ECONSTOR
Make Your Publications Visible.

A Service of

ZBW Leibniz-Informationszentrum Wirtschaft
Leibniz Information Centre for Economics

Juurikkala, Tuuli; Lazareva, Olga

Conference Paper

To Divest or not to Divest? Social Assets in Russian Firms

44th Congress of the European Regional Science Association: "Regions and Fiscal Federalism", 25th - 29th August 2004, Porto, Portugal

Provided in Cooperation with:
European Regional Science Association (ERSA)

Suggested Citation: Juurikkala, Tuuli; Lazareva, Olga (2004) : To Divest or not to Divest? Social Assets in Russian Firms, 44th Congress of the European Regional Science Association: "Regions and Fiscal Federalism", 25th - 29th August 2004, Porto, Portugal, European Regional Science Association (ERSA), Louvain-la-Neuve

This Version is available at:
https://hdl.handle.net/10419/117256

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

WWW.ECONSTOR.EU

Mitglied der Leibniz-Gemeinschaft

To Divest or not to Divest? Social Assets in Russian firms

Tuuli Juurikkala and Olga Lazareva[1]

This version: April 30, 2004

Abstract

In the planned economy firms were made responsible for providing their workers with social services, such as housing, day care and medical care. In the transforming Russia of the 1990s, social assets were to be transferred from industrial enterprises to the public sector. A law on divestment was put into force but it provided mostly general principles. Thus, for a period of several years, property rights over a major part of social assets, most notably housing, were not properly defined as the transfer decisions were largely left for the local level players to make. Strikingly, the time when assets were divested varied considerably across firms. In this paper we take a political economy approach and utilize recent survey data from 404 medium and large industrial enterprises in 40 Russian regions to study the effects different forms of bargaining between the firm and the municipality may have on the timing decisions. In particular, we apply survival data analysis to explore the determinants of the divestiture timing. Our results show that the firms which divested assets later receive more benefits from the local authorities, especially in places where there are more benefits to extract (i.e. the local budget is richer). Further, we find evidence that the firms which transferred assets later performed relatively worse in 2002 in terms of profitability, productivity and investments. Finally, the data shows that poorly defined property rights have an adverse effect on the incentives to invest in social assets, and hence on the quality of public service provision.

[1] Helsinki School of Economics (tuuli.juurikkala@hkkk.fi) and Centre for Economic and Financial Research, Moscow (olazareva@cefir.ru), respectively. A short version of the paper was presented at the V International Scientific Conference "*Competitiveness and Modernization of Economy*", State University- Higher School of Economics, Moscow, April 6-8, 2004. The work reported here is part of the project *"Infrastructure and Welfare Services in Russia: Enterprises as Beneficiaries and Service Providers"* financed by the Academy of Finland (project number 200936), the World Bank, and Yrjö Jahnsson Foundation. The project has also received support from the Bank of Finland Institute for Economies in Transition. We thank Pertti Haaparanta, Stas Koleinikov and Jukka Pirttilä as well as colleagues at CEFIR and SITE for substantial help and guidance. Special thanks to Alexei Makrushin for help with municipal data. All errors are our own.

1. Introduction

Of the reforms that Russia has undergone during transition period the municipalization of social assets has been perhaps undeservedly neglected in the past few years. By the end of the Soviet times some 40% of total housing stock existed within industrial enterprises. The situation was similar with day care, medical care, recreation facilities and other social assets.[2] Despite formally belonging to the state, these assets were in practice operated by firms and to this extent were in firms' ownership, *de facto* if not *de jure*.

From the beginning of the 1990's, the Russian Federation government is three-tiered with federal, regional and municipal layers. In principle, the social service provision is delegated to the local level. During the mass privatization of industrial enterprises (1991-1994) major part of social assets operated by enterprises should have been transferred to municipal ownership. The institution of municipal ownership itself was created at the same time. Federal legislation on the municipalization of social assets provided just general principles and a lot was left for the local authorities to decide. Thus, for a period of several years, property rights over major part of social assets, most notably housing, were not properly defined. Previous literature emphasizes the importance of property rights for economic development and growth (Libecap 1989, Murphy, Shleifer and Vishny 1993).

