

Does Financial-Industrial Group Membership Affect Fixed Investment: Evidence from Russia ¹

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Abstract

The current research estimates the accelerator type model of fixed investment using a Russian industrial enterprise dataset . This dataset contains individual firms' accounting data for 1996 and 1997. The sample of firms was divided into three subsamples based on the ownership structure data. Registered Financial-Industrial Groups, unregistered Financial-Industrial Groups and non-group subsets were analyzed in order to compare sensitivities of investment to changes in internal liquidity in these three sets of firms. Controlling for size and investment opportunities it was found that in 1996-1997 the firms in unregistered groups invest a larger proportion of their retained earnings relative to the rest of the economy. We interpret this result as a proof of the hypothesis of better contract enforcement in unofficial groups compared to the rest of economy in the situation of lack of external financing of investment.

Keywords: *accelerator model of fixed business investment, financial-industrial groups*

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Introduction

The development of market relations in Russia gave rise to the establishment of Financial-Industrial Groups (FIGs). In 1997 there were about 80 formal groups and many more informal ones [5]. About 10% of industrial output was produced by registered FIGs. Besides, there were a lot of integrated trading-industrial and industrial entities where not only production and trade but also financial ties existed.

Why did the liberalization of economic life bring about the emergence of these groups? Why did the development of market relations form intra rather than inter-company ties between production and financial firms? Based on the fact that integrated structures like FIGs (structures with production and financial ties) are not an unusual feature of transition in Russia, which also exist in developing and developed countries, it seems reasonable to suggest that their formation and development is part of general regularities of the market economy rather than the peculiarities of Russian development.

The theory of industrial organization provides several fundamental reasons for the development of integrated structures in any kind of economy. First of all, vertical integration where either asset specificity that raises the possibility of economy of scale or monopolistic position of one of the firms could lead to an increase in the efficiency of integrated structure compare to independently operating firms. Horizontal integration allowing an increase in the market power also could be another reason for integration.

Contract theory suggests an explanation for the advantages of integrated structures in certain circumstances due to superior contract enforcement within these structures.

Tax factors should also be taken into account since either the transfer pricing within the group or budget consolidation could efficiently decrease the tax burden of the group firms.

All these reasons become even stronger in a transition economy. Different kinds of market imperfections due to the absence of many important market institutions force firms to

choose intrafirm relations rather than market ties. For example, an inefficient financial system and money market problems lead to emergence of a quasi-money or barter market. As was shown in [4] in this case the integration of banks and industrial firms could efficiently decrease transaction costs associated with quasi-money.

Independently of a particular type of modeling the general theoretical prediction with respect to fixed investment behavior of firms participating in groups is following. Assuming that both internal and external financing is available, a gap between the costs of external and internal funds should be smaller for group firms. This result, which is interpreted as a decline in a firm's investment —change in a firm's net worth sensitivity at a given level of investment opportunities for enterprises belonging to Financial Industrial Groups, was tested in a number of studies based on Japanese [6], and Korean [10] data. Empirical evidence in favor of the hypothesis that firms in the groups are less credit rationing than the rest firms in the economy was found.

Could we expect that the same predictions would be valid for the Russian Financial-Industrial Groups? The only attempt to test this hypothesis was made in the paper by Perotti and Gelfer [9]. To control for investment opportunities the authors use the Q-model of fixed business investment that employs the stock market indicators of firms' performance as determinants of firms' investment opportunities. The researches found that investments in non-FIGs firms are sensitive to changes in internal liquidity of the firms. This hypothesis was rejected for firms participating in FIGs. Authors interpret this result as evidence of extensive financial reallocation across group firms and existence of internal capital market, which facilitates access to finance for good projects by reallocating resources across firms.

This result raises several problems. First of all, the modeling of investment within the framework of Tobin Q-model has some essential drawbacks in its description of the Russian situation. And the most serious drawback seems to be the failure of one of the most important

assumptions of this model, namely, the assumption of the stock market effectiveness. The stock market that existed in Russia before the crisis probably should not be regarded as an effective one due to either information problems of transforming economies or due to myopic expectations of agents in the highly risky environment of the Russian modern economy. In this circumstances we can not assume that there is an efficient secondary market for firms' shares. Thus it seems unreasonable to use Q-values of companies based on the Russian stock market data either as a proxy for marginal present discounted values of profits from new fixed investment or as a proxy for constant investment opportunities.

