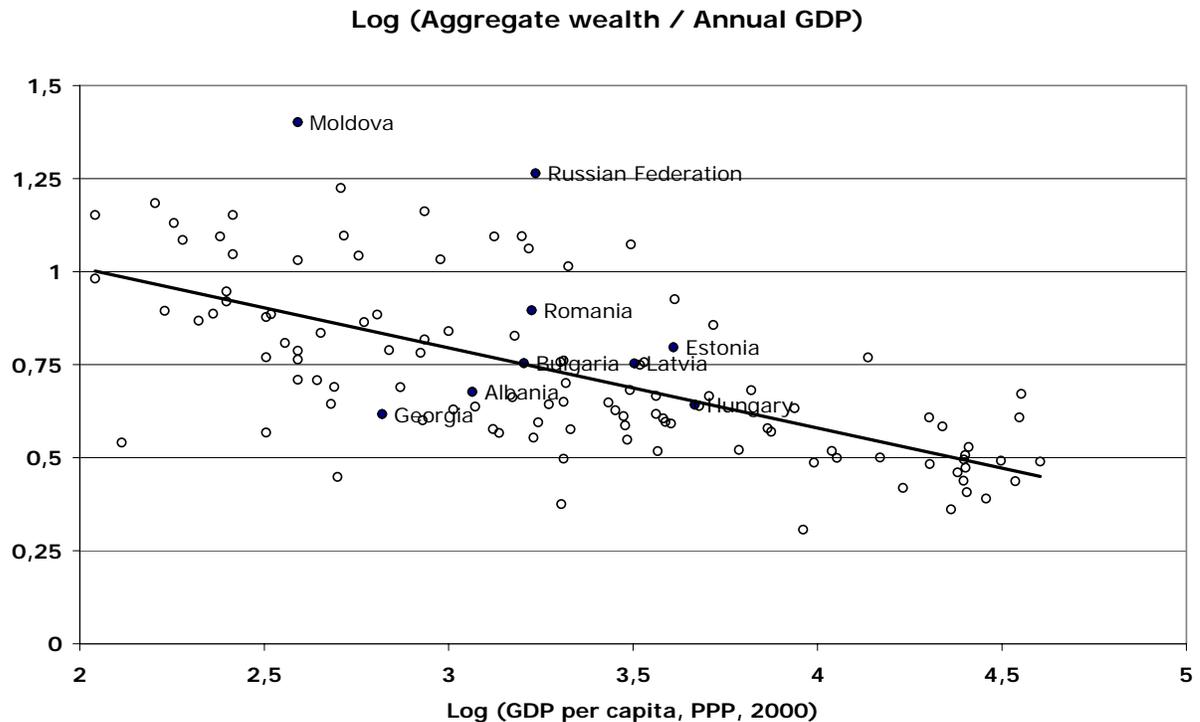


Figure 1: Transition countries are on average richer than other countries with comparable per capita income. The graph presents aggregate national wealth around the world and in transition countries in 2000. Source: World Bank (2005a).

Yet, this wealth is not equally distributed among the citizens of postcommunist countries which has significant implications for economic growth and sustainability of reforms. Indeed, inequality – both income and wealth inequality – has an important and lasting effect on the institutional change (Glaeser et al., 2003, Sonin, 2003). Moreover, as financial markets are imperfect,² wealth inequality is crucial for economic development, as wealth-constrained entrepreneurs cannot implement their business ideas. Banerjee and

² See the Appendix on the degree of financial development in transition countries.

Newman (1993) show that in the absence of an effective court system and well-functioning financial markets wealth inequality breeds wealth inequality and may lock the economy in an underdevelopment trap.

Table 1. Per capita wealth in transition countries and selected OECD countries, USD. Sources: Davis (2006), Unicredit (2005), World Bank (2005a).

Country	2000, total wealth Davis	2005, financial wealth, Unicredit	2000, produced capital + urban land only, WB	2000, Total Wealth excluding human capital, WB
Albania	17 199		1 745	5 637
Armenia	15 294			
Azerbaijan	11 447			
Belarus	25 447			
Bulgaria	22 866	959	5 303	8 751
Croatia	29 437	4304		
Czech Rep	25 697	5253		
Estonia	31 180		18 685	24 967
Georgia	21 115		595	2 394
Hungary	38 411	4321	15 480	20 427
Kazakhstan	23 348			
Kyrgyzstan	9 745			
Latvia	27 468		12 979	18 464
Lithuania	29 091			
Macedonia	24 144			
Moldova	11 577		4 338	7 598
Poland	35 566	3120		
Romania	22 127	568	8 495	13 003
Russia	25 755	789	15 593	32 809
Slovak Republic	35 786	2942		
Slovenia	46 461			
Tajikistan	5 443			
Ukraine	15 141			
China	11 965		2 956	5 179
France	83 016		57 814	64 150
Germany	89 871		68 678	73 124
Italy	119 704		51 943	56 621
UK	124 861		55 239	62 406
Euro zone		37708		
Canada	89 252		54 226	88 997
Japan	115 237		150 258	151 771
United States	147 665		79 851	94 603

The research on wealth inequality is plagued by an array of data problems (Davies and Shorrocks, 2005). First, there are no consistent microeconomic data on personal wealth for transition countries. Whatever data are available are not comparable neither cross-country nor over time. The wealth data for the pre-transition period are problematic for a number of reasons (see the next section). Also, transition has been accompanied by a substantial growth of informal sector (Shleifer and Treisman, 2005); what is more important, the growth of informal sector may have been very different in different countries (Alexeyev and Pyle, 2003) and cannot be accurately measured (Hanousek and Palda, 2005).

Even given the imperfect data, there are a few strands of studies that promote our understanding of wealth inequality in transition. First, as much of personal wealth distribution today is driven by the privatization process, the existing research on privatization provides important insights. Although the scholars of privatization also complain about the lack of data, substantial progress has been made (Megginson, 2005, Guriev and Megginson, 2006).

In addition to privatization of industrial assets, the reforms have also transferred real estate to urban citizens and farm land to farmers. Prior to transition, socialist economies provided each citizen with a virtually free access to public housing. Transition has transformed these rights-to-use into private property rights essentially creating a market for real estate (consistent with the logic of De Soto, 2002). In addition to registering the private property titles, transition has resulted in a significant increase of supply of housing in real terms. E.g. in Russia, a country traditionally plagued by the lack of housing, an average citizen has seen a 20% increase in terms of per capita square meters

during 1990-2004. The transfer of housing has contributed to an increase in wealth inequality as the value of housing in different locations varies greatly.³

Second, there is a substantial research on one of the most intriguing phenomena in transition: the emergence of a handful of superrich tycoons in Russia – so called “oligarchs”. Out of 691 billionaires in the Forbes list of 2005, 27 are from Russia – by far many more than from the other transition countries combined (including China).⁴ It is interesting to compare Russia’s standing in the Forbes Billionaire List and in the World Wealth Report that cover the “second tier rich” – individuals with at least \$1M in financial assets. While Russia has 4% of the World’s billionaires both in terms of wealth and number of individuals, there are only 103,000 Russian *millionaires* (only 1.2% of the

³ This is certainly a measurement issue: except for the De Soto’s collateral argument, the rental service flow was the same before transition. Yet, as the differences in the value of the rental service flows were not properly measured, transition has resulted in an *observed* increase in inequality. See Yemtsov (2006) for a thorough empirical study of the effect of housing privatization on inequality in Poland, Serbia and Russia. Gustafsson and Li (2001) argue that in China much of the urban-rural inequality is due to the high value of the user rights for urban real estates that urban workers obtain at low rates.

