ВЫСШАЯ ШКОЛА ЭКОНОМИКИ

Rinat Menyashev, Leonid Polishchuk

DOES SOCIAL CAPITAL HAVE ECONOMIC PAYOFF IN RUSSIA?

Working Paper WP10/2011/01
Series WP10
Center for Institutional Studies
Working Paper Series

Москва
Высшая школа экономики
2011

УДК 65.012.2
ББК 330.147
М 56

Editors:
Kuzminov Yaroslav, Yudkevich Mariya

М56 **Menyashev, R.** Does Social Capital Have Economic Payoff in Russia? : Working paper WP10/2011/01 [Text] / R. Menyashev, L. Polishchuk ; Higher School of Economics. – Moscow: Publishing House of the Higher School of Economics, 2011. – 44 p. – 150 copies.

In a number of studies social capital is shown to have substantial positive impact on economic development, institutional performance, and quality of governance. So far no such analyses were available for Russia, and the present paper is intended to fill this gap. We propose a model which differentiates the impact on economic welfare of bridging and bonding forms of social capital. The empirical part of the study is based on 2007 survey data collected in the Geo-Rating project. We establish significant positive relationship between bridging social capital and urban development in Russia. Bonding social capital works in the opposite direction: its impact on development is negative. It is further shown that the transmission mechanism between social capital and economic outcomes is based on municipal governance: bridging social capital improves government accountability, whereas bonding social capital reduces the political costs of malfeasance and thus facilitates the abuse of power.

УДК 65.012.2
ББК 330.147

Препринты Высшей школы экономики
размещаются по адресу: http://new.hse.ru/org/hse/wp

In the course of the last few decades there were several major updates of economists' views of the factors of economic growth and welfare. The conventional growth theories dominant in 1950s—1970s emphasized the importance of investments in physical and human capital. From 1980s onwards the emphasis has shifted on institutions, such as markets, contracts, property rights, rule of law, accountable governance etc. A large body of evidence was presented to supports the claim that good institutions are indispensable for economic efficiency and factor accumulation. The "Institutions Rule" view (Rodrik, Subramanian, Trebbi, 2004) had straightforward policy implications — key to economic development is in institutional and policy reform.

However, in many instances institutional reforms in transition and developing countries have failed to deliver expected outcomes — the allocation of economic roles, power and resources remained unaffected by institutional change (the resilience known as 'the invariance principle' (Acemoglu, Robisnon, 2008). Moreover, on some occasions institutions and policies that were expected to improve welfare and facilitate growth had the opposite effect, making matters worse (Putnam, 1993).

Such 'surprises' of institutional reform (Roland, 2000; Polterovich, 2007) highlighted a yet another important development resource — a 'missing link' (Guiso, Sapienza, Zingales, 2010) commonly known as *social capital*. Broadly defined, social capital characterizes the society's capacity for self-organization and collective action in pursuit of some common good. Main ingredients of social capital are trust, social norms, values, and networks. Social capital could be instrumental for economic development in two important ways. First, it cuts transaction costs in the private sector: trust and social connections facilitates investments and trade (Arrow, 1972), whereas self-organization offers private solutions of public problems. Second, social capital is indispensable in resolving the agency problem between government and society. Government accountability can only be ensured if there is sufficient civic culture (Almond, Verba, 1963) at the grassroots, i.e. the appreciation of political rights and freedoms, awareness of public affairs, and the sense of civic duties and personal responsibility for social well-

being. These two mechanisms represent resp. horizontal and vertical 'transmission channels' between social capital and economic outcomes.

Social capital often complements institutional reform — without sufficient social capital new policies and institutions are either idled or captured and subverted by narrow interests. Social capital reduces the need in government's presence in the economy and society, and whenever such presence is still required, improves efficiency of economic regulation and public services. All of the above implies that social capital could be highly relevant and instrumental for economic development and social welfare.

In numerous publications such relevance has been empirically supported at the macro-, meso-, and micro levels — for nations, regions, cities, local communities, as well as for various public services and fields of social and economic activities. These studies, while generally supporting the view of social capital as a development resource, produce a more nuanced and complex picture — the impact of particular ingredients, forms and types of social capital is highly context-specific. Thus, what is known as 'bonding' social capital upholds collective action within narrow confines of smaller groups providing 'club goods' for group members. The impact of such activities for broader social welfare could be detrimental, if smaller 'Olson groups' are engaged in socially wasteful rent-seeking, or if such groups divert their resources and energy from eliminating root causes of social and economic problems. On the other hand, 'bridging' social capital facilitates the creation of broad society-wide coalitions ('Putnam groups') which advance social welfare by producing public goods, such as efficient public sector governance.

Economic payoff to social capital is measured in the literature by using national or regional data. In such studies various indicators of economic development, welfare, quality of institutions and governance are related to panoply of social capital measures. Cross-country studies reveal tangible relations between economic outcomes and social capital; however, profound differences between countries, which are only partly captured by control variables, make such estimations less reliable. More appropriate framework for establishing an association between social capital and economic performance is provided by regional data within a given country. Such analyses have been performed for US states, as well as for regions of Germany, the UK, Poland, the European Union, China, etc. In most of these studies (regional) government efficiency, public service delivery and other outcomes are shown to be in statistically significant relations to relevant measures of social capital.

No such estimates so far have been obtained for Russia. While for most other countries social capital is shown to have significant economic returns, there are reasons to doubt whether payoff of comparable magnitude could be observed in Russia as well.

First, there are doubts about the quantity and quality of social capital in Russia. One of the most commonly used measures of social capital — the index of trust calculated by using data of the World Values Survey — puts Russia and most other countries of the former Soviet Union below the median among the nations covered by the survey. Lack of trust and other ingredients of social capital in Russia is consistent with the conjecture, posited by Putnam (1993) and later supported by an in-depth econometric analysis for European countries and regions (Tabellini, 2008), that social capital accumulation is fostered by non-authoritarian political regimes. Furthermore, economic transition in the former Soviet Union and Central and Eastern Europe is shown to have significantly eroded social capital (Aghion et al., 2010), and such losses in Russia were the most profound across the post-communist region. Quality-wise, Rose (1998) maintains that the existing stock of social capital in Russia, low as it may be, is also obsolete and unsuitable to maintain modern institutions of market democracy. This concern finds support in the international distribution of the aggregate index of 'civic capital' which puts Russia in the bottom quartile among 70 plus countries (Guiso, Sapienza, Zingales, 2010). Last but not least, high degree of centralization of economic and political life in contemporary Russia (known as the 'vertical power') leaves little space for grassroots initiative and self-organization.

All of the above makes one to expect that evidences of economic payoff to social capital in Russia would be hard to find, as social capital in the country is likely insufficient and/or 'idled' by the political system and excessive government control. According to a contrarian view (Durlauf, Fafchamps, 2005), weakness of official institutions and lack of public goods supplied by the government in fact raise the returns to social capital which provides informal grassroots fixes of institutional and governance failures. An empirical confirmation of either of these views would support the opinion, commonly expressed in the current policy debates in Russia, that the society cannot be a driving force in the country's development and modernization. Vice versa, if those views are refuted, Russia can be considered 'a normal country' (Shleifer, Treisman, 2005) where social capital can improve institutions and governance; in that case a development scenario in which the society plays

an active role becomes possible. Measurement of economic payoff to social capital in Russia is therefore a matter of not just academic, but also practical significance. It is also important to find out what kinds of social capital, if any, could affect social and economic outcomes in Russia.

In this paper we propose a simple economic model that describes outcomes of bridging and bonding forms of social capital for social welfare and public sector governance. Predictions of the model lead to hypotheses which are tested by using data from a major survey conducted in Russia in 2007 as part of the "Geo-Rating" project. Links between social capital and development are explored at the city level. Factor analysis reveals three forms of social capital — bridging, bonding, and civic culture, which are latently present in the data. Stocks of social capital exhibit significant variations from one city or town to the other; it can therefore be concluded that there are more and less "civic" cities in Russia. The observed variations are found to be associated with socio-economic conditions in the city (town, village); moreover, bridging social capital and civic culture advance local development, whereas bonding social capital retards it. Russia therefore is a 'normal country', at least when it comes to the impact of social capital on economic outcomes: more civic cities are better-off than less civic ones.

It is further demonstrated that the main 'transmission mechanism' between social capital and economic outcomes is the performance of municipal governments, which is significantly improved by bridging social capital and civic culture, and adversely affected by bonding social. It is noteworthy that such links cannot be established at the *regional* level; one possible explanation is the political difference between Russian cities and regions (oblasts, krajs, and republics) — city mayors are more often than not electable, while regional governors since 2004 are federal appointees.

Causality between social capital and economic outcome is confirmed by using two-stage least squares regression analysis, where the size of the middle class is shown to be a valid instrument for bridging social capital, thus confirming the role of the latter as an (urban) development factor and resource.

1. Social capital impact measurement

Earlier social capital studies were mostly qualitative by their nature and did not attempt to establish an empirically grounded relationship between

social capital and development. Putnam's famous book (1993) was the first scholarly work where payoff to social capital was supported by data: it was argued that higher stocks of social capital in the northern part of Italy allowed northern provinces to make full use of a devolution of power and resources from the central government to the regions, whereas insufficiency of social capital in the South of Italy precipitated failure of the same reform.