For this reason we suggest using a different approach to control for firm's investment opportunities. Over the recent years several studies of firms' fixed business investment in transition economies were made [1, 8]. In view of the inefficiency of stock market indicators in the emerging financial environment the authors rely on the accelerator model of investment demand. We also use this approach in the research.

Assuming that we can control for investment opportunities, should we expect the prediction that firms in FIGs are less credit rationing relative to the rest firms in economy to be valid for the Russian case? The analysis of the 1996-1997 firms' accounting data shows that the volume of external credits was negligible in the economy. This and the existence at that time of the high yield GKO market raises doubts as to the validity of the assumption concerning the availability of external financing for fixed business investment in Russian firms.

In this research we show that the validity of the assumption of the availability of both external and internal finance for firms' fixed investment is extremely important for empirical testing of the role of banks in FIGs. Even if banks in Russia play the same role with respect to the firms participating in Financial-Industrial Groups as in the FIGs in other countries, providing better contract enforcement in the group firms compared to the rest of the economy,

the empirical evidence in favor of such hypothesis will be opposite depending on whether the external financing is available or not.

Assuming that the only source of finance for investment is the retained earnings of the firms we show that the higher investment-retained earnings sensitivity for firms participating in Financial-Industrial Groups relative to the rest firms in the economy will be the empirical evidence in favor of the hypothesis of better contract enforcement in groups' firms compare to the rest of the economy.

The paper is organized as follows. In the methodological part the empirical and theoretical frameworks are presented. In the third section the empirical tests of our hypotheses are discussed. The last section contains some concluding comments.

Estimation framework

For our test, one of the basic challenges is the choice of the appropriate investment model. As was mentioned above, in this research we investigate the accelerator model of investment adjusted for cash flow .

Demand side of the fixed business investment

Under standard assumptions of the accelerator model of fixed investment the derived demand for gross investment is of the following form [3]:

$$I = \alpha \sum_{s=0}^{\infty} \beta_s (\Delta Y_{-s}) + dK_{-1}. \quad (1)$$

The intuition behind this equation is rather simple: as long as a firm's output increases the firm finds reasonable to acquire new fixed assets in order to meet the increasing production needs, and in the case of declining sales a firm sells the useless assets. In both cases the term dK_{-1} captures the depreciation expenses.

Supply of funds for investments in fixed assets

In the case of developed capital markets, the supply of funds for the profitable investment projects would be provided either by financial intermediaries or by the stock market. However, in the case of imperfect information and underdeveloped financial system, the availability of external finance for investment projects could decrease sufficiently due to the problem of asymmetric information between borrowers and lenders. Hubbard in the survey [7] indicates that effects of informational asymmetries on investment both in the adverse selection and moral hazard settings have broadly similar consequences for the cost of funds and investment. He shows that for firms bearing different information costs an increase in net worth independent of the changes in investment opportunity has different effects on investment. In particular, for the firms bearing negligible information costs there should be no such effect, while it should be strong enough for firms facing high information costs. Given this, he suggests that 1) controlling for investment opportunities and information costs, firms with higher changes in net worth will invest more; and 2) controlling for investment opportunities, investment-change in net worth sensitivity will be higher for firms bearing higher information costs.

Assuming that the measure of the change in net worth available for many firms is the cash flow variable (that is, retained earnings equal to the sum of earnings and depreciation allowances) it can be used as a proxy for the change. Moreover, given that there is a lag between the moment of making an investment decision and its implementation we could expect that not only current changes in net worth could matter but also the lagged ones.