⁴ Actually, in 2005 Forbes list, the total wealth of all non-Russian billionaires from transition countries (including China but excluding Hong Kong) was below the wealth of the single richest Russian. In 2004, the wealth of 26 Russian billionaires was about 19% of Russian GDP; the total wealth of all 262 US billionaires was just 7% American GDP. The role of oligarchs increased even further in 2006 when their wealth doubled to \$174 billion (23% Russian GDP).

world's total) who have about \$670 billion wealth (2% of the world's total).⁵ The comparison of the Forbes List and the World Wealth Report suggests that there is a huge inequality at the very the top end of Russia's wealth distribution: 25 Russian oligarchs have about 12% of the combined wealth of 103 *thousand* Russian millionaires.⁶

How and why did these "oligarchs" arise? Why did they emerge in Russia but not in other transition countries? What is the impact of their wealth on the economic development of Russia? We address these issues in detail below.

Third, the *income* inequality is studied and understood very well. Milanovic (1998) provides a comprehensive analysis of income inequality in transition based on the comparable data from household surveys in transition. Figure 3 illustrates the variety of transition experiences in terms of increases in income inequality.⁷

⁵ The 2005 World Wealth Report does not provide an estimate of the total wealth of Russian billionaires. We use the numbers of 544 and 573 billions for the 2002 and 2003 mentioned in the presentation of the 2004 World Wealth Report (Vedomosti, 2004) and extrapolate them for the next year.

⁶ The World Wealth Report (2005) is based on 2004 data; hence it has to be compared to the Forbes List in 2004 when Russia had 25 billionaires jointly owning \$80 billion.

⁷ This scatterplot is very intuitively divided into three clusters. Within each cluster there is a positive correlation between levels of income and inequality (interestingly, the relationship between *changes* in Gini and per capita is actually negative, Keane and Prasad, 2002). One cluster is the advanced transition countries except Poland, the other one is the war-torn countries plus resource-rich Russia and Turkmenistan; other countries are in the third cluster. The fact that Poland is in the intermediate cluster



Figure 2: Russians in the Forbes' billionaires list. Source: Forbes (2002-2006), Russian Trading System website (www.rts.ru), authors' calculations. The Forbes' estimates of the billionaires wealth are shown at the date of the publication of the list. The numbers next to bars indicate the number of Russian individuals in the Forbes list.

may be explained by the high pre-transition inequality: actually the change in Poland's Gini was very small (Keane and Prasad, 2002).

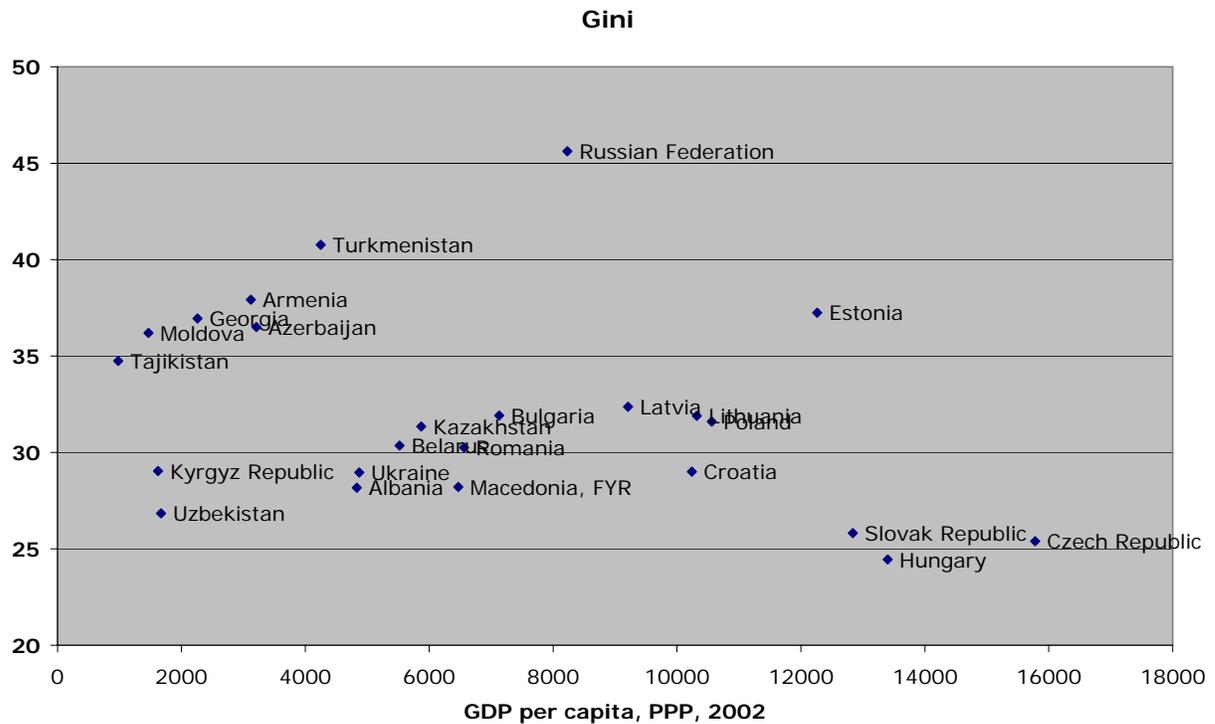


Figure 3: Income inequality Gini estimates are made in 1996-2002 period, for most countries in 2000-2001. Source: World Development Indicators.

Given that prior to transition personal wealth inequality as well as personal wealth per se were quite low, the current wealth inequality is essentially a function of income inequality during the transition process. As transition countries are essentially middle income countries, the poor face a subsistence constraint, so that within each economy, the savings rates increase with income. Figure 4 shows that the lower half of Russian income distribution essentially saves nothing or even dissaves; the savings rates are substantial only in the top income quartile. The lower saving rates by the poor imply that the wealth inequality is much higher than income inequality.