In this paper we use the data from a recent survey of 404 medium and large Russian industrial enterprises to study the transfer of property rights over social assets from firms to municipalities. The data shows that there is large variation between the firms in the timing of the transfer to municipality as it started already in 1991 and for some firms may still have continued in 2003 and beyond. According to the survey results, even within just one municipality, the time of divestment may vary considerably. We apply survival data analysis (see Lancaster 1990) to explore the factors affecting the timing of divestiture.

The focus of our analysis is on the political economy of reform, in particular, on the relations between the firms and municipalities. In the transition environment firms and local authorities are often involved in bilateral bargain over the distribution of benefits, such as budget subsidies and tax cuts. (Shleifer and Vishny 1994, Sonin 2003, Slinko, Yakovlev and Zhuravskaya 2003). We argue that the timing of the divestiture of social assets in part may depend on the ability of firms to use the assets as leverage in their bargaining with

[2] See Leksin and Shvetsov (1999)

municipalities. We focus on the firms' side of this interaction. Namely, we study the incentives the firm has for keeping social assets longer or divesting of them fast.

The counterpart of the firm in bargaining is thus municipality or, in practice, the local politicians and civil servants. The politicians have an interest in political support, which in turn can be boosted by high quality of social service provision. Social assets are, however, a financial burden to the municipality just as they are to the firm because this sector was and still is heavily subsidized[3]. Besides political support, the local authorities in general are interested in private benefits, such as tax revenues diversion and bribe extraction through excessive regulation.

The rents the firms and municipalities may bargain over consist of, for example, firm profits, firm survival, public sector budget flows, and political support. Rents can also be interpreted as minimizing costs, in this case the costs of running the social assets. Both parties, the firm and the municipality, use whatever weapons they have. Municipality uses both carrot and stick – benefits and harassment, the firm uses bribes, favors or threats – shedding of extra labor or even shutting down altogether, or abandoning of assets. Although there are examples of firms and municipalities achieving formal agreements over the use and joint financing of social assets, a significant share of these issues has been governed by informal relations.

Altogether, the bargaining process may be inefficient and divert resources from better uses. That is why we are interested in the effect the asset divestiture process has on firm performance and restructuring. There is a vast amount of empirical studies on the determinants of firm performance in transition economies (Brown and Earle 2000, Angelucci et al. 2002, Carlin et al. 2003 to name a few). We contribute to this literature by looking at the effect the social assets inherited from the Soviet period have on firm performance and restructuring. We also look at how competitive pressure from the product and labor markets alters the firms' incentives related to the timing of divestiture. In a broader sense, it is not only an issue of firm performance but also of the efficiency of public service provision. We argue that poorly defined property rights have an adverse effect on the incentives to invest in social assets.

Our results show that the firms which divested assets later receive more benefits from the local authorities, especially in places where there are more rents to extract (i.e. the local budget is richer). At the same time, we also find that the firms facing more competition in the

[3] E.g. for housing and communal services the federal standard for the percentage of costs covered by users was 90 percent in 2003, while actual average rate was around 60 percent with substantial variation across regions.

product markets divested later, which could indicate that social assets are used to lobby for protection by the authorities against competition. Further, we find evidence that the firms which transferred assets later performed relatively worse in 2002 in terms of profitability, productivity and investments. Finally, our data shows that poorly defined property rights have an adverse effect on the incentives to invest in social assets, and hence, on the quality of public service provision.

In the following, we first describe the social asset divestment process in Russia in general and touch briefly upon the current state of social service provision according to survey results. We then proceed to draw the hypotheses to be tested from previous literature. Finally, we present empirical analysis of the determinants of divestment timing and the effects it had on firm performance. Last section concludes.

2. Social asset divestment in the 1990s [4]

In the end of the Soviet period, a considerable amount of housing and other social assets were within industrial enterprises. After the efforts to transfer these assets from the firms to the public sector in the mid 1990s, this phenomenon has not received much attention. Our survey results, however, show that the large industrial firms still provide a wide array of social services or finance them despite having divested of them.[5] There are also substantial differences across the interviewed firms and different types of assets in how fast and to what extent divestiture has taken place. Furthermore, many of the firms have no intention of divesting all their assets; rather, they intend to invest in the package of fringe benefits they provide to their employees (and in many cases also to users outside the firm). In this section we review the divestiture process of social assets in Russia. We also describe briefly the current status of service provision by firms and the actual outcomes of the divestment process based on our survey results.