Therefore, we can get the empirical specification of the accelerator-cash flow model

$$\frac{I}{K_{-1}} = \alpha + \sum_{s=0}^N \beta_s \frac{\Delta Y_{-s}}{K_{-1}} + \sum_{s=0}^N \delta_s \frac{CF_{-s}}{K_{-1}} + u \quad (2)$$

where I stands for firm investment in fixed assets over the period, K_{-1} is fixed assets in the beginning of the period, ΔY is changes of production relative to previous period and CF is real cash flow of the firm over the period that we use as a proxy for the volume of internal funds available for investment. Fixed assets at the beginning of the period under consideration are used as a proxy for the size of the firm to scale all variables in order to avoid heteroscedasticity problems.

At the next stage we are constructing a proxy for the information-related costs borne by the firms. We can do it, for example, by a priori grouping of the firms under consideration according to the relevant parameters following which we will test the hypothesis that the investment-cash-flow sensitivity is different for different groups of firms. If we want to emphasize the information imperfection aspect of firms' performance we can use the following characteristics of firms as a basis for grouping: the firm's age, size, its relationship with industrial groups or financial intermediaries and dividend policy.

As suggested by Hubbard [7] a more direct measure of information costs could be a relationship of the firms with financial intermediaries specializing in reducing information costs. Therefore, we can use the fact of participation of the firms in Financial - Industrial Groups as a proxy for the severity of the problem of information asymmetry faced by the firms. If controlling for investment opportunity we get the result that the firms participating in FIGs invest a lower fraction of each incremental dollar of internal funds relative to firms that do not participate in FIGs then we can conclude that the ties of firms with financial intermediaries decrease information costs.

It was this result that was supported by empirical evidence in the case of Japanese 'keiretsus' and Korean 'chaebols' [6, 10]. Could we expect that the same result would be obtained in the case of Russian Financial-Industrial Groups? First of all, it is worth stressing that one of the main assumptions that has led to the above conclusions is the availability of

external finance for firms' fixed investment. The expected difference in investment-cash flow sensitivities of different sets of firms is interpreted as a consequence of the different level of gaps between the cost of internal and external financing faced by these sets of firms. The case of the Russian economy of 1996-1997 was quite different in this sense. The presence of the high-yield GKO market, underdeveloped financial market and the banking system as well as insufficient focus on the problems of corporate governance led to a severe outflow of the sources of external finance from the real economy. Neither the stock market nor the banking system provided the firms with investment funds. Besides a very small volume of government credits intended mainly for a small number of large enterprises, the only source of funds available for fixed business investment was firms' retained earnings. According to aggregate data 1996-1997 on the sources of firms' finance of fixed business investment only 2.5% was due to bank loans, about 30% was from government and non-budget funds and more than 50% was contributed by internal firms funds. Therefore, we can not expect that negligible input of banks loans could lead to decline in investment-cash flow sensitivity for the subset of FIG's firms relative to the rest in economy. What pattern of investment-cash flow sensitivity should we expect in this case?

FIG's effect

Let us consider two economies, the first one with developed banking system that provides enterprises with credits for investment purposes, and the other where the only source of finance is the firms' internal funds. In both economies there are independent firms and firms participating in financial-industrial groups. We want to compare the difference in investment-cash flow sensitivities between two samples of firms in these economies.

Let us consider two firms with similar investment opportunities. We will assume that one of the firms participates in a Financial-Industrial Group, that is there is a bank that exercises a thorough control both over the firm's bank accounts and the managerial actions,

and the cost of this monitoring is equal to zero due to special relations among the group members. The second firm is independent one and we will assume that the contract between the owner of the firm and its manager is not complete, the owner of the firm cannot exercise costless control over the firm's bank accounts and the managerial actions, due to which the manager has discretion over the cash flow.

As long as we consider economy with external sources of finance, we will assume that the interest rate on banks' credits is an increasing function of the volume of credit due to the fact that a larger volume of credit implies a larger number of deals and payments, which provides an incentive for manager or owner to act against the interests of the creditor. Obviously, the slope of this function will be the larger, the larger is the bank's monitoring expenses. In this case the participation of the firm G in FIG will lead to the decline in bank's monitoring expenses and therefore, controlling the investment demand we will get the result that investment-cash flow sensitivity will be lower for the sample of firms participating in financial-industrial groups.