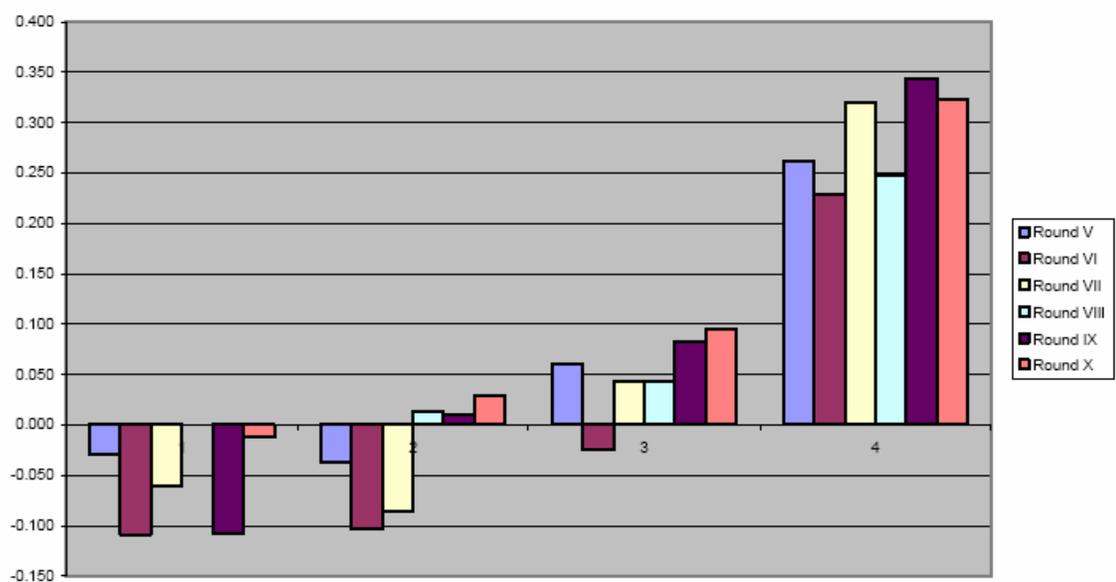


Figure 4: Majority of Russians saved very little or even dissaved during transition. The graph depicts savings rates (including durables) by income quartiles, based on RLMS survey Rounds V-X (1994-2001). Source: Foley and Pyle (2005).

This argument is incomplete without taking into account capital gains, in particular those on the public housing and productive assets transferred to private hands in the course of transition. While there is no data for such an adjustment, it would probably further increase the estimated inequality. Indeed, the opportunities to earn higher income would be higher for individuals, regions, and sectors where such assets are more valuable and vice versa.

Initial conditions

Our knowledge of inequality in the socialist economies is highly incomplete. The first problem is the lack of primary data. The official data have not been collected; so the most reliable information on inequality has come from the emigrant surveys. Ofer and Vinokur (1992) have surveyed 1250 Soviet Jewish emigrants to Israel who provided information on their wealth prior to their decision to emigrate. These surveys suffer from two important methodological problems. The emigrants are certainly not a representative sample. Among other things, their decision to emigrate could be linked to their low wealth (it is therefore not surprising that 58% of emigrants in the survey had no assets at all!). Ofer and Vinokur recognize these problems and suggest that one should be very careful interpreting their wealth inequality estimates (indeed, the 0.7-0.8 Gini coefficient for the wealth distribution obtained by Ofer and Vinokur is strongly influenced by the large share of assetless migrants).

The other, more important problem is that the pecuniary income/wealth inequality does not measure the true inequality of living standards in a command economy. First, there have been many missing markets (including real estate and financial markets). Second, the real inequality is not in having the wealth but in the ability to use this wealth to buy goods in shortage at state prices. These were driven by connections which in turn were a function of one's standing in the Soviet hierarchy.⁸ The acuteness of shortage differed

⁸ See Shleifer and Vishny (1994) for this theory explaining why centrally planned economies needed shortages to provide incentives.

geographically. Those residing in larger cities would have access to much better provision of goods in stores. The mobility was constrained through the system of residence permits, so that relocation to a large city was a crucial non-monetary incentive. The factories also were happy to provide the skilled workers with fringe benefits such as good healthcare and housing (this legacy was still important during transition, Commander and Schankerman, 1997, Friebel and Guriev, 2005, Juurikkala and Lazareva, 2004).

Moreover, these problems differed across countries. While the share of public sector employment was very high everywhere (only in Yugoslavia and Poland, public employment was below 90%, Milanovic, 1998), the share of private income varied from 5 to 25%.

Table 2. The share of private income in socialist economies before transition (1988-89). Private income is calculated as the self-employment income, property income and other income. Source: Milanovic (1988).

<i>Income source</i>	<i>Czechoslovakia</i>	<i>USSR</i>	<i>Bulgaria</i>	<i>Hungary</i>	<i>Yugoslavia</i>	<i>Poland</i>
<i>Primary income</i>	72.9	78.8	71.2	71.7	83.1	78.2
Labor income	69.5	72.0	56.5	55.0	62.2	53.0
Self-employment income	3.4	6.8	14.7	14.0	20.9	25.2
Property income	n.a.	n.a.	n.a.	2.7	n.a.	n.a.
<i>Social transfers</i>	25.4	13.6	21.2	22.4	13.3	20.7
Pensions	16.5	8.0	16.6	13.4	12.1	14.3
Child benefits	5.6	1.2	2.3	6.0	1.2	5.2
Other cash transfers	3.3	4.4	2.3	3.0	0.0	1.2
<i>Other income</i>	1.7	7.6	7.6	6.0	3.6	1.1
<i>Gross income</i>	100.0	100.0	100.0	100.0	100.0	100.0
<i>Personal taxes</i>	14.2	n.a.	n.a.	16.5	1.2	1.6
Direct taxes	0.0	n.a.	n.a.	10.7	1.2	1.6
Payroll tax (employee)	14.2	0.0	0.0	5.8	0.0	0.0
Private income	5.1	14.4	22.3	22.7	24.5	26.3

Reform strategies and inequality

One of the most commonly held beliefs about transition is that the rise of inequality is due to the reform and to privatization in particular. This argument is especially popular among the scholars of Russian transition (Stiglitz, 2003) and goes as follows: Russian reform has channeled state assets into the hand of a few, drastically reduced the government funding of public goods therefore leaving majority of citizens at or below the subsistence levels. The existing evidence suggests that the situation is more involved. First, the income inequality has risen in all transition countries including China and Vietnam. Second, even in Russia the major increase in inequality occurred prior to privatization. Third, as shown by Milanovic (1999), most of the increase in income inequality in postcommunist countries is due to wage decompression.⁹

Yet, all of the above refers to the income inequality. The dynamics of wealth inequality was also driven by the privatization process. Transition countries have chosen very different privatization strategies (Megginson 2005): some (most importantly, Russia and Czech Republic) opted for voucher-based mass privatization, others sold in open auctions allowing foreigners to bid, some sold to insiders, some did not privatize at all.

⁹ Milanovic's study ends in mid 1990s but the levels of inequality in transition economies have remained roughly constant since then.