Since Putnam (1993) measuring payoff to social capital has become a rapidly growing 'cottage industry' in social science; the vast literature on the subject is reviewed in (Halpern, 2005; Durlauf, Fafchamps, 2005; Guiso, Sapienza, Zingales, 2010). In the first attempts to prove (and measure) the economic impact of social capital by means of econometric analysis, Knack and Keefer (1997) and La Porta et al. (1997) used cross-country data. In these papers rates of economic growth and measures of social welfare and government performance were dependent variables in regression models,, while various social capital indexes served as independent variables. It was shown that trust had positive statistically significant relations to economic outcomes (with causality confirmed by appropriately chosen instrumental variables), whereas no such relation was found for associational activities. This was an indication, repeatedly confirmed by subsequent studies, that contrary to Putnam's earlier expectations, social capital is not a generic "commodity" with all of its components invariably relevant in any development, organizational etc. context, and that the identification of types of social capital that are economically valuable under particular circumstances is a non-trivial problem and should be dealt with on a case-by-case basis.

Putnam's pioneering work opened a strand of empirical research where social capital's impact was measured by using regional data. Knack (2002) established a significant impact of social capital on state governments' performance in the US. It was shown that trust in the society, volunteering, and indexes of civic maturity are good predictors of the quality of state government services and regulations. Associational membership was not found to be of economic significance, and an attempt to find such relations by differentiating between 'Olson-like' and 'Putnam-like' groups was unsuccessful. However, in a different study using US data association membership was shown to have tangible economic impact at the county level (Rupasingha, Goetz, Freshwater, 2002).

Similar links have been confirmed for a number of other countries. Thus, in Chinese regions trust is highly correlated with population income, economic growth, investments and the number of firms (Zhang, Ke, 2003).

Casey (2004) established statistically significant correlation between trust among individuals and in political institutions, on the one hand, and bureaucratic efficiency, on the other, for British regions. At the same time some other studies present less clear-cut pictures. Thus, for German regions the contribution of social capital in its traditional interpretation is 'fading' in the shadow of more significant cultural factors, such as 'market' or 'hierarchical' values (Blume, Sack, 2008). In Poland social capital, measured by associational membership, is not found to be making statistically significant contribution to economic growth and tax collection in various administrative units of the country (Dzialek, 2009).

Measurement of economic payoff to social capital is closely related to the identification of social capital's roots and origins — the latter could serve as causality-establishing instruments for social capital. On a number of occasions religion and social homogeneity were used as such instruments, but lately more popular choice was political history, based on Putnam's conjecture that historic experience of democratic self-rule creates social capital. This view is confirmed by Guiso, Sapienza, and Zingales (2008), who show that Italian cities and regions that were self-governed in the past have higher social capital endowments than those that were under colonial rule, and that such differences are indeed valid instruments for social capital. Tabellini (2008) reaches the same conclusion by using data for 69 European regions.

Studies of social capital's outcomes in Russia so far have been more qualitative than quantitative and not sufficiently comprehensive. Petro (2001) argues that greater success of economic reforms in Novgorod region was due to higher social capital stock measured by association membership and civic initiative participation. Marsh (2000) calculates a 'civic society index' for Russian regions, which is shown to be positively correlated with political engagement of population; however no attempt was made to estimate economic payoff to the so measured social capital. Kennedy and Kawachi (1998) found a link between the insufficiency of social capital and steep increase in mortality observed in Russia in the first decade of marker reforms; this is consistent with the robust relationship, observed in other countries, between social capital and physical and mental health (Halpern, 2005). A more recent study (Eberstadt, 2010) concludes that social capital deficiency could be one of main causes of the present demographic crisis in Russia, which is a 'negative' confirmation of social capital's significance for the country's social and economic outcomes.

The reviewed literature demonstrates that measurement of economic payoff to social capital is a complex but realistic task. Its complexity is in part due to multiplicity of social capital's interpretations and meanings (Woolcock, Narayan, 2002, Durlauf, 2002, Guiso, Sapienza, Zingales, 2010) and well-known difficulties of accurate measurement of trust (see e.g. Glaeser et al., 2000) values, associational activities etc. Nonetheless more often than not the impact of culture and capacity for self-organization for economic outcomes can be empirically confirmed, and Russia, as we show later in this paper, is no exception to this pattern.

2. The model

Modeling social capital's impact on economic outcomes is still in its infancy, and no sufficiently universal and encompassing approaches have been developed so far. Zak and Knack (2002) offer a model that captures trust's beneficial impact for investments; this model therefore deals with the 'horizontal' transmission channel for social capital. Weingast (1997) uses game theory to demonstrate importance of social capital for sustaining democracy, rule of law, and limited government. Glaeser et al. (2002) model individual investments in social capital in conjunction with externalities and network effects. Tabellini (2008) explores bilateral links between institutions and culture; his analysis demonstrates how trust creates grassroots demand for good institutions and governance, which in their turn facilitate productive economic activities and suppress rent-seeking. Polishchuk (2008) uses an economic model to investigate the role of social capital in the working of corporate social responsibility. Aghion et al. (2010) present a model where trust and values in the society are related to the scale and scope of government's presence in the economy and the quality of government regulations.

The stylized model that follows is concerned with the vertical 'transmission channel' of social capital, whereby the latter's role is to improve government accountability. The model is custom-built to capture the impact of different kinds of social capital. It incorporates Weingast's (1997) idea that good governance ensues when sufficiently large social coalitions defend their economic and political rights against possible expropriation by the government when it 'transgresses' its constitutional boundaries and other-

wise abuses power (see also Kuran, 1991). Effectiveness of such actions requires *bridging social capital* and *civic culture* — the former is needed so that coalitions of sufficient size acting in public interest be formed and sustained, and the latter — so that such coalitions' joint objective is government accountability which is perceived by coalition members as a matter of high importance and personal responsibility.

In the model the *bonding* form of social capital is mobilized to mitigate the damage caused by government's malfeasance, rather than stopping such malfeasance in the first instance. The relief is achieved locally within smaller groups, and materializes in the form of club goods that substitute for insufficient pubic goods supplied by the government, or in the form of shielding group members from government abuse. Government accountability that precludes transgression cannot be an objective of such groups which are too small, isolated and dispersed for the task and do not have such matters on their agendas.

One should expect positive economic payoff to bridging social capital and civic culture through improved public sector governance. The impact of bonding social capital on socio-economic outcomes is a priory ambiguous: on the one hand it has a positive *direct* effect by improving the lot of small groups' members who obtain relief from government abuse, but on the other hand it *indirectly* encourages greater abuse by lowering its economic and hence political costs.

We follow the tradition in the political economy literature (see e.g. Grossman, Helpman, 2001) to model imperfect government accountability by assuming that the government maximizes a weighted sum $W_G + aW_S$ of its own immediate economic welfare W_G and the aggregate welfare W_S of the rest of society (private sector); here the multiplier $a \in [0,1]$ represents the degree of government accountability. In what follows this multiplier is an aggregate of bridging social capital and civic culture, as both of these ingredients are required for accountable governance.[1]

Suppose that the government abuses power in order to extract and appropriate income $D \le \overline{D}$ from the society (private sector); $\overline{D}$ represents physical, institutional etc. limits to such expropriation. The private sector comprises a unit continuum of agents, and government's action causes each agent a loss $C_0(D)$; however if an agent is a member of an organized group

[1] In a more detailed version of the model bridging social capital and civic culture are present explicitly and separately from each other; results of such model's analysis remain qualitatively the same.

that seeks collective grassroots protection from government abuse, these losses are reduced to $C_1(D)$. The width of such grassroots protection depends on the stock of bonding social capital which is measured by the share $w \in [0,1]$ of agents which are organized in such groups.[2] We assume that

$$D \le C_1(D) \le C_0(D), \forall D \ge 0, \tag{1}$$

(the first of these inequalities implies that grassroots protection can at best eliminate excess burden $C_0(D) - D$ of government abuse), and that functions $C_0(D), C_1(D)$, and $C_0(D) - C_1(D)$ are all monotonically non-decreasing. If W_0 is the aggregate welfare of the private sector before government transgression, then after the transgression private sector welfare is reduced to

$$W_S = W_0 - wC_1(D) - (1-w)C_0(D), \tag{2}$$

and assuming $W_G = D$, the expropriated income can be found from the following problem:

$$\max_D [D - a(wC_1(D) + (1-w)C_0(D))]. \tag{3}$$

Comparative statics analysis of the above problem leads to the following conclusion.

Proposition. The expropriated income $D = D(a,w)$ is (non-strictly) increasing in *w* and decreasing in *a*.

Proof According to the "supermodularity lemma", the solution of the problem

$$\max_x [f(x) + \alpha g(x)]$$

is monotonically non-decreasing in α as long as the function $g(x)$ is monotonically increasing. To establish the required property of D as a function of w, the government's objective function should be rearranged as $D - aC_0(D) + aw(C_0(D) - C_1(D))$, and of a — as

$$\frac{1}{a} D - (wC_1(D) - (1-w)C_0(D)).$$

[2] One can think of group formation as random events in which case *w* is the expected share of agents organized in such groups; alternatively bonding social capital could be confined to certain parts of society, in which case *w* is the share of such parts.