Now let us consider the second economy. As the only source of finance to cover investment expenses is internally generated funds, therefore as long as the cash flow will be lower than the investment demand, then the firm will invest the total amount of available internal funds and investments will decline proportionally to a decline in the cash flow. Since the manager of the independent firm has discretion over the cash flow and can misappropriate some share of it while the manager of group firm is subject to costless thorough control, then, given the same investment demand the group firm will invest the larger proportion of its cash flow compared to the independent firm. Thus, we can expect that comparing two sets of firms, participating and not participating in FIGs, and controlling for investment opportunities the investment-cash flow sensitivity will be larger for the set of FIGs' firms as long as the external financing of investment is unavailable to firms.

To sum up, we can see that the conclusions with respect to the comparison of investment-cash flow sensitivities of independent firms and firms participating in FIGs will essentially depend on the assumption concerning the availability of external finance.

The reason for the importance of such assumption is as following. Given the availability of external finance, better contract enforcement in firms participating in Groups relative to the independently operating firms increases investment volumes and does not increase the slope of investment-cash flow dependence, since it is a different effect that prevails here, namely a decline in the asymmetry of information between borrowers and lenders within Financial-Industrial Groups relative to the rest of the economy.

However, as long as the external financing is unavailable to firms' fixed investment, the effect of a decrease in informational asymmetry in Groups disappears and the main role is played by the effect of a better ability of the bank to monitor the managerial actions. Better contract enforcement in group firms results in an increase in volumes invested by their firms and an increase in investment-cash flow sensitivity within this set of firms relative to the rest of the economy.

Firm's size effect

A firm's size is another criteria for grouping. Why could the size matter? Calomiris and Hubbard [2] suggest that the heterogeneity could arise in the case of debt-financed investments due to a number of factors. First of all, small and medium-sized firms have less access to impersonal centralized debt markets and bank loans because these typical sources of finance require that firms have either certain minimum levels of working capital or certain financial operating ratios. Second, over the periods when the total amount of finance for credits in the economy is limited there would be small and medium-sized borrower firms that would be denied credits in favor of larger firms. Both of these factors are valid in the Russian case. According to experts' estimates the total amount of funds that could be attracted by all

Russian banks could not cover even half of investment demand in the economy. In this circumstances it seems reasonable to use the size of a firm as a criterion for information costs-related grouping.

Given this, we could expect that large Russian firms will be relatively less financially constrained than small and medium-sized ones. Therefore we can test the hypothesis that investment-cash flow sensitivity is lower in the set of large firms versus that of small and medium-sized firms.

Now we can integrate both cases discussed above and consider an economy where a small volume of external financing is available but the primary source of investment funds is firms' retained earnings. Controlling for the size effect, we will test the specification (2) of the model for sets of firms grouped according to the criterion of a firm's participation in Russian unregistered Financial-Industrial Groups.

Given the data for two consecutive years we will test the following regression equation

$$\frac{I}{K_{-1}} = \alpha + \sum_{j=0,-1} \left\{ \beta_j \frac{\Delta Y_j}{K_{-1}} + \delta_j \frac{CF_j}{K_{-1}} + \sum_{k \in \{medium, large\}} \gamma_{jk} * D_k * \frac{CF_j}{K_{-1}} + \sum_{i \in \{small, medium, large\}} \mu_{ji} * D_i * D_{unreg.gr.} * \frac{CF_j}{K_{-1}} \right\} + \varepsilon \quad (3)$$

where D_{small} , D_{medium} , D_{large} are dummies for the set of small, medium-sized and large firms respectively, $D_{unreg.gr.}$ stands for the dummy for unregistered group subset of firms.

We will test the hypothesis that the coefficients of the interaction terms of the dummy for the large firm subset with scaled cash flows, $\gamma_{j,large}$ ($j = 0, -1$), are negative. If we obtain empirical evidence in favor of this hypothesis then, given our assumptions, it will indicate that large firms actually have an access to external financing.