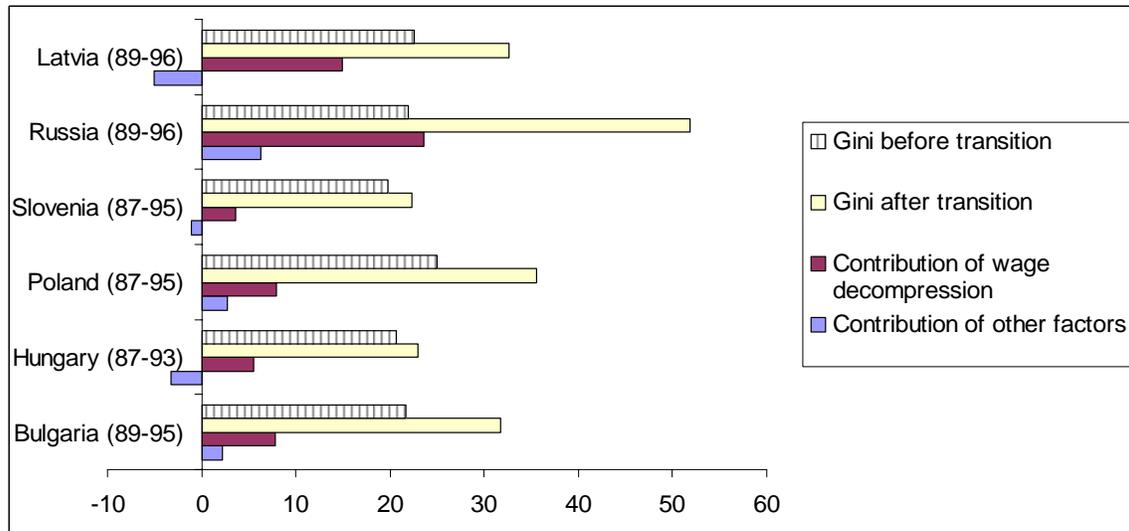


Figure 5: Change in Gini coefficient for transition countries and the contribution of wage decompression. Source: Milanovic (1999).

The outcomes however do not depend very much on the privatization strategies. Rather, there is a clear distinction between CEE and FSU transition experiences (Berglof and Bolton, 2002, refer to this distinction as the Great Divide of transition). For example, with all the difference between Polish and Czech privatization strategies, the ownership structures in these countries are converging (Grosfeld and Hashi, 2003, see also the Appendix). Even though Czech Republic has had its share of corporate governance scandals (Johnson et al., 2000), in the end of the day the market institutions have emerged as the country joined the EU. Also, Russia that has privatized extensively is now renationalizing important sectors of the economy thus converging back to some of its FSU neighbors.

The simplest explanation of the Great Divide is the outside anchor of EU accession available to CEE countries. In these countries, the commitment to reforms was credible, while the FSU there has always been a fear of reversal and expropriation; the risk did materialize in Russia, Belarus, and some other countries. This has determined the choice of reform strategies. In order to provide demand for market institutions, reformers had to create a critical mass of private owners, and do that quickly. While the voucher privatization is suboptimal in terms of efficiency (Megginson, 2005), it had to be implemented to make the reforms irreversible.¹⁰ On the other hand, as reformers did realize already in the beginning of reforms and as the empirical research on privatization showed later (Guriev and Megginson, 2006), privatization works better in the presence of complementary reforms of market and state institutions. Therefore the reformers faced a chicken-and-egg problem. In Russia, they chose to launch a rapid mass privatization to transfer tens of thousands of industrial enterprises to private hands (usually to incumbents) within the course of a couple of years.¹¹

Initially, the assets were owned by tens of millions of Russians, but the ownership quickly consolidated. As the market institutions were underdeveloped, there were huge

¹⁰ The risk of policy reversal was the major factor for not adopting China's gradualist approach. The re-nationalization of a few key enterprises in 2004-05 implies that this risk was and still is very tangible. Unfortunately for the reformers, the rise in inequality due to hasty privatization has only strengthened public support for policy reversal.

¹¹ Beck and Laeven (2006) show that the institutional challenges were especially important in transition countries with natural resources and with many years under communism. Russia has both.

“institutional economies of scale” – large owners have been able to influence the rules of the game through capturing regulators, courts and legislatures (Glaeser et al., 2003, Sonin, 2003, Hellman et al., 2002, Slinko et al., 2005). Hence the shares changed hands from workers and retired workers to managers or outside majority owners.¹²

The next wave of privatization was the so-called loans-for-shares program. This program was designed to overcome the parliament-imposed ban on privatization of mining industries. The government did not sell the assets; rather, government borrowed cash from private banks using the assets as collateral; as the government never intended to pay back, the assets were actually transferred to the bankers. As the auctions were run by the banks themselves, they were rigged and the assets were privatized at a small fraction of their market value (Freeland, 2000).¹³

Both loans-for-shares privatization and post-voucher-privatization consolidation of ownership resulted in an emergence of a few large business groups each owned by handful of entrepreneurs known as oligarchs.

¹² One of the important factors in this process was the spread of wage arrears in Russia in mid 1990s (Earle and Sabirianova, 2002). As workers were not paid wages in time, they were desperate to get cash and sold their shares at very low prices.

¹³ The important factor was the 1996 presidential elections; loans-for-shares helped Yeltsin enlist support of the bankers (future oligarchs) as these assets would remain their property only in case of Yeltsin’s victory.

Oligarchs

According to Plato, “oligarchy” is a form of government by a small group; Plato distinguished oligarchs from nobles as the latter are few but rightful rulers while oligarchs come to power unlawfully. In its current meaning in Russia, the term “oligarch” denotes a large businessman who controls sufficient resources to influence rules of the game – politics, regulation, and judiciary – to further their fortunes.

As mentioned above, transition has created oligarchs in Russia but not in other postcommunist countries. Russia differs from other transition countries in several important respects. First, it holds vast natural resources (see Fig. 1) which creates enormous potential for rent-seeking. Second, unlike the CEE countries, it has spent more time under communism; it was therefore more difficult to rebuild market institutions (no Russian had any memory of living in a capitalist economy). Besides, Russia did not have an outside anchor such as EU accession that has created commitment to building these institutions in the CEE. Third, Russia has undertaken a democratic and decentralized path of political reform which allowed for private agents to build their estates independent of the rulers. The latter factor is important for understanding the difference between Russia on one hand and authoritarian post-Soviet regimes, on the other. While the latter have successfully eliminated all private oligarchs, it is not clear how much wealth has been amassed by the rulers themselves. Due to the oppression of free press, such data are not

available but even the sketchy evidence suggests that the post-Soviet authoritarian rulers are rich enough to be considered the “ultimate oligarchs” within their own countries.¹⁴

These distinguishing features of Russia’s economy have predetermined the emergence of Russian oligarchs. While the conventional wisdom is that the Russian oligarchs were created by the loans-for-shares scheme discussed above, this is only a part of the picture. Indeed, among the 22 business groups listed in the Table 3, only 3 (led by Potanin, Abramovitch and Khodorkovsky) owe their fortunes to this particular event as they – the young bankers – have used the loans-for-shares auctions to acquire the crown jewels of the mining industry. Two more oligarchs – then industry incumbents Bogdanov and Alekperov – have used loans-for-shares to reinforce their control over their own enterprises. Others have risen through voucher privatization or through purchasing privatized firms from incumbents.¹⁵ Moreover, the first list of omnipotent tycoons of

¹⁴ One of the most liberal of these rulers, Kazakh President Nursultan Nazarbayev has allegedly tunneled at least 1 billion dollars of oil export revenues to one of his private accounts; his family controls many other key enterprises in the country (Kramner and Norris, 2005, Hiatt, 2005). Another common example is Ukraine where three groups (those of Taruta, Akhmetov and Pinchuk) have become the pillars of President Kuchma’s regime (not surprisingly, Kuchma is Pinchuk’s father-in-law) and did suffer a certain fallout after Orange Revolution of 2004. Gorodnichenko and Grygorenko (2005) list 13 Ukrainian oligarchs (including Pinchuk, Ahmetov and Taruta) who jointly control about 40% of the Ukrainian economy. Yet only three of them – the very same Pinchuk, Ahmetov and Taruta – showed up in the Forbes list.