The above analysis of the model shows that bridging social capital and civic culture work through government accountability to restrict possible abuse of power and thus improve the quality of governance. Bonding social capital on the contrary is unconditionally detrimental for the quality of governance as it makes the society more tolerant to abuse of power and thus reduces the political costs of malfeasance.

An immediate corollary of the above proposition is that bridging social capital and civic culture also improve private sector welfare $W_S = W_0 - wC_1(D) - (1-w)C_0(D)$, which monotonically decreases in D and hence increases in a.

The dependence of private sector welfare on bonding social capital w is not as straightforward due to the presences of the direct and indirect effects described earlier in this section. These effects work in opposite directions, and as a result such dependence could be "non-linear". The relative strength of the direct and indirect effects depend inter alia on the level of government accountability a, which integrates bridging social capital and civic culture. When such features of society are absent, the government is completely unaccountable ($a = 0$) (sets its expropriation at the highest possible level $D = \overline{D}$, and the indirect effect thus disappears. In the meantime the direct effect of private protection from rampant government abuse could be non-negligible, and therefore the overall returns to bonding social capital in the absence (or near absence) of bridging social capital and civic culture could be mildly positive — in this case bonding social capital could serve as an imperfect substitute for the bridging one. At the opposite extreme of full accountability ($a = 1$) which corresponds to very high stocks of bridging social capital and civic culture, the government refrains from expropriation ($D = 0$), and therefore there is no need for private protection, and bonding social capital is idled. The returns to bonding social capital in this case should be zero.

Various specifications of the above model presented in Appendix I show that for intermediate levels of the accountability the indirect effect could be stronger than the direct one. In this case the substitution between various kinds of social capital disappears and the returns to bonding social capital become negative not only for the quality of governance, but for the private sector welfare, too — bonding social capital is still helpful ex post, for a given level of government abuse, but causes far greater damage ex ante by increasing the scale of such abuse.[3]

[3] Such working of bonding social capital is somewhat similar to economic consequences of corruption which helps individuals and businesses to navigate through excessive administrative barriers, but motivates the bureaucracy to raise such barriers in the first instance (Rose-Ackerman, 1999).

The above analysis summarizes in the following hypotheses.

1. Bridging social capital and civic culture have positive impact on government performance and social welfare.

2. Bonding social capital adversely affects government performance; its impact on social welfare could be positive at very low levels of bridging social capital and civic culture, then becomes (increasingly) negative as bridging social capital and civic culture grow bigger, and goes back to zero for very high levels of bridging social capital ensuring full government accountability.

We now turn to empirically testing these hypotheses and measuring economic payoff to social capital in Russian cities.

3. Data

Our main source of data was an all-Russia survey conducted in September 2007 in joint project of the Center for Studies of Civil Society and Non-Profit Sector at the Higher School of Economics, and of the Public Opinion Foundation as part of the ongoing GeoRating polling program which covers a broad range of economic, social, political and cultural issues. The survey sample comprised 34,038 adult respondents from 1924 cities, towns and villages located in 68 Russian regions; in each covered region the sample was representative and included at least 500 respondents.

The survey questionnaire comprised three clusters of questions: (i) on respondents' views, norms and values — answers to such questions are commonly used in social capital measurement; (ii) on respondents' satisfaction with economic and social conditions in their places of residence, and on their assessment of accountability and performance of local governments; and (iii) on individual characteristics of respondents. The first and second groups of questions were used to calculate resp. independent (explanatory) and dependent variables, whereas the third group supplied control variable; the latter also included size and administrative status (national capital, regional capital etc.) of the city.

The first group of questions resembles (and at times replicates) those used in the World Values Survey and similar international polls (see Appendix II Table 1)); these questions reveal respondents' *perception* of the cohesion, self-help and propensity for collective action in the surrounding society. Other questions from the same group characterize respondents' *own* norms, views and practices, such as trust, help to others, willingness to join

collective action, and the sense of responsibility for the situation in respondents' families, local communities, and cities (towns, villages). We did not use data on philanthropy and associational membership as possible sources of social capital indexes — philanthropy in rudimentary in contemporary Russia, whereas reported association membership is often fictitious or purely nominal.[4]

Respondents' satisfaction with their lives was used to proxy economic outcomes; no other reliable data that would serve this purpose were immediately available at the city level. Government effectiveness and accountability assessed by respondents (answers to the question "Do you think authorities understand and take into account interests of people like you?") plays a dual role in the study — on the one hand accountable governance is of independent value of its own and thus an important outcome of social capital (Putnam, 1993; Knack, 2002); on the other hand government performance is a plausible link between social capital and economic outcomes in a vertical transmission channel.

Individual characteristics of respondents included age, gender and ethnic origin (the latter were found insignificant in our regression analyses), education, income and self-assessed material welfare. Control variables also included size and administrative status of the city (settlement) — predictably, those were strongly correlated with income and welfare of residents (Appendix II Table 2).

An important decision in choosing our empirical strategy was to select an appropriate territorial entity to establish links between social capital and economic outcomes. Social capital by definition is a community resource[5], and communities are often proxied, for a lack of better practical options, by some territorial boundaries. In studies of economic payoff to social capital for other countries the territorial units considered as social capital reservoirs were usually regions (US states (Knack, 2002), German Länder (Blume, Sack, 2005), provinces etc. elsewhere in the world (Tabellini, 2008)). In the present study we opted instead for the city (town, village) level of analysis.

---

[4] It is noteworthy that in a number of studies seeking to measure economic payoff to social capital associational membership did not have a significant impact on economic performance and government efficiency (see e.g. Knack, Keefer, 1997).

[5] Perhaps at the cost of slight abuse of terminology, one could still talk about *individual* social capital that characterizes trust and trustworthiness of a person, her internalization of pro-social values, as well as participation in various social networks (Glaeser, Laibson, Sacerdote, 2002; Halpern, 2005).

This choice was due to profound intra-regional variations of social values and norms, as revealed by our data (see also Petrov et al., 2010) which override the weaker sense of regional cultural identity. With such variations, potentially valuable information would be lost if regional averages were used. Besides, GeoRating data did not include performance assessment for regional administrations. The downside of studying the economic impact of social capital at the city level is a dearth of social and economic statistical data that would complement (and verify) respondents' subjective assessment of social and economic conditions in their cities — urban statistical data in Russia are much more scarce than those collected for regions.

Within cities and towns cultural attitudes are more homogeneous, but exhibit significant inter-city variations across the sample — standard deviations could be as high as 45% of the sample average. This means that there are, simply put, noticeably more and less civic cities, towns and localities in Russia. Among large cities (with population 100,000 and more) such variations are somewhat less pronounced, but still quite perceptible (Appendix II Table 3). Furthermore, local governments' performance and residents' satisfaction with conditions in their cities etc. fluctuate within broad margins, too. The observed variations bode well for measuring the impact of social capital for social and economic outcomes at the city level.
Indexes of social capital

Some of the respondents' values and attitudes are significantly correlated with each other (Appendix II Table 4) — these correlations could be evidences of more general latent features that underlie reported norms and behavior. Making such features explicit is important from substantive and instrumental points of view. Substantively, this could reveal particular types and patterns of social capital relevant for socio-economic outcomes; instrumentally, it would prevent multicollinearity in regression analysis.

Factor analysis of our data indeed produces three dominant factors (Appendix II Table 5). The first factor aggregates with high positive weights features of social solidarity, accord, mutual help and propensity for collective action. Trust also enters into this factor, although with somewhat smaller coefficient. Overall, the first factor characterizes the capacity for collective action within broad societal coalitions ('Putnam groups'), and can therefore be interpreted as a measure of *bridging social capital*.

The second factor integrates with highest weights the indexes of restricted and exclusive social connectedness and limited embeddedness of trust

and pro-social norms (trust only in those who have much in common with a respondent, and preference to dealing with such people). Indexes measuring social cohesion and propensity for broad collective action enter the second factor with significant *negative* coefficients, reflecting cautious and possibly adverse attitude to 'aliens'. There are reasons to interpret the second factor as an index of *bonding social capital,* which by definition facilitates the formation of exclusive 'Olson groups' providing club goods for their members, rather than working for common good at the society at large. Sensing threat to their well-being or shortage of essential resources and services, 'Olson groups' are mobilized to alleviate such threats or provide necessary resources for their members internally, within the groups' confines.

Finally, the third factor is positively linked with the sense of responsibility for what is happening in the community and in the city. Such perception reflects awareness of citizen's rights and duties, and can be interpreted as an index of *civic culture*.

The proposed interpretation of these three factors is somewhat imprecise and subject to caveats (common for the social capital terminology), but by and large it agrees with the prevailing understanding and perception in the literature of the above concepts. The obtained aggregation is robust: alternative factor analysis techniques produce similar results.