2.1 Divestment process in the literature

According to Leksin and Shvetsov (1998, 1999), in 1992, one third of the total housing stock in Russia was privately owned (mostly individual houses). The rest was

[4] Most of the material for this section is taken from Haaparanta et al. (2003).
[5] For a survey of other research on the firms' provision of public services see Haaparanta et al. (2003).

considered public housing and included municipal housing and departmental (*vedomstvennoe*) housing that existed within enterprises. A substantial part of the state-owned housing existed within the enterprises. In 1994, one third of the firms with fewer than 500 employees provided housing, the share increasing to 100% for enterprises with more than 10 000 employees. In the beginning of the 1990's, some 70% of large and medium-sized enterprises offered medical services while over 75% of large and 50% of medium-sized enterprises had day care. Though the privatization law allowed privatization of both municipal and departmental housing, according to some evidence firms were reluctant to let their workers privatize apartments in houses under their control. By the end of 1993, only 20% of these apartments were privatized as opposed to close to 40% in municipal housing (see Stryk and Kosareva, 1994).

Commander and Schankerman (1997) report that by 1994 firms had reduced their social assets but approximately a third of them still provided services at a level comparable to the pre-transition level. Interestingly, new firms also provided services. Privatized and state-owned companies were similar in terms of scope of provision. Larger firms were less likely to reduce the number of benefits.[6]

By 1998, practically in all Russian regions social infrastructure within the firms had already long ago become semi-municipal (Leksin and Shvetsov, 1998). Up to 50% of those who used these social services were not employees of that enterprise. Thus, firms financed municipal social infrastructure.

Basic legal documents requiring divestiture of housing and the main part of social assets within 6 months after the enterprise was privatized were adopted in 1992-1993. A gradualist approach was taken in the sense that instead of immediate privatization, the assets were to be divested to the local authorities, which were made responsible for the provision of the services.[7]

The transfer of social assets was supposed to be done by the end of 1997 and indeed the majority of assets were transferred. Roughly 80% of the housing stock, medical services, day care, sports facilities and children's summer camps, as well as 60 -70% of recreation facilities became municipal during 1993-1997. The variation between regions, and especially between municipalities, was, however, very large, as the share of municipalized assets might vary between 15% and 100%.

[6] See also Freinkman and Starodubrovskaya (1996) for an early account of social asset divestiture
[7] See Appendix 1 for the legal basis of the transfer of social assets from the firms to the municipalities

According to Starodubrovskaya (2002), more than 90% of enterprise housing and other social assets had been accepted to municipal ownership at the time of writing. The author accredits the success in asset transfer to a large extent to the 1.5% turnover tax introduced in 1995-1996 to finance housing and social facilities. As long as enterprises continued to hold the social assets on their balance, they could deduct their social expenditures from this tax. Before its abolishment in the 2000 tax reform, it created a mechanism allowing municipalities to receive additional funding after transfer with no mediation of the regional or federal governments, and was actually the "only serious local tax in the Russian tax system". After the tax reform, federal subsidies remained the only source of financial compensation for housing accepted in the ownership of municipalities. Municipalities could also make formal agreements with firms for joint financing of transferred assets.

Again, the pace of divestiture of housing in different locations varied considerably. Starodubrovskaya (2001, 2002) argues that this is a result of complex relationships and incentive structures between the main players- enterprise management, local and regional governments, sometimes trade unions, and different groups of population.

2.2 Survey results

In our survey data, over 90% of the firms had at least some kind of social assets in 1990, and over 90% still provided or supported at least one service in 2003, though the scale of the firms' participation in social service provision has diminished significantly during the last decade[8] (see Table 1). Both the speed and the scope of divestiture differ by the type of asset and by locality. While managers view the social service provision as non-essential and costly, many of the firms still provide these services, even to users other than their own workforce. In general, there has been a switch from keeping assets to other forms of support, such as direct subsidies to the employees. Larger firms, as measured by employment, are more likely to have social assets left and bear higher costs, relative to the wage bill. Also, general managers of the larger firms are less eager to divest of their current social assets than the managers of firms with fewer than 500 employees. Furthermore, the firms that in 2003 had housing built after 1990 were approximately twice as large as those that did not have new housing.