¹⁵ Guriev, Rachinsky, and Zhuravskaya (2006) track all the private Russian owners in the World Bank’s (2004) dataset and find that 42% Russian firms were controlled in 2003 by owners who were industry

Russia – so called “Berezovsky’s Group of Seven” (FT 1996) included four businessmen who actually lost all loans-for-shares tenders they took part in.

Table 3 is borrowed from Guriev and Rachinsky (2005) who used a unique dataset on ownership of Russian industry in 2003 to classify the largest owners as oligarchs. In their sample covering about 75% of Russian industry, the 22 oligarchs control about 40% of sales and employment. It is therefore not surprising to see astonishing estimates of their personal wealth in the Forbes list.

What do we know about Russian oligarchs? First, they do control enterprises in natural resource industries and in protected industries such as automotive (Guriev and Rachinsky, 2005). Their market shares in the industries that they control are very large. Yet, it should not be a concern for the antitrust policy as almost all of these industries produce globally tradable goods. What is more important is the “political antitrust” (Rajan and Zingales, 2003) – policies restricting the state capture by the large influential business groups. Even though the oligarchs are small in the global economy, they have a huge weight within Russia.

insiders at the beginning of transition; 48% of the firms are controlled by owners who have served in high government positions at some point in 1990s. The preliminary evidence in this paper suggests that while political connections help to get better assets, the politically-connected owners are less efficient owners in terms of productivity *growth*.

Table 3. Russian oligarchs as of Summer 2003.

Senior partner(s)	Holding company / firm, major sector(s)	Employment, in thousands (% of sample)	Sales, in billions of rubles (% of sample)	Wealth, in billions of U.S. dollars
Oleg Deripaska	Base Element / RusAl, aluminum, auto	169 (3.9%)	65 (1.3%)	4.5
Roman Abramovich	Millhouse / Sibneft, oil	169 (3.9%)	203 (3.9%)	12.5
Vladimir Kadannikov	AutoVAZ, automotive	167 (3.9%)	112 (2.2%)	0.8
Sergei Popov, Andrei Melnichenko, Dmitry Pumpiansky	MDM, coal, pipes, chemical	143 (3.3%)	70 (1.4%)	2.9
Vagit Alekperov	Lukoil, oil	137 (3.2%)	475 (9.2%)	5.6
Alexei Mordashov	Severstal, steel, auto	122 (2.8%)	78 (1.5%)	4.5
Vladimir Potanin, Mikhail Prokhorov	Interros / Norilsk Nickel, non-ferrous metals	112 (2.6%)	137 (2.6%)	10.8
Alexandr Abramov	Evrzholding, steel	101 (2.3%)	52 (1.0%)	2.4
Len Blavatnik, Victor Vekselberg	Access-Renova/TNK-BP, oil, aluminum	94 (2.2%)	121 (2.3%)	9.4
Mikhail Khodorkovsky	Menatep/Yukos, oil	93 (2.2%)	149 (2.9%)	24.4
Iskander Makhmudov	UGMK, non-ferrous metals	75 (1.7%)	33 (0.6%)	2.1
Vladimir Bogdanov	Surgutneftegaz, oil	65 (1.5%)	163 (3.1%)	2.2
Victor Rashnikov	Magnitogorsk Steel, steel	57 (1.3%)	57 (1.1%)	1.3
Igor Zyuzin	Mechel, steel, coal	54 (1.3%)	31 (0.6%)	1.1
Vladimir Lisin	Novolipetsk Steel, steel	47 (1.1%)	39 (0.8%)	4.8
Zakhar Smushkin, Boris Zingarevich, Mikhail Zingarevich	IlimPulpEnterprises, pulp	42 (1.0%)	20 (0.4%)	1
Shafagat Tahaudinov	Tatneft, oil	41 (1.0%)	41 (0.8%)	2.9
Mikhail Fridman	Alfa/TNK-BP, oil	38 (0.9%)	107 (2.1%)	5.2
Boris Ivanishvili	Metalloinvest, ore	36 (0.8%)	15 (0.3%)	8.8
Kakha Bendukidze	United Machinery, engineering	35 (0.8%)	10 (0.2%)	0.3
Vladimir Yevtushenkov	Sistema/MTS, telecoms	20 (0.5%)	27 (0.5%)	2.1

David Yakobashvili, Mikhail Dubinin, Sergei Plastinin	WimmBillDann, dairy/juice	13 (0.3%)	20 (0.4%)	0.2
Total		1,831 (42.4%)	2,026 (39.1%)	

Sources: Employment and sales are from World Bank (2004) and Guriev and Rachinsky (2005). The percentages in parentheses is the share of employment/sales of the World Banks sample, that in turn covers a substantial share of the economy as discussed below. Wealth is the market value of the oligarchs' stakes in spring 2004 calculated by authors using Forbes (2004) and stock market data. Wealth includes stakes of all the partners identified by the survey (in most cases, there is just one major owner, but in some cases there are 2-3 or even 7). Each entry lists the leading shareholder(s) in a respective business group, the name of the holding company or the flagship asset, and one or two major sectors. We report several individuals per group only when there is equal or near equal partnership. Ranking is based on employment in the sample and may therefore be different from actual, as the sample disproportionately covers assets of different oligarchs. Employment and sales are based on official firm-level data for 2001. The exchange rate was \$1=29 rubles.

Most of the oligarchs in Table 3 are relatively young. An average/median Russian billionaire is about 45 years old – 20 years younger than an average/median billionaire in the US. Most of them control majority or supermajority stakes in their companies which they are still actively managing. The absence of separation of ownership and control and resulting agency problems has provided the oligarchs with strong incentives to restructure their firms. Boone and Rodionov (2002) argue that since the oligarchs established – often through expropriation and dilution of other shareholders including the state – the control over their assets, they have been running them very well. This claim is consistent with preliminary evidence in Shleifer and Treisman (2005) and Guriev and Rachinsky (2005) who show that oligarchs seem to outperform other Russian owners and almost catch up with foreign owners.