We are interested in the slope coefficients μ_{ji} , ($j = 0, -1; i \in \{small, medium, large\}$), which show the difference in the sensitivity of investment to internally generated funds

between the independent and FIG firms. Based on above assumptions, we expect that these coefficients will be significant and positive.

If we get empirical evidence in favor of our hypotheses we can suggest that the firms in the Russian economy in 1996-1997 had very little access to credits and any other forms of external finance, and that the participation of firms in bank-led groups did lead to an increase in investment caused by an effective decrease in the costs of agency problem due to the better monitoring ability of banks that head such groups.

Data description

We use individual firms' accounting data for 1996 and 1997 from the *GNOZIS* database which is compiled by the *ECAM* information and analysis center. The original balance sheets and financial statements of more than 25,000 Russian industrial enterprises compiled by *GOSKOMSTAT* are presented in this database. However, the original gross investment flows are available for a fraction of the firms. The volume of fixed business investment is measured as a volume of fixed assets installed by the firm over the year. The value of capital stock is measured as the stock of fixed assets at the beginning of the period, cash flow is measured as the revenues minus expenses minus change in inventories minus change in accounts receivable plus change in accounts payable over the period plus depreciation allowances. In order to get real changes in firms' performance, 5-digit industries' producer price indexes were used.

In order to test the hypothesis that the participation of a firm in Russian Financial-Industrial Groups reduces the costs of agency problem borne by a firm we compile two lists of Russian firms. The firms that were listed in the Industrial-Financial Groups Registry Book for 1997 were classified as the registered group firms. We used several criteria to identify the unregistered group firms. First, we relied on information about the firms' ownership structure that was available from Skate Kapital Press. The firms where the largest Russian banks

(*Menatep, Uneximbank, Inkombank* etc.), large oil companies (*Yukos, Sidanko*), large trade companies (*Roscontract*) or foreign investors were major shareholders were classified as the unregistered group firms. The review of the largest bank-led groups published in [11] was used for these purposes. Firms related to groups such as *Unified Energy Systems of Russia, Gazprom, Svyazinvest* and similar ones were also treated as the unregistered group firms. Several industry-led groups (*Energomashcorporaciya, Severstal'* etc.) were also included in the list of unregistered groups.

Based on these approach, we compiled a list of 650 enterprises participating in unregistered groups and a list of 590 firms participating in registered groups. We treat the firms that do not appear in these two lists as independent firms.

Due to the incompleteness of the database, the number of firms deemed to be unregistered groups' firms is 105 in the regressions, the number of firms regarded as registered groups' firms is 19 (this is why we exclude firms participated in registered FIGs from regressions), and the number of independent firms is 140. Thus, we should emphasize that we should not overestimate the results that we obtained in this research because the sample under investigation was incomplete.

Table 1. Summary statistics

Indicators, scaled by Capital Stock 1997		Total sample N _{obs} =258	Independent firms N _{obs} =135	Firms from registered FIGs, N _{obs} =19	Firms from unofficial FIGs, N _{obs} =104
Investment, 1997	mean	.12	.13	.07	.12
	(std.div.)	(.15)	(.18)	(.09)	(.11)
	median	.07	.06	.04	.08
Changes in sales, 1997- 1996	mean	-0.009	.02	-.05	-.04
	(std.div.)	(.36)	(.37)	(.23)	(.36)
	median	.003	.005	-.03	.003
Changes in sales, 1996- 1995	mean	-.04	-.001	-.11	-.08
	(std.div.)	(.47)	(.53)	(.55)	(.32)
	median	-.01	.002	-.06	-.02
Cash flow, 1997	mean	.18	.19	.30	.16
	(std.div.)	(.26)	(.30)	(.28)	(.19)
	median	.11	.11	.21	.10

Cash flow, 1996	mean (std.div.) median	.16 (.22) .11	.18 (.28) .12	.24 (.16) .23	.13 (.14) .10
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Empirical Results

Since we had firm level data for 1996 and 1997, we were able to estimate the accelerator type investment model for 1997 using two lags of sales changes. After each ordinary least square procedure we performed the Cook-Weisberg test for heteroscedasticity and if the null hypothesis of constant variance was rejected at the 5% level of significance we used the Huber/White/sandwich procedure of variance estimation.