The three types of social capital are significantly correlated with individual characteristics of respondents (Appendix II Table 6); in particular bridging social capital is positively correlated with education, income, and material well-being. Positive contribution of education in accumulation of social capital is a well-established fact (see e.g. Gaeser et al, 2004), which has also been recently confirmed empirically for Russia (Natkhov, 2010). Bonding social capital, on the contrary, is more prevalent among less educated and less economically successful groups. It is noteworthy that bridging social capital is positively, and bonding — negatively associated with respondents' age; this could be due to the damage caused to the social capital of older cohorts by the two decades of tumultuous economic transition (Aghion et al., 2010). Finally, civic culture decreases with income (perhaps this reflects greater satisfaction with the status quo and higher private costs of civic activism to wealthier individuals), as well as with the size and status of the city — in large megapolises there could be stronger sense of alienation from public affairs and feeling of impossibility to influence public decision-making.

The capital city of Moscow (where the survey sample is representative) is a case in point. The stock of bridging social capital in Moscow is close to the national average, whereas bonding social capital is above, and civic culture — well below their average levels. The average level of bridging social capital is sustained by education of Moscow residents, lack of civic culture is due to higher incomes, and higher stocks of bonding social capital can be explained by abnormal concentration of wealth and significant social and economic inequality which adversely affects trust and breeds rivalries and rent-seeking.

In what follows social capital indexes are normalized so that their minimal values are zero, and standard deviations equal unity.

4. Social capital and development: an empirical analysis

In most of the studies reviewed in Section 2 the payoff to social capital is measured in terms of quality of governance *or* various socio-economic outcomes. In our regressions we follow both of these traditions. In the first case the dependent variable (hereafter *Outcome*) is produced by averages of respondents' assessments of socio-economic conditions in their cities and other types of settlements. This variable is regressed on the three indexes of social capital — bridging, bonding, and civic culture (resp. *BridgingSC, BondingSC,* and *CivicCulture*), which are also averaged across the same localities. In the second case the dependent variable is the average of respondents' assessment of the performance of their local governments (*Performance*); however such variable can also serve as an explanatory one, to assess the contribution of governance to local development and investigate the role of governance as a transmission mechanism between social capital and economic outcomes. Control variables are cities' size, status, regional dummies, and the averages of various individual characteristics of respondents.

The first regression model estimates the contribution of social capital to local development ad welfare:

$$Outcome_i = const + \beta_1 BridgingSC_i + \beta_2 BondingSC_i + \beta_3 CivicCulture_i + \\ + \gamma_{ik} Control_k + RegionDummy_i + \varepsilon_i. \quad (4)$$

Here *i* is a settlement index. OLS estimation of this model (Appendix II Table 7, column 1) provides strong support to the hypothesis that bridging

social capital makes positive contribution to development: the corresponding coefficient is significant at the 1% level and quite substantial: a one standard deviation change in the bridging social capital index is associated with improvement of social and economic conditions in the city by quarter of a standard deviation. The contribution of bonding social capital is highly significant, too, but negative. Finally, the contribution of civic culture is, similarly to bridging social capital, positive (and significant at the 0.05 level), but of lesser magnitude. The obtained estimation is fully consistent with the predictions of the theory presented in Section 3.

To check robustness, we include in the regression various controls; such modifications leave estimated coefficients and their significances practically intact (columns 2–4 of Table 7). In particular, size of the city and material well-being of residents have the expected positive impact on the dependent variable, but the inclusion of these controls does not affect the magnitude and significance of social capital contributions. Overall we can conclude that more civic among Russian cities and towns enjoy ceteris paribus higher prosperity and well-being.

In the second regression model the dependent variable is government performance:

$$Performance_i = const + \beta_1 BridgingSC_i + \beta_2 BondingSC_i + \beta_3 CivicCulture_i + \\ + \gamma_{ik} Control_k + RegionDummy_i + \varepsilon_i; \quad (5)$$

Estimations of the above model (Appendix II Table 8) show that social capital's impact on the quality of local governance is essentially the same as for social and economic outcomes — government effectiveness is positively and highly significantly associated with bridging social capital and civic culture, and also highly significantly, but negatively — with bonding social capital. Here again the hypotheses generated by the theoretical model find full confirmation in the data. In the regression model (5) the association of the dependent variable with social capital is even stronger than in (4): the corresponding coefficients have larger absolute values. These conclusions are also robust to variations in the composition of control variables (columns 2 and 3 and the table). Moreover, they remain qualitatively unchanged if the full sample is reduced only to larger cities (100,000 residents and up; columns 4–7), and the impact of social capital on government performance for such sub-sample becomes even stronger: one standard deviation in the bridging social capital corresponds to one standard

deviation of the quality of governance index. Figure 1 in Appendix II illustrates this close association between social capital and the quality of urban governance. These are evidences that more civic of the Russian cities and towns are by and large better governed.

Finally, in the third model social and economic outcomes — the dependent variable — are regressed on government performance; the set of dependent variables in such model can also include indexes of social capital (Appendix II Table 9, resp. column 1 and columns 2–4):

$$\begin{aligned} &Outcome = const + \beta_0 Performance_i + \\ &+\beta_1 BridgingSC_i + \beta_2 BondingSC_i + \beta_3 CivicCulture_i + \\ &\gamma_{ik} Control_k + RegionDummy_i + \varepsilon_i. \end{aligned} \quad (6)$$

The first column of Table 9 shows that the quality of local governance is highly significant for social and economic outcomes. In combination with OLS estimations of the equation (5) which demonstrate the significance of social capital for the quality of governance, we can now conclude that the data point out to the working of a vertical transmission channel between social capital and development, and local governments are the linchpin of such channel. This channel carries up to 50% of the contribution of social capital to development: when social capital indexes are included in the regression *alongside* the government performance index, the coefficients with such indexes (reflecting the horizontal channel) decrease almost by half in comparison with the regression model (4). In large cities the vertical channel becomes predominant and the horizontal one nearly disappears — for such sub-sample social capital coefficients in the model (6) become insignificant.

The above empirical models also shed light on the interplay between different types of social capital in affecting local development and governance. In particular the theory presented in Section 3 suggests that the adverse impact of the bonding social capital grows stronger as the stock of the *bridging* social capital increases in a low-to-medium range. We test this conjecture by dividing the sample in three parts with lower, interim, and higher stocks of the bridging social capital, and estimating the regression model (4) separately for each part. The results are reported in Appendix II Table 10 which shows that the coefficient of the bonding social capital is insignificant (and small) for the lower portion, and then becomes negative, significant at the 1% level and growing in magnitude as the bridging social

capital increases from the middle to the top third of the sample. These estimations concur with the theoretical model (and its specifications in the Appendix 1): the first portion of the sample corresponds to the low range of the bridging social capital where the returns to the bonding social capital turns from initially positive to negative; such returns remain negative and increasing in magnitude thereafter (apparently the stock of the bridging social capital in our sample does not reach the level when the bonding social capital starts losing its significance.) We can therefore conclude that the bonding social capital becomes increasingly a drag on local development when civic awareness and capacity for collective action grow stronger.

5. Validation and causality

Validity of the above findings and conclusions could be questioned due to possible omitted variable bias, measurement errors in data collection, and reverse causality. Control variables included in the regression models, and various robustness checks deal with the omitted variable bias. Concerns about the quality of measurement could be raised inter alia due to the fact that almost all of our data come from a single survey and are thus susceptible to sampling and polling errors. To address such concerns, we have performed external validation by using similar data from other sources.

The proxy for social and economic outcomes — respondents' satisfaction with situations in their cities — was validated by data from other Geo-Rating surveys conducted before (2005) and after (2008, 2009) the 2007 poll. In those surveys respondents were asked about satisfaction with social and economic conditions in their *regions,* rather than cities, and therefore and therefore such surveys' data are only partially compatible with the 2007 poll, but still allow for meaningful cross-checking (Appendix II Table 11).

Replacing outcome measures by those similarly derived from other years' surveys do not qualitatively change the conclusions about the impact of bridging and bonding social capital and civic culture for local development.

Our search for external validation of the quality of governance and accountability measures is still work in progress. Electoral statistics to which one would normally turn for measures of political competition and other proxies for government accountability has not been very useful so far, possibly due to massive irregularities in Russian local elections.

We have similarly performed validation of social capital indexes by using measures of social accord and cohesion derived from a recent 2009 GeoRating survey; the obtained results were close to those reported in the previous section. We were unable to rely on blood donation and referenda participation data which are often used in social capital measurement due to concerns about their accuracy and adequacy of such measures in Russia (e.g. much of blood donation in the country is motivated by material rewards).

Finally, we turn to the endogeneity problem in the association between social capital and economic outcomes. One can argue that social capital is not only a factor, but also a product, of development; one possible explanation of such reverse causality is that development expands and improves education which is known to be a powerful driver of social capital accumulation. Similarly good governance could instill greater trust in institutions and broader cooperation that would also be conducive for social capital buildup.

To be able to argue that social capital affects development, we need valid instruments for the social capital indexes. Features that were used as instruments for social capital elsewhere in the literature (see Section 2) in our case either failed the validity test, or no satisfactory data and/or measures for such potential instruments were found. We had more luck with using the size of the middle class as a potential instrument.