[8] Data description in Appendix 2

In 1990, almost 80% of the 404 surveyed firms provided *housing* to their employees. Of those that did, close to 60% have since then fully divested of it, and almost all have divested either fully or partially.[9] In most cases, divestment has occurred to the municipality, but in more than 20% of the firms that kept housing in 1990, apartments have been sold to other parties, at least partially. In the spring of 2003, over half of the surveyed social managers reported that their respective firms still owned housing or provided housing support in some other form, mostly through direct subsidies. It is also striking that in over a half of the firms that offer this benefit, users are not just employees and their families. Over 60% of the firms reported that the people living in the apartments cover some part of the costs. Surprisingly many firms, 15%, had assets that were built after 1990.

Similarly to housing close to 80% of firms provided *medical care* in 1990. However, only slightly more than 20% had divested of it fully, and over 90% continued providing support for medical services in some form in 2003. Two thirds of all surveyed companies still own these assets, mostly in the form of having a so-called *medpunkt* on site[10].

Approximately 90% of the firms report having divested of *day care*, fully or partially. The divestment occurred almost solely to the municipality. About 90% report full divestiture of day care, compared to 60% in the case of housing. Just a few have built any new facilities since 1990, and only one fourth provided support for day care in any form in 2003, the service thus losing relative importance in the social benefit package the firms offer their employees, in part because of demographic changes and a lower demand for the service.

Majority of day care facilities were divested in the middle of 1990s while housing divestment has continued quite actively to this date. Figure 1 shows the annual number of firms that carried out their last divestment of certain assets between 1990 and 2003.[11] Only a few firms have divested of medical facilities in general. The average firm in the sample had divested of 75% of its housing and 86% of its day care capacity by 2003.

When asked about the main reasons for the divestments that took place during the last three years, a clear majority of the general managers said that the assets were an excessive burden to the firm. Of the firms, which provided certain services in 2003, less than 5% of general managers per asset deemed them profitable. As Table 1 shows, the majority of those that had housing left wanted to divest of it, and approximately a half of those few that still

[9] Divested fully includes also firms that closed down operations, even if they did not actively divest of related assets, e.g. buildings

[10] A *Medpunkt* is an on-site medical service, many times simply a room in an administrative building. This partially explains the low figures on active divestment of medical assets.

[11] Faster divestment of housing relative to daycare can be also due to the fact that the share of expenses covered by user fees is typically higher in housing than in daycare.

provided day care wanted to divest of that asset as well. Only a handful had the opportunity to sell the assets profitably, whereas many – about one third for housing, medical care, and day care - had just been waiting for the time when the municipality would finally accept the assets. Many managers still think the relations to municipality would worsen should the firm sell the assets. More than one third of those who would like to divest their housing and day care faced legal or administrative barriers to selling them. Interestingly, the groups of firms that, on the one hand wanted to divest of their assets, and, on the other hand, faced legal or administrative barriers to selling them, did not completely overlap, meaning that a relatively large number of firms faced other barriers to divestment.

3. Hypotheses

We next formulate predictions about the determinants of social asset divestment timing and the effects the divestment has had on firm performance. We focus on the decision of the firm to divest or to keep social assets, property rights over which are not properly defined. Poorly defined property rights create possibilities for bargaining over benefits for both the firms and local authorities, which may result in suboptimal distribution of resources and may thus deter growth (see Murphy, Shleifer and Vishny 1993).

3.1 Special treatment of the firms by the public sector.

Why would a municipality want firms to provide social services, that is, to postpone divestment? Obviously, this is a way to shift costs of keeping services to the firms. Besides, it is an instrument to divert tax revenues from upper-level budgets when fiscal incentives of municipalities are weak (incentives of local authorities are modeled elsewhere, see Zhuravskaya 2000, Haaparanta and Juurikkala 2004, Sonin 2003; see also Shleifer and Treisman 2000).

Of course, keeping social assets comes with a cost for the firms. This leads us to our first testable hypothesis: The higher the social costs, the more the firm would like to get rid of the social assets.

Why would the firms then agree to keep social assets? One reason is that the firms can extract rents from the municipality in exchange for providing the services. Rents may come in a form of tax reductions, tax arrears, budget subsidies, better access to supplies, selling

products at non-market prices and other preferential treatments. We thus hypothesize that the firms that keep social assets longer receive more budget assistance and have in general closer ties to the public sector than those that have divested of them already.