The estimation of equation (3) gives the following result (column 1).

Table 2

	(1)	(2)
Variables scaled by K_{97}	Investment ₉₇	Investment ₉₇
Change in Y_{97}	-0.001 (0.026)	
Cash Flow ₉₇	-0.102 (0.088)	
Cash Flow ₉₇ * D_{small} * $D_{unreg\ fig}$	0.057 (0.099)	
Cash Flow ₉₇ * D_{medium}	0.214 (0.167)	
Cash Flow ₉₇ * D_{medium} * $D_{unreg\ fig}$	-0.378 (0.260)	
Cash Flow ₉₇ * D_{large}	0.152 (0.098)	
Cash Flow ₉₇ * D_{large} * $D_{unreg\ fig}$	-0.115 (0.102)	
Change in Y_{96}	0.095* (0.040)	0.087* (0.039)
Cash Flow ₉₆	0.184* (0.092)	0.103* (0.042)
Cash Flow ₉₆ * D_{small} * $D_{unreg\ fig}$	-0.044 (0.136)	-0.014 (0.073)
Cash Flow ₉₆ * D_{medium}	-0.169 (0.124)	-0.022 (0.064)
Cash Flow ₉₆ * D_{medium} * $D_{unreg\ fig}$	0.640* (0.262)	0.376* (0.189)
Cash Flow ₉₆ * D_{large}	-0.430** (0.141)	-0.279** (0.099)
Cash Flow ₉₆ * D_{large} * $D_{unreg\ fig}$	0.371** (0.140)	0.248** (0.093)
Constant	0.110** (0.015)	0.108** (0.014)
Observations	236	245
R-squared	0.15	0.17
Robust standard errors in parentheses		
* significant at 5% level		
** significant at 1% level		

We see that investment in fixed assets depends significantly on the lagged changes in sales and lagged cash flows and does not depend on current changes in sales and cash flows. This result could be easily explained by the timing of the investment process. If some time is needed to implement an investment decision then we could expect that there are previous year indicators of firm's performance that influence this year level of installed fixed assets. According to Wald test we can not reject the hypothesis of joint insignificance of current

variables at 95% level of confidence that allows us to estimate equation (3) using only lagged values of exogenous variables (column 2). Based on this result we can suggest that the positive relation between investments and past changes in sales implies the accelerator mechanism for investment demand in Russian firms. The positive and statistically significant coefficient of the lagged cash flows is consistent with our expectations that the investment of a Russian firm depends on its internal source of funds.

Wald test allows to reject the null hypothesis of joint insignificance of coefficients at lagged cash flows multiplied by size dummies and FIG's dummy at 99% level of confidence. The same result holds for the hypothesis of joint insignificance of coefficients at all interaction terms. Therefore, we interpret the results in the following way.

We see that, controlling for investment opportunities, a change in lagged internal funds leads to a similar change in investment of small and medium-sized firms. Within the group of small firms the affiliation of a firm with an unofficial FIG does not affect its investment-cash flow sensitivity. This means that the participation of small firms in FIGs does not affect the proportion of internal funds spent on investment. It also means that our assumption that banks reduce the costs associated with the agency problem is not valid for small firms participating in FIGs. However, we should bear in mind that the small firms fall into the set of unofficial group firms mainly due to their special position with respect to some larger firm from such groups. Mostly, they are either subsidiaries or firms playing a secondary role with respect to a larger enterprise from the subset. Therefore, we could expect that the banks heading the groups do not focus special attention on their management.

Overall, large firms are less liquidity constrained because the investment-cash-flow slope is significantly lower for this group of firms. This result supports the assumption that the small volume of external credits available to the real sector of the Russian economy in 1996-1997 was mainly accessible for large firms, i.e., small and medium-sized firms were denied

credits in favor of larger firms.