Middle class is known to be conducive for the cultivation of civic values (see e.g. Moore, 1966; Hooghe, Stolle, 2003), and as such could indeed serve as a potentially valid instrument for social capital. Among multiple sources of information on middle class which reflect various measures and interpretations of this broad concept we have selected, based on availability and reliability of data, a survey conducted in 1980 by the Institute of Sociological Studies of the Soviet Academy of Science (Levyikin et. al., 1980) that was comparable in its scale, scope and methodology to the 2007 Geo-Rating survey. The survey did not specify cities, but available information on regions and city types enabled us to collect a sub-sample including 52 cities and towns. While such sample falls short of what is ideally required for instrumental variable analysis, it still produces a satisfactory instrument for the 2007 index of cohesion and accord). The middle class proxy that was used to obtain the instrument was respondents' description of their social status (*sluzhashchie* — professionals, white collars, etc., as opposed to workers and peasants). Two-stage least squares estimation shows that our proxy for the middle class in 1980 is indeed a valid instrument for social capital in today's Russia (see also Appendix II Figure 2). The avail-

ability of such instrument lends some support to the causality that runs from social capital to development.

6. Conclusion

We have shown that social capital does have substantial economic payoff in Russia, despite serious reasons to expect otherwise. It means that Russia, being a 'normal country', can rely on its social capital as a development resource.

This conclusion however is subject to an important qualification: while some kinds of Russian social capital advance development, others obstruct it. Rose (1998, p. 18) pointed out to a path dependency in Russian social capital which 'encouraged people to create informal networks as protection against the state'. Such bonding forms of social capital are considered 'anti-modern', as opposed to modern ones, which ensure accountable governance and uphold economic, legal and political institutions (Polishchuk 2010). Our analysis demonstrates that in today's Russia modern and anti-modern types of social capital co-exist in proportions that vary from one city and region to the other and likely evolve over time. It means that the agenda of Russian modernization, apart from its technological and institutional aspects, has an important social dimension, and that the *evolution* of the social capital mix could have far-reaching implications for the nation's economic and political development.

A sanguine development view holds that economic growth and accumulation of human capital foster civic culture and pro-social values (Glaeser, Ponzetto, Shleifer, 2007), which in their turn improve institutions and governance in the economy and society (Glaeser et al., 2004). On the other hand bonding social capital could disrupt this dynamic virtuous circle by perpetuating ineffective and unaccountable governance and debasing modern institutions. Corruption, lawlessness and government predation erode trust in institutions and among individuals, and suppress investments in bridging social capital and cultural transmission of pro-social norms and civic virtues (Tabellini, 2008), while entrenching anti-modern social practices of adjustment to bad institutions.[6]

[6] "If you expect to live in a corrupt society, you would rather learn to pay and demand bribes" (Aghion et al., 2010, p. 1027).

The outcome of such "race" between different kinds of social capital is uncertain, and multiple equilibria are possible, Further research, theoretical and empirical, is required to get a better insight into the processes of accumulation and amortization of different kinds of social capital. Such insight would be invaluable in designing policies that would tip the race between modern and anti-modern social capital towards a path where civil society, economic development, and good governance support and reinforce each other.

References

Acemoglu, D, and J. Robinson. (2008) Persistence of Power, Elites, and Institutions. *American Economic Review,* 98, 267–293.

Aghion, P., Y. Algan, P. Cahuc, and A. Shleifer. (2010) Regulation and Distrust. *Quarterly Journal of Economics*, 125, 1015–1049.

Almond, G., and S. Verba (1963). *The Civic Culture. Political Attitudes and Democracy in Five Nations.* Princeton: Princeton Univ. Press.

Arrow, K. (1972). Gifts and exchanges, *Philosophy and Public Affairs,* 1, 343–362.

Blume L., and Sack D. (2008). Patterns of Social Capital in West German Regions. *European Urban and Regional Studies*, 15, 229–248.

Casey T. (2004) Social capital and regional economies in Britain. *Political Studies*, 52, 96–117.

Durlauf S. (2002) On The Empirics Of Social Capital *Economic Journal*, 112*,* F459–F479.

Durlauf, S., and M. Fafchamp. Social Capital. (2005). In: Ph. Aghion, S. Durlauf (ed.), Handbook of Economic Growth, Vol.1, 1639–1699, Amsterdam: Elsevier.

Dzialek, J. (2009) Social Capital and Economic Growth in Polish Regions. MPRA Working paper 18287.

Eberstadt, N. (2010). Russia's Peacetime Demographic Crisis: Dimensions, Causes, Implications. NBR Project Report.

Glaeser, E., D. Laibson, J. Scheinkman, and Ch. Soutter. (2000) Measuring Trust. *Quarterly Journal of Economics,* 115, 811–846.

Glaeser, E., D. Laibson and B. Sacerdote. (2002) An Economic Approach to Social Capital. *Economic Journal*, 112, F437–F458.

Glaeser, E., R. La Porta, F. De Silanes, and A. Shleifer. (2004). Do Institutions Cause Growth? *Journal of Economic* Growth, 9, 271–303.

Glaeser, E., Ponzetto, G., and Shleifer, A. (2007) Why Does Democracy Need Education? *Journal of Economic Growth*, 12, 77–99.

Grossman, G., and E. Helpman (2001). *Special Interests Politics,* Cambridge MA and London UK: The MIT Press.

Guiso, L., P. Sapienza, and L. Zingales. (2010) Civic Capital as the Missing Link. NBER Working Paper No. w15845.

Halpern, D. (2005). *Social Capital.* Cambridge: Polity.

Hooghe, M., and D. Stolle (eds.) (2003) *Generating Social Capital. Civil Society and Institutions in Comparative Perspective*. New York: Palgrave Macmillan.

Knack, S. Social Capital and the Quality of Government: Evidence From the U.S. States. (2002) *American Journal of Political Science* 46, 772–785.

Knack, S., and Ph. Keefer. (1997) Does Social Capital Have an Economic Payoff? A Cross-Country Investigation. *Quarterly Journal of Economics,* 1251–1288.

Kennedy, B., and Kawachi, I. (1998) The Role of Social Capital in the Russian Mortality Crisis. *World Development,* 26), 2029–2043.

Kuran, T. (1991) The East European Revolution of 1989: Is it surprising that we were surprised?" *American Economic Review*, 81, 121–125.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny. (1997) Trust in Large Organizations. *American Economic Review*, 87, 333–338.

Levykin I., T Dridze, E Orlov, Y. Reyzema. (1981) State and Main Trends of the Soviet Way of Life. (In Russian) Materials of a Public Opinion Poll.

Marsh, Ch. (2000) Social Capital and Democracy in Russia. *Communist and Post-Communist Studies,* 33, 183–199.

Moore, B. (1966) *Social Origins of Dictatorship and Democracy*, Boston; Beacon Press.

Natkhov, T. (2010). Education and Social Cohesion in Russia. An Empirical Evidence. Mimeo.

Petrov N., and A Titkov A. (2010) Irregular Triangle: State-Business-Society Relations in Russia's Regions (in Russian) Moscow: Rosspen.

Polishchuk, L. (2010) Misuse of Institutions. Lessons from Transition. UNU-WIDER Working Paper No 2010/75.

Polterovich, V (2007). *Elements of Reform Theory* (in Russian). Moscow: Economics Publishers.

Putnam, R. (1993) *Making Democracy Work: Civic Tradition in Modern Italy.* Princeton: Princeton Univ. Press.

Rodrik, D, Subramanian, A., Trebbi, F. (2004) Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development, *Journal of Economic Growth*, 9, 131–165.

Roland, G. (2000) *Transition and Economics. Politics, Markets, and Firms*. MIT Press.

Rose, R. (1998) Getting Things Done in an Anti-Modern Society: Social Capital Networks in Russia. Social Capital Initiative Working Paper No. 6. World Bank.

Rose-Ackerman, S. (1999) *Corruption and Government: Causes, consequences,and reform*. Cambridge: Cambridge University Press.

Rupasingha A, S. Goetz and D. Freshwater (2002) Social and Institutional Factors as Determinants of Economic Growth: Evidence from the United States Counties *Papers in Regional Science* 81, 139–155.

Shleifer, A., and D. Treisman. A Normal Country: Russia After Communism. (2005). *Journal of Economic Perspectives,* 19, 151–174.

Tabellini, G. (2008) Institutions and Culture. *Journal of the European Economic Association* 6, 255–294.

Weingast, B. (1997). The Political Foundations of Democracy and the Rule of Law. *American* Political *Science Review*, 91, 245–263.

Woolcock, M. Social Capital and Economic Development: Toward a Theoretical Synthesis and Policy Framework. Theory and Society, 27, 151—208.

Zak, P. and S. Knack. (2001). Trust and Growth. *Economic Journal,* 111, 295–321.

Zhang Zh., and Ke R. (2003) Trust in China: A Cross-Regional Analysis, William Davidson Institute Working Paper No. 586.

Appendix I

We present two specifications of the general model described in Section 3. In both versions government resorts to distortionary tools of income extraction that impose excess burden on the private sector. Bonding social capital allows members of small groups to eliminate the excess burden by means of self-organization and reduce losses from $C_0(D)$ down to $C_1(D) = D$.

Specification 1: Extortionary taxation

Suppose that the government extracts income from the private sector through an extortionary tax with flat rate $t \in [0,1]$. Assuming agents' quasi-linear utilities $x - v(l)$, where x is income and l — labor, labor supply $l = l(t)$ can be found from the equation $v'(l) = 1 - t$ (market wage is normalized to unity), and government revenue is $D = R(t) \equiv tl(t)$. Residual welfare of a taxpayer after taxes is $V(t) \equiv (1-t)l(t) - v(l(t))$, and when there is no grass-roots protection from taxation, the cost of government predation to agents is as follows: $C(D) = V(0) - V(t) = R(t) + L(t)$, where $L(t)$ is the deadweight loss of a distortionary tax.