Moreover, consistently with the reformer's expectations, oligarchs began to lobby for certain further pro-market reforms (Guriev and Rachinsky, 2005). This process however took more time than the reformers expected and was also less comprehensive. First (as

Glaeser et al., 2003 and Sonin, 2003, suggested), oligarchs originally benefited from continued rent-seeking. Second, unlike robber barons in the USA, Russian oligarchs are a part of a globalized economy (a few oligarchs from the Table 2 live in London, most prominently Roman Abramovic), hence their commitment to building long-term security of property rights in Russia is rather limited.

The oligarchs' incentives are also weakened by the insecurity of their property rights. A median Russian voter deems oligarchs' property rights illegitimate and supports their expropriation (see a discussion of poll data in Guriev and Rachinsky, 2005, and Vedomosti, 2003b). This is well understood by all Russian politicians who use the threat of expropriation to obtain political or pecuniary contributions from the oligarchs. In particular, President Putin has used the anti-oligarch sentiment in his campaign in 2000; once he came to power in, he offered the oligarchs the following pact. As long as the oligarchs paid taxes and did not use their political power (at least not against Putin), Putin would respect their property rights and refrain from revisiting privatization. This pact defined the ground rules of oligarchs' interaction with central and regional government for Putin's first term (2000-2004). Although the pact could have never been written down, even general public was well aware of its existence. A poll by FOM (an independent nonprofit Russian polling organization) a week after the meeting of Putin and the oligarchs showed that 57 percent Russians knew about it.

Putin proved the credibility of the expropriation threat in 2003, when the prominent oligarch Mikhail Khodorkovsky, the majority owner of the Yukos oil company, deviated from the pact by openly criticizing corruption in Putin's administration (Moscow Times, 2003) and supporting opposition parties and independent media (Vedomosti, 2003a). He

and his partners were soon arrested or forced into exile, and their stakes in Yukos expropriated. Khodorkovsky was sentenced to 8 years in prison, and his personal estate is now estimated to be only 2 billion dollars (down from 15 billion dollars).

The Yukos affair has clarified the rules of the game between oligarchs and the Kremlin. Oligarchs have learned the risks related to violating the pact, and so in the future, they will be less likely to interfere in national politics. Ironically, by crushing Russia's most transparent company, Putin has pursued the "political antitrust" policy that was crucial in building the U.S. democracy and economy in the beginning of twentieth century (Rajan and Zingales, 2003). Even though oligarchs remain economically powerful, they have no longer any role in politics. This in turn removed any counterweights to bureaucracy which then followed a steady course for re-nationalization. The nationalization occurs through buyout of oligarch firms by state-owned companies. In some cases, the oligarchs receive a large share of their assets' market value, in others just a fraction.¹⁶ Therefore any wealth estimate based on the assets' market value (as those provided by Forbes) may substantially overestimate the true wealth of the oligarchs; the wealth depends both on the value of the assets and on the relationship with the government.

¹⁶ As the threatpoint is the full expropriation, one should expect that even if assets are acquired by the state at the market value, the seller is asked to make substantial side payments. A prominent Russian journalist Yulia Latynina suggests that this was the case in the purchase of Sibneft from Abramovich (Echo Moskv, March 11, 2006, www.echo.msk.ru/programs/code/42280).

In the next year or two the nationalization of the key oligarch-controlled assets will continue. At the time of writing the paper, 4 out of 22 groups in the Table 3 are nationalized (Abramovich's Sibneft, the main division of Khodorkovsky's Yukos, Kadannikov's Avtovaz, Bendukidze's UMZ) and 2-3 more nationalizations are being discussed. Given the notorious inefficiency and corruption of Russian bureaucracy, these companies will eventually have to be reprivatized. If they are privatized in an open and competitive fashion, the public will respect the new owners' property rights which will in turn result in efficient incentives to invest.

Yet another option is to reprivatize these companies to dispersed owners. This will provide Russian middle class with a stake in the financial development and economic growth and even increase their personal wealth. As shown in Megginson (2005), privatization IPOs are usually underpriced by about 30%. Yet, if government fails to enforce post-IPO corporate governance, the dispersed owners may fail to reap the value of their investment.

Whether a direct sale to a strategic investor or share issue privatization (SIP) is selected or the two approaches are combined is yet to be seen. In principle, these companies are sufficiently large so that SIPs may be more efficient (Megginson, 2005). The management of the state owned companies is biased towards SIP – indeed, if they have stakes in their companies, they would rather benefit from a liquid market where they can cash in. They will also be better-off under dispersed ownership as there will be less shareholder monitoring so they will preserve the private benefits of control.

However, the most important choice is not the one of the method of privatization but about the government's commitment to transparent rules of reprivatization.¹⁷ If the privatization auctions/IPOs are rigged again, the new buyers will benefit in the short term, but the vicious circle of illegitimate property rights will result in another expropriation. This may create a stable equilibrium like in Acemoglu and Robinson (2001): high wealth inequality breeds support for expropriation, but as political institutions are underdeveloped, the redistribution benefits the bureaucrats (who become the new rich) rather than the poor; therefore high inequality may persist for quite a while.

Measuring inequality in the presence of superrich individuals: evidence from Moscow income tax data

Given the presence of a score of billionaires and another 0.2% households of millionaires in Russia, one has to question the reliability of the Gini indices that are obtained through household surveys. Indeed, all the estimates of Gini for Russia are based on surveys of households that probably include none of the millionaires. As these superrich own a

¹⁷ A reprivatization of Krivoryzhstal in Ukraine provide an important illustration of the argument (Kramer and Timmons, 2005). In 2004, this crown jewel of Ukrainian steel industry was privatized to two out of three most influential Ukrainian oligarchs at \$0.85 billion. The public outrage over the rigged auction was one of the important drivers of the Ukrainian "Orange Revolution". The new government cancelled the privatization of the plant and resold it in an open tender for \$4.8 billion to a leading global player. The high price and the transparency of the auction have secured public support for the property rights.

substantial share of the national wealth, including them should change the Gini estimates significantly.¹⁸

In order to check the potential bias in Gini data, we looked at a database that describes income (albeit not wealth) of all Moscow residents including most of the Russian billionaires in Table 3 and probably many of the 88,000 millionaires (the number of millionaires in Russia in 2004 according to World Wealth Report, 2005). This is the database of 2004 income tax paid by and/or withheld on behalf of all Moscow residents built by Moscow tax inspections and leaked to the public domain.¹⁹

The database contains more than 9 million entries; there can be several entries per person in case the person received income from multiple sources. We have concentrated on labor income as the other income categories are negligible;²⁰ in any case, including them would further increase our estimate for Gini. Russian Tax Code provides incentives to distribute profits as wage payments to owners (the corporate profit tax is 24%, while the personal income tax is 13% and the social payments by employers are regressive reaching 2% marginal rates for wages above \$20,000 a year). After adding all labor

¹⁸ World Bank (2006) estimates that if the rich were included into household surveys in Azerbaijan, Gini would go up from 0.20 to 0.45-0.55.