The remarkable result is that the large and medium-sized firms from unofficial groups show a significantly different relationship between the investments and cash flows than independent firms of the same size. The coefficients of the corresponding interaction terms have the expected positive signs, implying that for a certain level of investment opportunities and similar availability of external financing the large and medium-sized firms from unofficial groups invest in fixed assets a larger proportion of their internal funds than independent firms.

Conclusion

Based on the empirical results we can conclude that the accelerator-adjusted for cash-flow model of fixed business investment works well when is applied to the Russian firms' investment behavior in 1997-1996. This result along with the results obtained for Czech firms by Lizal And Svejnar [8] points out the workability of accelerator model framework while analyzing the firm-level investment behavior in transition economies where the inefficiency of stock markets does not allow to use their signals as parameters for investment decisions.

We can argue that the financial system that existed in 1996-1997 in Russia did not provide external finance to the majority of enterprises. Only the largest enterprises had access to credits the volume of which was pretty low.

We find that the large and medium-sized firms from unregistered Russian Financial—Industrial Groups with the same investment opportunities as the other firms of the same size invested a larger proportion of their retained earnings. We interpret this result as evidence in favor of the hypothesis that banks in such groups, being able to costlessly monitor the financial flows of firms in the groups, exercise systematic control over the managerial actions. This efficiently reduces the managerial discretion over the retained earnings, which results in the implementation of the larger number of investment projects compared to the independent firms of the same size and the same prospective.

Our results indicate the different role of banks in Russian FIGs relative to the banks in Japanese and Korean groups. Namely, banks in Russian groups do not relax information asymmetry problem for groups' firms. However, our results are sustainable with the hypothesis that banks in Russian FIGs could help to solve the problem of contract enforcement in firms participating in groups. In the economy with inefficient banking and financial systems it means the increase in the volumes of investments implemented by groups' firms relative to independent firms facing the same investment opportunities. These facts emphasize the importance of integrated structures in the economy where both insufficiency of investments and bad corporate governance are substantial impediments for structural and political reforms.

Bibliography

1. Anderson, R., Kegels, Ch. 1997: *Finance and Investment in Transition : Czech Enterprises, 1993-1994*. The paper is presented at the International Workshop in Transition Economics A CEPR/WDI Workshop Hosted by CERGE-EI, Prague, 9-12 July 1998
2. Calomiris, Ch., Hubbard, G. R. 1998: *Firm Heterogeneity, Internal Finance and Credit Rationing*, NBER Working Paper # 2497
3. Clark, P., 1979: Investment in 1970s: theory, performance, and prediction. *Brookings Papers on Economic Activity*, 1, 73-125.
4. Гуриев, С., Поспелов, И. 1998: *Модель виртуальной экономики России: транзакционные издержки, квазиденьги, бартер и взаимный кредит*. Работа представлена на конференции РЕЦЭП Экономическая и социальная реформа в России, 11-12 сентября, Москва.

5. Дементьев, В. 1998: *Интеграция предприятий и экономическое развитие*, Москва, ЦЕМИ, работа #WP/98/038.
6. Hoshi, T., Kashyap, A., Scharfstein, D., 1994: Corporate structure, liquidity, and investment: evidence from Japanese industrial groups. *Quarterly Journal of Economics*, 106, 33-60.
7. Hubbard, B. 1998: Capital market imperfections and investment. *Journal of Economic Literature*, 36, 193-225.
8. Lizal, L., Svejnar, J. 1997: *Enterprise Investment During the Transition: Evidence from Czech Panel Data*, WDI Working Paper # 60a
9. Перотти, Э., Гельфер, С. 1998: *Инвестиционное финансирование в российских финансово-промышленных группах*. Работа представлена на конференции РЕЦЭП Экономическая и социальная реформа в России, 11-12 сентября, Москва.
10. Shin, H.-H., Park, Y. S. 1999: Financing Constraints and Internal Capital Markets: Evidence from Korean 'chaebols', *Journal of Corporate Finance*, 5(1999) 169-191.
11. *Финансово-промышленные группы и конгломераты в экономике и политике современной России*, под ред. И.М.Бунина. Фонд "Центр Политических Технологий", Москва, 1998