Bonding social capital enables agents within small groups to accumulate the required tax payment per member trough direct contributions without sustaining the deadweight losses;[7] the saved deadweight losses comprise economic returns (which accrue to group members) to bonding social capital. In this case $C_1(D) = D$, and the tax rate $t = t(a,w)$ selected by the government from problem (3) satisfies the following first-order condition:

$$\frac{1-a}{a} R'(t) = (1-w) L'(t).$$

The social welfare as a function of a and w is as follows:

$$W_S(a,w) = W_0 - R(t(a,w)) - (1-w) L(t(a,w)).$$

This function is increasing in a, and one can easily check that under the "neoclassical" assumptions about $v(\cdot)$, decreases in w for large enough a.

[7] Such outcome obtains e.g. as political equilibrium when agents' groups are lobbies making contributions to government in order to prevent taxation of group members (Grossman, Helpman, 2001).

This is illustrated by the profiles of $W_S(a,w)$ and $D(a,w)$ for $v(l)=l^2$ (Chart 1 below).

Specification 2: Diversion of public funds

Assume agents' preferences of the form $x+f(G)$, where x is private consumption, and G — local public good, with a "neoclassical" function f. Local public goods are supposed to be provided by the government for N identical communities of equal size $1/N$ (consumers are still assumed to form a unit continuum). Optimal provision $G=G^*$ of the local public good for each community can be found from the equation

$$f'\left(G^*\right)=N.$$

Suppose that the government collects the required revenues NG^*, but can divert portion D of this amount for its own enrichment, leaving the public goods undersupplied. In this case (assuming equal (under)funding of each of the local public goods) the cost to the agents of such diversion is $C_0(D)=f\left(G^*\right)-f\left(G^*-D/N\right)$.

Bonding social capital could help agents within a given community to resolve the collective action problem and make up for the shortfall of funding of the local public good by jointly supplying the missing amount D/N; in such case each member of the community will have to make a private contribution D, and the private cost of government malfeasance is reduced from $C_0(D)$ to $C_1(D) = D$. The stock of bonding social capital is measured by the share w of the communities where such local effort occurs; in this case problem (3) takes the following form:

$$\max_D\left\{D-a\left[wD+(1-w)\left(f\left(G^*\right)-f\left(G^*-D/N\right)\right)\right]\right\},$$

and the optimal diversion of funds $D = D(a, w)$ satisfies the equation

$$f'\left(G^*-D/N\right)=N\frac{1-aw}{a(1-w)}.$$

Here too $D = D(a, w)$ monotonically decreases in a and increases in w, and the social welfare is as follows:

$$W_S(a,w)=W_0-wD(a,w)+(1-w)\left(f\left(G^*\right)-f\left(G^*-D(a,w)/N\right)\right).$$

As it was the case with the previous specification, with the "neoclassical" assumptions this function can also be shown to decrease in w at least when a is sufficiently large. We illustrate this by the profile of $W_S(a,w)$ and $D(a, w)$ for $f(G)=\sqrt{G}$ (Chart 2).

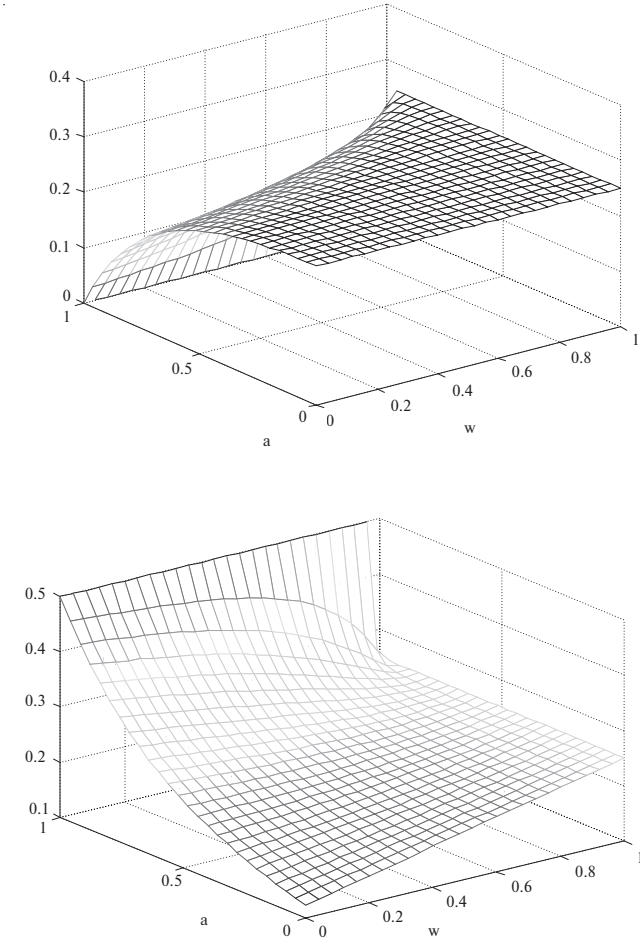

Chart 1. The profiles of $D(a, w)$ and $W_S(a, w)$ for $v(l) = l^2$ (specification 1)

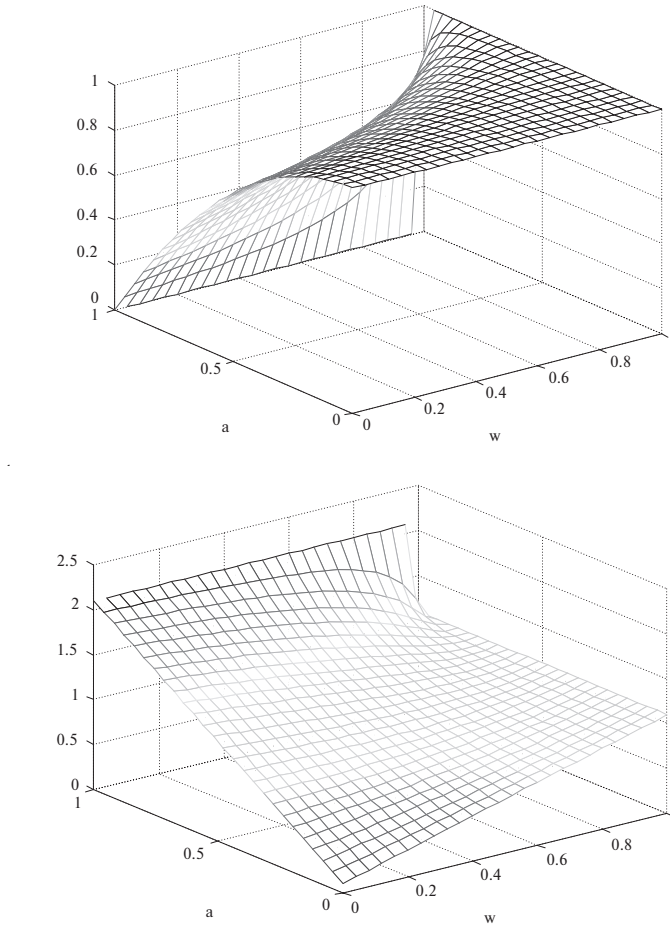

Chart 2. The profiles of $D(a, w)$ and $W_S(a, w)$ fo $f(G) = \sqrt{G}$ r (specification 2)

Appendix II

*Table 1: So*cial norms, attitudes, and outcomes.

Variable	Question	Min	Max
sc_unit	How often people around you are prepared for collective action to jointly solve their problems?	0	4
sc_unit_self	How often people around you are prepared for collective action to jointly solve social problems, even if the latter have no immediate bearings for them?	0	4
sc_agr_all	In your opinion, what is more common in our country today — social accord and cohesion, or discord and alienation?	0	3
sc_agr_close	In your opinion, what is more common among people around you — social accord and cohesion, or discord and alienation?	0	3
sc_trust	Do you think that people can be trusted, or you cannot be more careful in dealing with people?	0	1
sc_com_val	Do you meet people that have much in common with you?	0	3
sc_trust_com	Do you trust those who have much in common with you more, less, or the same as all others?	0	3
sc_help	How often people around you are ready to help each other?	0	3
ind_unit	Some people are ready to join others for joint action only if they have the same interests and share the same ideas. Others are ready for joint action even if partners' interests and ideas are different. To which of these two groups you are closer?	0	3
ind_help	Have you over the last year offered assistance and support to those who are not your immediate family members?	0	3
resp_fam	How strongly you feel responsibility for the situation in your family?	0	3
resp_outdrs	How strongly you feel responsibility for the situation in your apartment building or local residential area?	0	3
resp_city	How strongly you feel responsibility for the situation in your city (town, village)?	0	3
soc_pow	Do you think authorities understand and take into account interests of people like you ?	0	3
soc_outc	Overall, are you satisfied or dissatisfied by the situation in your city (town, village)?	0	3

Answers are usually given in 0 to 3 or 0 to 4 scales; greater value corresponds to higher frequency, stronger agreement etc.