¹⁹ Vedomosti (2005) discusses the authenticity of the database.

²⁰ The only exception is the “income from selling securities” category. These however turned out to be a proxy for financial intermediation – the highest incomes in this category included only brokerage house owners and employees.

income entries for each individual and cleaning obvious typos, we ended up with 6.1 million taxpayers. These included the very rich Russians although their incomes were far below the increase in their wealth as estimated by Forbes. The top income is only \$15 million; a median billionaire has only earned \$1.5 million in 2004.

Even with these modest estimates of the incomes of Russian billionaires, our estimates for inequality are striking. The top 10% of individuals earn 50% of the total income. The Gini coefficient is 0.625! The official data for Gini in Russia in 2004 are 0.407. The independent representative (but a much smaller) RLMS household survey provides a Gini of 0.345 for the total income and 0.461 for the labor income.

Figure 6 presents the distribution which is approximately lognormal (the top incomes are distributed according to Pareto).

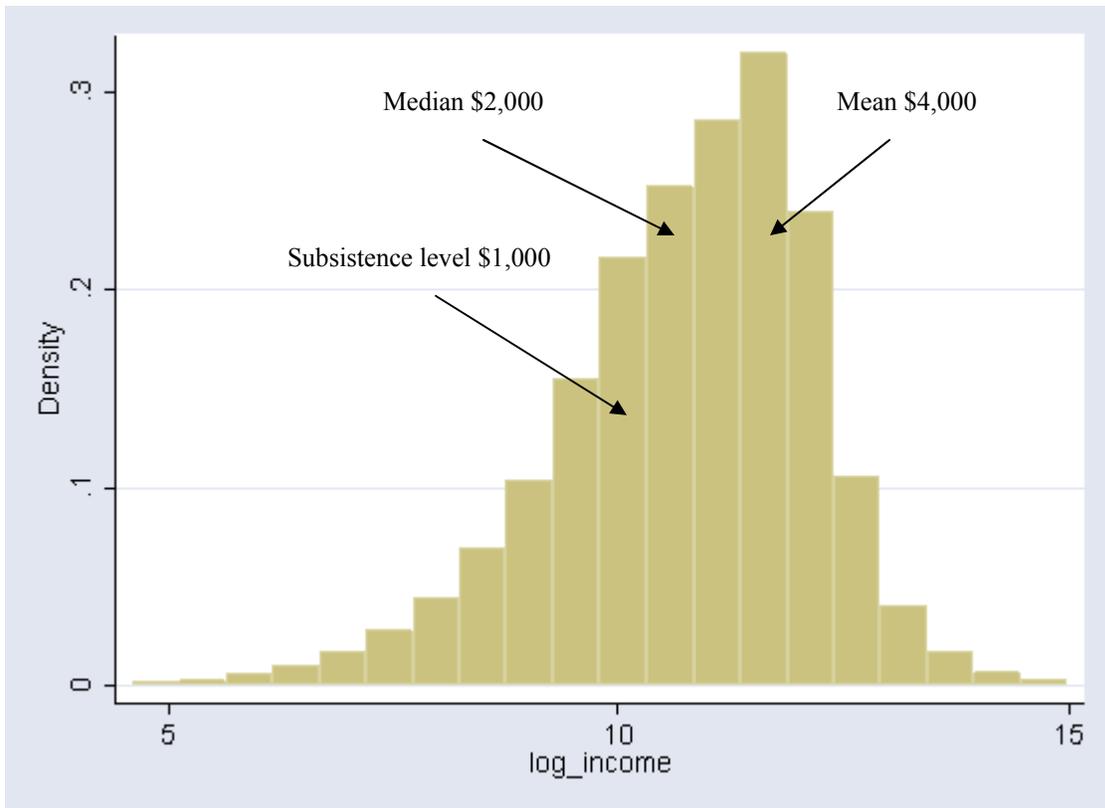


Figure 6. The distribution of annual income in Moscow based on income tax data. The horizontal axis: $\ln(\text{income})$ where income is in rubles; the exchange rate was 29 rubles/dollar.

The gap between the survey-based estimates and the ones we derive from the income tax data is actually larger as Moscow compares favorably to the rest of Russia in terms of poverty. There are no official regional estimates of inequality in Russia, and RLMS is not regionally representative.²¹ We have used the National survey of household budgets and

²¹ Russian Statistics Agency (Rosstat, formerly Goskomstat) publishes regional Gini coefficients but the methodology is at best problematic. Goskomstat assumes that the true distribution is lognormal, and calculate the distribution's parameters using median and mean from regional household surveys. The

access to social services (NOBUS). NOBUS was conducted in 2003 and covered about 117 thousand individuals in 79 regions. NOBUS is both nationally and regionally representative. In Moscow NOBUS includes 2100 respondents out of which 1139 provided information on their labor income. As expected this survey does not cover the top income quantiles of Muscovites. The median income in NOBUS is the same as in the tax data, but the mean is substantially lower. The top NOBUS income would be in the richest 2% in the tax data, however, already the second richest NOBUS respondent is only at the top 10% of the tax data. Therefore it is not surprising that NOBUS estimate for Gini is only 0.279.

One of the potential problems with the tax data is that there may be a much higher degree of income underreporting at the lower end of the distribution rather at the top end. In order to provide a very conservative lower bound for our estimate, we replaced all income below the minimum living standard (about \$2.7 a day) with the minimum living standard. Even in this case (which assumes away any poverty in Moscow) we obtain a Gini coefficient of 0.563.

median and mean are also adjusted to account for the gap between survey-based and macroeconomic-accounts-based aggregate incomes. Interestingly, this methodology does result in a very high Gini for Moscow close to ours; but Moscow is even more problematic as it stands out in Goskomstat methodology as the only region for which Goskomstat adjusts the distribution manually by assigning weights that are somewhat arbitrary. We are grateful to Goskomstat and to Ruslan Yemtsov for describing this methodology to us.

Table 4. Gini estimates in Russia in 2004, according to various sources.

<i>Source</i>	<i>Gini coefficient</i>
Household Budget Survey, Goskomstat, Russia	0.407
Russian longitudinal monitoring Survey (RLMS), labor income	0.345
Russian longitudinal monitoring Survey (RLMS), total income	0.461
National survey of household budgets and access to social services (NOBUS), labor income, Moscow, 2003	0.279
Tax income data, labor income, Moscow	0.625

These results should be taken with a grain of salt, as there are numerous caveats. Yet, this simple exercise suggests that in the presence of very rich individuals, the regular household surveys that exclude such individuals substantially underestimate inequality – by as much as 10-15 percentage points in Gini. In particular, income inequality in Russia may be much higher than we believe; it can be at the level of Brazil, rather than at the level of the US. The data issues are therefore even more important than they seem to be at the first glance.