*Table 2: Di*stribution of Individual characteristics of respondents

Size and status of settlement	Sample	Average age	Average years of education	Average welfare	Average income
Moscow	1	45	11.68	3.21	9.91
St. Petersburg	1	44.54	11.2	3.22	10.55
Regional capital with more than 1,000,000 residents	11	43.8	10.72	3	5.86
Regional capital with less than 1,000,000 residents	56	44.2	10.82	2.93	5.54
Towns, small urban settlements	909	44.46	10.24	2.74	4.75
Villages	844	46.9	9.44	2.49	3.59
Total	**1822**	**45.58**	**9.89**	**2.63**	**4.25**

Notes: Respondents were asked to estimate their material welfare in a one ("not enough money even for food") to six ("experience no financial difficulties, could buy a house or apartment if need be") scale. Income was reported in thousands of rubles.

*Table 3: Va*riations of city averages across the sample and among larger cities

Variable	Full Sample (1822 observations)				Large cities (149 observations)			
	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
sc_unit	1.67	0.53	0.00	3.40	1.74	0.36	0.41	2.80
sc_unit_self	1.23	0.56	0.00	3.30	1.23	0.43	0.08	2.41
sc_agr_all	0.84	0.38	0.00	2.80	0.82	0.29	0.17	1.60
sc_agr_close	1.64	0.45	0.10	3.00	1.76	0.31	1.00	2.82
sc_trust	0.19	0.16	0.00	1.00	0.18	0.10	0.00	0.50
sc_com_val	2.02	0.34	0.68	3.00	2.03	0.24	1.10	2.63
sc_trust_com	1.92	0.42	0.17	3.00	1.96	0.31	1.20	2.80
sc_help	1.86	0.46	0.30	3.30	1.94	0.31	0.56	2.88
ind_unit	1.84	0.51	0.00	3.00	1.82	0.39	0.44	2.76
ind_help	1.76	0.50	0.00	3.00	1.78	0.37	0.70	2.61
resp_fam	2.71	0.26	1.29	3.00	2.68	0.16	2.00	3.00
resp_outdrs	1.78	0.59	0.00	3.00	1.36	0.37	0.12	2.61
resp_city	1.08	0.52	0.00	3.00	0.91	0.35	0.08	2.35
soc_pow	0.89	0.38	0.00	2.38	0.89	0.30	0.20	1.84
soc_outc	1.11	0.47	0.00	2.63	1.31	0.38	0.20	2.25

*Table 4: Pa*irwise correlations of social norms and attitudes

	sc_unit	sc_unit_self	sc_agr_all	sc_agr_close	sc_trust	sc_com_val	sc_trust_com	sc_help	ind_unit	ind_help	resp_fam	resp_outdrs
sc_unit												
sc_unit_self	0.68											
sc_agr_all	0.40	0.41										
sc_agr_close	0.28	0.16	0.34									
sc_trust	0.19	0.18	0.35	0.18								
sc_com_val	0.19	0.09	-0.01	0.26	0.16							
sc_trust_com	0.04	-0.05	-0.13	0.24	0.06	0.46						
sc_help	0.61	0.40	0.37	0.36	0.23	0.23	0.15					
ind_unit	0.29	0.22	0.11	0.27	0.11	0.35	0.28	0.22				
ind_help	0.14	0.09	-0.02	0.16	-0.01	0.30	0.24	0.28	0.31			
resp_fam	0.03	-0.01	-0.07	0.07	-0.05	0.11	0.15	0.05	0.16	0.22		
resp_outdrs	0.01	0.07	0.01	0.05	-0.03	0.04	0.04	0.00	0.16	0.11	0.34	
resp_city	0.16	0.20	0.16	0.08	0.08	0.05	-0.02	0.10	0.20	0.09	0.23	0.57

*Table 5: Fac*tor analysis results. Proportion of factors in variation and factor loadings for the whole sample and for large cities only

Factor	Eigenvalue	Proportion	Cumulative	Variable	Full Sample				Large cities			
					Factor1	Factor2	Factor3	Uniqueness	Factor1	Factor2	Factor3	Uniqueness
Factor1	2.68	0.61	0.61	sc_unit	0.74	-0.30	0.02	0.36	0.67	-0.39	-0.31	0.30
Factor2	1.29	0.29	0.90	sc_unit_self	0.61	-0.32	0.17	0.50	0.44	-0.46	-0.24	0.54
Factor3	0.99	0.23	1.13	sc_agr_all	0.49	-0.39	0.13	0.60	0.51	-0.43	-0.05	0.56
Factor4	0.37	0.09	1.21	sc_agr_close	0.48	0.05	-0.16	0.74	0.57	0.30	0.02	0.58
Factor5	0.14	0.03	1.24	sc_trust	0.32	-0.15	-0.05	0.87	0.43	-0.16	-0.13	0.77
Factor6	0.01	0.00	1.25	sc_trust_com	0.25	0.43	-0.37	0.62	0.41	0.50	-0.09	0.58
Factor7	-0.01	0.00	1.25	sc_com_val	0.40	0.35	-0.33	0.61	0.47	0.45	-0.17	0.55
Factor8	-0.06	-0.01	1.23	sc_help	0.67	-0.14	-0.13	0.51	0.61	-0.05	-0.03	0.63
Factor9	-0.12	-0.03	1.20	ind_unit	0.48	0.29	-0.08	0.68	0.59	0.23	-0.01	0.59
Factor10	-0.18	-0.04	1.16	ind_help	0.34	0.34	-0.15	0.75	0.39	0.43	0.08	0.66
Factor11	-0.23	-0.05	1.11	resp_fam	0.16	0.40	0.18	0.78	0.13	0.26	0.39	0.77
Factor12	-0.24	-0.05	1.06	resp_outdrs	0.20	0.42	0.54	0.50	0.28	-0.14	0.74	0.35
Factor13	-0.24	-0.06	1.00	resp_city	0.32	0.25	0.55	0.53	0.34	-0.27	0.68	0.35

*Table 6: Co*rrelations of social capital and individual characteristics

	Factor 1	Factor 2	Factor 3	Age	Educa-tion	Well-being	Income
Factor 1							
Factor 2	-0.03						
Factor 3	0.01	0.01					
Age	-0.16	0.14	0.05				
Education	0.17	-0.06	-0.09	-0.33			
Well-being	0.18	-0.08	-0.11	-0.26	0.37		
Income	0.12	-0.08	-0.21	-0.20	0.36	0.47	

*Table 7: Re*gression of social and economic outcomes on social capital

VARIABLES	**(1)**	**(2)**	**(3)**	**(4)**
Bridging SC	0.122***	0.114***	0.122***	0.114***
	(0.010)	(0.012)	(0.010)	(0.014)
Bonding SC	-0.091***	-0.088***	-0.091***	-0.088***
	(0.003)	(0.002)	(0.003)	(0.015)
Civic culture	0.019**	0.025**	0.021***	0.025*
	(0.006)	(0.009)	(0.005)	(0.014)
Population	0.0013***	0.0010**		
	(0.0002)	(0.0003)		
Age		-0.003		-0.003
		(0.005)		(0.003)
Education		0.002		0.003
		(0.009)		(0.012)
Wellbeing		0.115***		0.116***
		(0.016)		(0.029)
City size dummy	NO	NO	YES	YES
Regional effects	YES	YES	YES	YES
Observations	1822	1822	1822	1822
R-squared	0.267	0.282	0.266	0.280

Robust standard errors clustered at settlement type are in parenthesis. ***:1%, **: 5%, *: 10.

*Table 8: Re*gression of government performance on social capital

Total sample

VARIABLES	(1)	(2)	(3)
Bridging SC	0.128***	0.124***	0.123***
	(0.002)	(0.004)	(0.004)
Bonding SC	-0.098***	-0.095***	-0.095***
	(0.004)	(0.005)	(0.005)
Civic culture	0.057**	0.060**	0.059**
	(0.018)	(0.020)	(0.020)
Population		-0.0001	
		(0.0001)	
Age		-0.003*	-0.003*
		(0.001)	(0.001)
Education		-0.007***	-0.004***
		(0.001)	(0.001)
Wellbeing		0.064***	0.065***
		(0.000)	(0.000)
City size dummy	NO	NO	YES
Regional effects	YES	YES	YES
Observations	1822	1822	1822
R-squared	0.289	0.296	0.297

Large cities

VARIABLES	(4)	(5)	(6)	(7)
Bridging SC	0.205***	0.204***	0.183***	0.165***
	(0.016)	(0.012)	(0.017)	(0.028)
Bonding SC	-0.136***	-0.136***	-0.118***	-0.131***
	(0.027)	(0.027)	(0.022)	(0.022)
Civic culture	0.101***	0.101***	0.116***	0.122***
	(0.008)	(0.006)	(0.009)	(0.003)
Population		-0.002	-0.015	-0.022*
		(0.012)	(0.011)	(0.009)
Age			0.000	-0.006
			(0.006)	(0.009)
Education			0.002	0.025**
			(0.026)	(0.006)
Wellbeing			0.167***	0.162***
			(0.011)	(0.008)
Observations	86	86	86	65
R-squared	0.521	0.521	0.561	0.505

Robust standard errors clustered at settlement type are in parenthesis. ***:1%, **: 5%, *: 10.