Policy issues

Is there a simple solution for the wealth inequality problem? Given high corruption (often driven by the very same inequality), redistribution does not necessarily benefit the poor. And unless the corruption is reined in, the expropriation of oligarchs will only create new oligarchs. It is therefore crucial to remove the fundamental cause of growth in wealth inequality: the “institutional economies of scale”. As the market and government institutions are underdeveloped, the rich have an advantage in furthering their riches while the poor are denied opportunity. The transition countries should therefore focus on providing equal access to education and healthcare,²² to the judiciary system and to financial markets.

The institutional reforms of the kind require government’s commitment. Unfortunately, commitment to reform is in turn harder to assure in unequal societies; high wealth inequality reduces stability of economic policy in both democratic and authoritarian regimes (in the latter, the stability of the regime itself is undermined). In the CEE countries, such commitment is provided by the outside anchor of the EU accession and most of the preconditions for reducing the inequality are already in place.

CIS countries have mostly lagged behind the accession countries in terms of building market institutions, albeit to varying extent. The list of institutions to be introduced is

²² In this respect, the transition countries, especially the CIS, are yet to make the turnaround (World Bank 2005b). The access to public goods, to quality education and healthcare is still not improving after a decline in the beginning of transition, and the situation is especially dire for the poor.

long. First, the households have to have access to savings, investment, credit and insurance. For this, government should support competition in the financial markets, but also introduce prudential regulation, regulation of stock market, credit history bureaus, deposit insurance system. Second, property rights for real estate should be established and the real estate market should be efficient. This is a major innovation for postcommunist countries and it requires an overhaul of legislation and creation of a land registry. Third, government should protect the property rights of entrepreneurs – both from private racket and from predation from its own corrupt bureaucrats.

Every CIS country has made some of the steps above and none has completed all of them. It is probably going to take more time than the reformers envisioned in the beginning of transition. While these institutions benefit the median voter, the problem is that in some of these countries the democratic transition is stifled or even reversed. Hence the policy choices may be biased in favor of the ruling elite which is happy to continue redistribution from the middle class. Moreover, reducing the wealth inequality may empower the middle class and therefore endanger the power of the entrenched elites. Thus it remains to be seen whether and how CIS countries manage to break out from the high inequality trap.

Conclusions

Given the lack of reliable data on personal wealth, it is hard to speculate on the evolution of personal wealth and of wealth inequality in transition countries. Yet, the indirect evidence points to a stark increase both in average personal wealth and in wealth inequality, especially in the former Soviet Union. While much of the *income* inequality is

explained by the wage decompression, the *wealth* inequality was in many cases driven by privatization and subsequent consolidation of ownership. In particular, in Russia, the transition resulted in an emergence of a new class of rich individuals. While these “oligarchs” have restructured their companies and lobbied for further pro-market reforms, the median voter’s perception of their illegitimacy has undermined the government’s incentive to continue reforms. It is therefore not surprising that in Russia, as well as in the other CIS countries, inequality has remained high and reforms – that could eventually bring it down – have been abandoned or even reversed. On the other hand, in the CEE countries, the outside anchor of EU accession has provided the governments with a commitment device to introduce institutions for greater equality of opportunity.

Like every paper on wealth inequality, ours concludes with restating the obvious need for more data. To illustrate the sheer extent of potential mismeasurement, we have estimated Gini index for income using the only database that includes Russia’s superrich individuals; we found that the official data may underestimate Gini by about 25 percentage points. The wealth inequality data are probable even more distorted. An informed policy debate can only be based on reliable and comparable data on personal wealth coming from representative household surveys which would indeed include some very rich individuals. Unfortunately, such data are still non-existent.

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Appendix

Table 5. Monetization M2/GDP in transition countries and in the US.

	1994	1997	2000	2003
Czech Republic	65	65	63	70
Croatia	16	35	42	63
Slovak Republic	56	60	60	61
Albania	..	55	59	58
Slovenia	29	39	44	53
Bosnia and Herzegovina	26	47
Hungary	48	43	43	45
Bulgaria	62	21	33	45
Poland	30	31	39	42
Estonia	24	26	32	38
Latvia	29	22	25	33
Ukraine	15	12	16	30
Macedonia, FYR	21	12	18	30
Lithuania	21	16	21	29
Moldova	12	19	19	28
Russian Federation	14	18	18	26
Romania	15	18	20	22
Kazakhstan	8	9	13	19
Kyrgyz Republic	..	12	11	15
Belarus	..	12	12	14
Armenia	7	8	13	14
Turkmenistan	14	8	14	..
Azerbaijan	30	12	13	13
Georgia	..	7	9	11
Tajikistan	7	7
USA	57	56	61	67

Source: World Development Indicators.

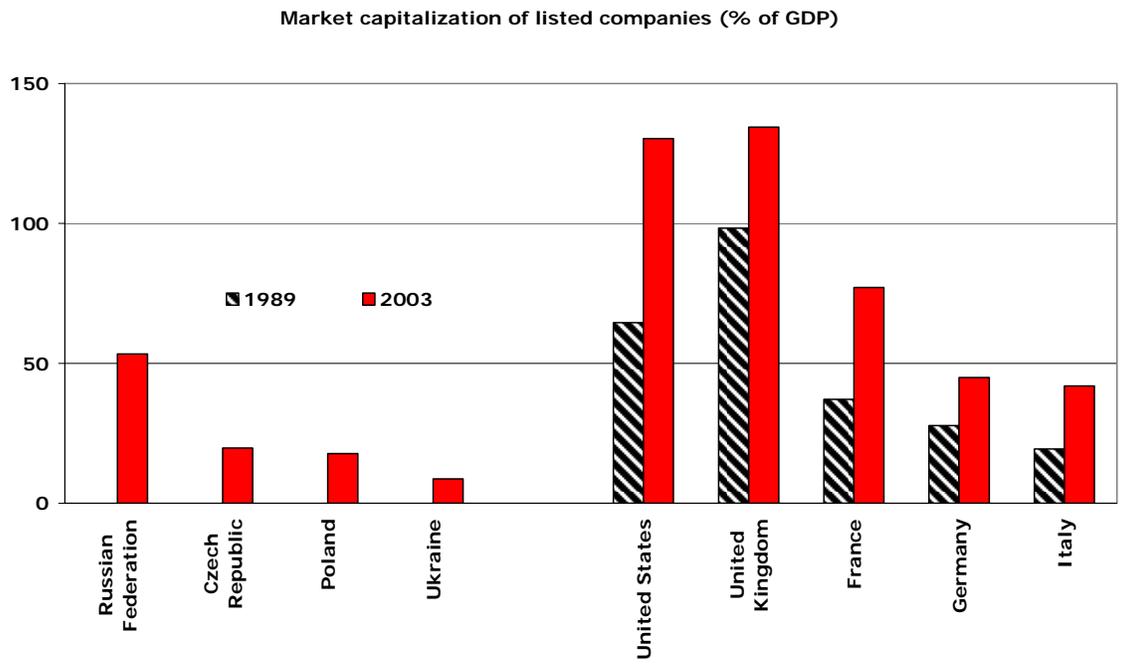


Figure 7. The ratio of stock market capitalization to GDP. Source: World Development Indicators.