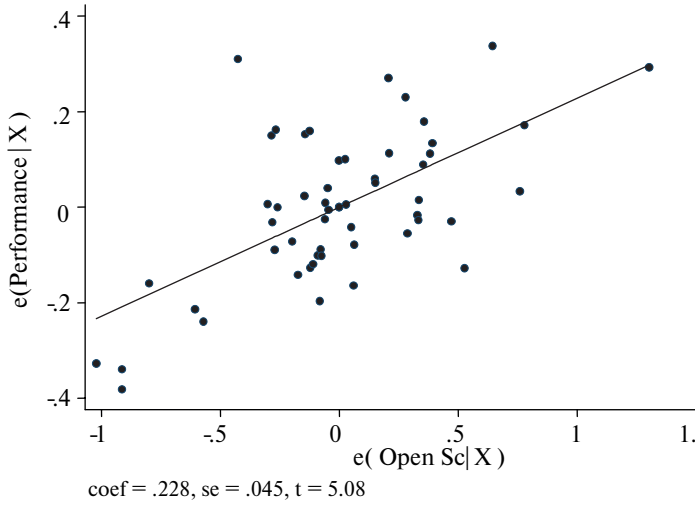

Figure 1: Social capital and quality of governance in larger cities.
Partial regression plot between the performance and bridging social capital measures
(controlling for average income, education and city type)

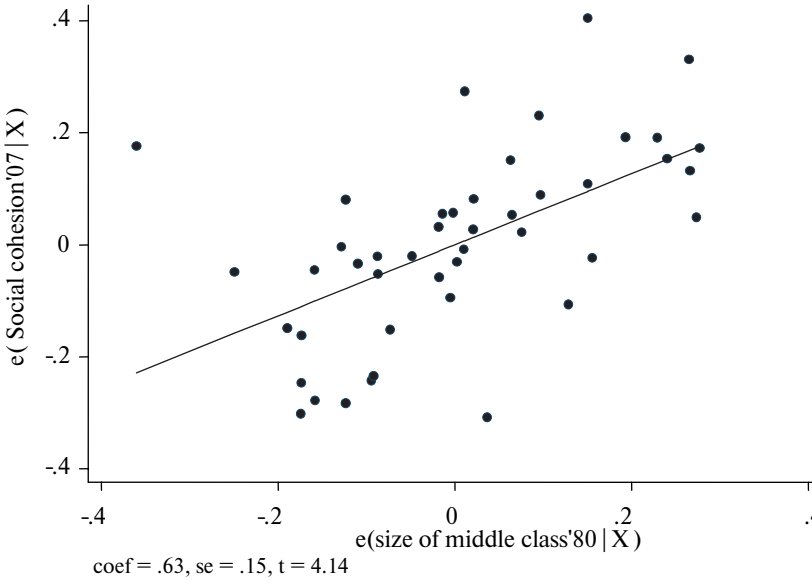

Figure 2: Partial regression plot between the size of middle class in 1980 and social cohesion in 2007 (controlling for average income, education in 1980 and 2007 and city type)

*Table 9: Im*pact of governance and social capital for social and economic outcomes

Total sample

VARIABLES	(1)	(2)	(3)	(4)
Quality of governance	0.450***	0.352***	0.338***	0.338***
	(0.022)	(0.014)	(0.015)	(0.016)
Bridging SC		0.078***	0.072***	0.072***
		(0.008)	(0.009)	(0.009)
Bonding SC		-0.060***	-0.056***	-0.056***
		(0.006)	(0.002)	(0.003)
Civic culture		-0.007	0.005	0.005
		(0.005)	(0.004)	(0.002)
Population			0.0011***	
			(0.0003)	
Age			-0.002	-0.001
			(0.005)	(0.005)
Education			0.005	0.004
			(0.010)	(0.008)
Wellbeing			0.094***	0.093***
			(0.014)	(0.014)
City size dummy	NO	NO	NO	YES
Regional effects	NO	YES	YES	YES
Observations	1822	1822	1822	1822
R-squared	0.137	0.319	0.336	0.335

Large cities

VARIABLES	(1)	(2)	(3)	(4)
Quality of governance	0.813***	0.813***	0.855***	0.972***
	(0.059)	(0.058)	(0.176)	(0.075)
Bridging SC	-0.038	-0.036	-0.027	-0.054
	(0.034)	(0.045)	(0.041)	(0.052)
Bonding SC	0.058**	0.059*	0.048*	0.040
	(0.021)	(0.026)	(0.017)	(0.024)
Civic culture	-0.096	-0.096	-0.116	-0.207***
	(0.082)	(0.084)	(0.089)	(0.020)
Population		0.003	0.027	0.024
		(0.036)	(0.036)	(0.071)
Age			-0.041***	-0.030
			(0.008)	(0.014)
Education			-0.123*	-0.159**
			(0.046)	(0.041)
Wellbeing			-0.079	-0.244**
			(0.192)	(0.065)
Observations	86	86	86	65
R-squared	0.197	0.197	0.267	0.292

Robust standard errors clustered at settlement type are in parenthesis. ***:1%, **: 5%, *: 10.

*Table 10: R*egression of outcomes on bonding social capital by quantiles of bridging social capital distribution

	the first third of the bridging SC distribution	**the second third of the bridging Sc distribution**	**the last third of the the bridging sc distribution**	**the first third of the bridging SC distribution**	**the second third of the bridging Sc distribution**	**the last third of the the bridging sc distribution**
VARIABLES	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Bridging SC	0.118***	0.00993	0.0987***	0.122***	0.0125	0.0993***
	(0.0319)	(0.0720)	(0.0316)	(0.0320)	(0.0721)	(0.0318)
Bonding SC	-0.0207	-0.0553***	-0.133***	-0.0221	-0.0512***	-0.134***
	(0.0193)	(0.0181)	(0.0170)	(0.0194)	(0.0181)	(0.0171)
Education	0.0281	0.00626	0.0116	0.0181	0.00666	0.0160
	(0.0337)	(0.0330)	(0.0338)	(0.0349)	(0.0344)	(0.0351)
Wellbeing	0.160***	0.129***	0.0929**	0.156***	0.128***	0.0937**
	(0.0383)	(0.0357)	(0.0377)	(0.0385)	(0.0358)	(0.0380)
Age	-6.04e-05	0.00134	-0.000108	0.00112	-0.000218	-0.000570
	(0.00444)	(0.00449)	(0.00442)	(0.00456)	(0.00453)	(0.00447)
Population	0.0007	0.0009**	0.0005	-0.0004	0.0008	0.0008
	(0.0009)	(0.0004)	(0.0007)	(0.002)	(0.001)	(0.002)
City size dummy	NO	NO	NO	YES	YES	YES
Observations	610	614	608	610	614	608
R-squared	0.077	0.059	0.136	0.084	0.074	0.140

Robust standard errors clustered at settlement type are in parenthesis. ***:1%, **: 5%, *: 10.

*Table 11: C*orrelations between respondents' assessments of socio-economic conditions in their cities in 2007 and similar regional assessments for other years

	Total sample (1816)	**Larger cities (85)**	**Regional capitals (66)**
2005 regional survey	0,22	0,60	0,65
2008 regional survey	0,34	0,73	0,79
2009 regional surveys	0,21	0,62	0,70

Меняшев, Р. Экономическая отдача на социальный капитал: о чем говорят российские данные : препринт WP10/2011/01 [Текст] / Р. Меняшев, Л. Полищук ; Высшая школа экономики. — М.: Изд. дом Высшей школы экономики, 2011. — 44 с. — 150 экз. (на англ. яз.).

В ряде исследований установлено, что социальный капитал оказывает существенное влияние на экономическое развитие, работу институтов и качество государственного управления. Для России такой анализ до сих пор не проводился, и настоящая работа призвана восполнить этот пробел. Мы предлагаем модель, которая разделяет воздействие на состояние экономики открытой (bridging) и закрытой (bonding) разновидностей социального капитала. Эмпирическая часть работы основана на данных опроса 2007 г., проведенного в рамках проекта «Георейтинг». Установлено, что оценка респондентами положения дел в городах находится в отчетливо выраженной статистически значимой положительной связи с открытым социальным капиталом, и в отрицательной зависимости от закрытого социального капитала. Показано, что «передаточным механизмом» между социальным капиталом и положением дел в городах является работа городских администраций.

Препринт WP10/2011/01
Серия WP10
Научные доклады
Института институционального анализа

Меняшев Ринат Шамильевич, Полищук Леонид Иосифович

Экономическая отдача на социальный капитал:
о чем говорят российские данные
(*на английском языке*)

Выпускающий редактор *А.В. Заиченко*
Технический редактор *О.А. Иванова*
Корректор *Ф.Н. Морозова*

Отпечатано в типографии Высшей школы экономики
с представленного оригинал-макета.

Формат 60×84 $^{1}/_{16}$. Бумага офсетная. Тираж 150 экз. Уч.-изд. л. 2,5
Усл. печ. л. 2,6. Заказ № . Изд. № 1317

Высшая школа экономики
125319, Москва, Кочновский проезд, 3
Типография Высшей школы экономики

Тел.: (499) 611-24-15