Furthermore, the richer and/or more independent financially the municipality, the more resources there is to divide. In the Russian system of fiscal federalism the revenues in municipal budgets consist of own tax and non-tax revenues, pre-defined share of tax revenues that are split between the three levels of government, and various kinds of transfers from the upper level budgets. Although having higher own incomes does not necessarily mean that the municipality is richer as fiscal incentives are generally weak (Zhuravskaya 2000), municipalities with higher own budget income share should have more discretion over their spending. Also Sonin (2003) argues that in the regions with a high share of productive enterprises, that is, a wide own tax base, governor of the region can protect enterprises from paying federal taxes in return for bribes or other concessions from the firms. Same logic can be applied to the local level. Our expectation would thus be that in municipalities with higher share of own budget revenues, firms keep social assets longer. Or, more generally, in the municipalities where there are more rents to extract, the firms bargain for keeping the assets longer.

Apart from "bribing" the firm with subsidies and tax cuts, local authorities can also harass the firm through various regulatory agencies to make it keep assets. In other words, the authorities can apply a kind of a carrot and stick policy. Consequently, we test whether the firms that divest later have to spend more time dealing with the public sector.

Finally, the interaction of the firm with the municipality over social assets depends largely on the bargaining power of the firm, which is manifested in its ability to capture the state, i.e. influence the public decision-making. The bargaining power of the firm can be used in two opposite ways – to push for faster transfer of assets or to extract rents in return for keeping assets longer. We test also the effect of other possible sources of bargaining power such as a dominant position in the local labor market or being a major tax payer in the community on divestment timing.

3.2 Labor and product market pressure

Another reason for a firm to keep assets is the benefits it can have through providing some of the employees' compensation in the form of social services. This may help to reduce the wage bill, attach workers (see Guriev and Friebel 2002) and/or attract new workers in a

tight labor market. The size of this benefit for a firm will depend on the quality of assets it has, for instance whether they are old or new, costs of running the assets, share of outside users of assets and the availability of social services outside the firm, in the locality. We test whether concentration in the local labor market postpones divestment.

As the main object of our analysis is the firm and its incentives, we also want to investigate how product market competition enters into this picture. Do competitive forces make firms to get rid of assets faster? One would think that under high competitive pressure firms would try to cut their non-productive costs by divesting of assets faster. On the other hand, if the potential for rent extraction is high then firms facing tough competition would try to cushion themselves from competition by keeping assets and extracting budget assistance in return.

3.3 Performance effects

Finally, we study how the heritage of Soviet times in a form of social assets affected firm performance and restructuring during the transition period. On the one hand, firms that had more assets and divested later were bearing more costs. On the other hand, firms keeping assets longer could have extracted more benefits from public sector and could have saved more on labor costs. Thus, the effect of old social assets divestiture on performance is ambiguous.

Another important indicator of firm restructuring is labor shedding. It is known that during transition the industrial employment has fallen much less than industrial output and many firms have been hoarding unproductive labor. Even in 2003 more than 40% of the firms in our sample admit that they would like to cut their employment.

It is not only the problem of firm performance that should be addressed in relation to social service provision by the firms, but it is also a question of efficient public service provision that is at stake. Incentives for efficient service provision are weakened by the fact that as a firm does not own the assets it inherited, it will have to give up the assets but it is not clearly determined when and how this should happen. The situation is similar to the tragedy of commons: poorly defined property rights over an asset should result in its over-exploitation and under-investment (Libecap 1989).

We next turn to the survey evidence on divestment timing and subsequent firm performance.

4. Evidence on divestment timing and performance effects

4.1 Data and methodology

In this section we analyze the determinants of social asset divestment timing and the effect it has had on firm performance through survey data from 404 middle and large industrial enterprises, measured by employment, in 40 regions of Russia in 2003. In addition we utilize Goskomstat enterprise registry data as well as selected information on the municipalities the firms are located in.[12] Most of the analysis both on factors of divestment and on performance effects is on housing as it is by far the largest and most important social asset, which firms were obliged to transfer.

In the first part of the following empirical analysis of the determinants of housing transfer timing, we take a survival data approach (see Lancaster, 1990). Survival analysis is used for analyzing the time until some event occurs. It models the risk of change of the state the object is currently in. The reason OLS is mostly not applicable in this kind of analysis is that it assumes normal distribution of residuals, which is in many cases unreasonable with respect to time. We want to answer the question how quickly the enterprises will transfer their housing to the municipality, or more precisely, what is the probability that this happens in the next interval in time, in our case a year, given that the firm has kept the housing (i.e. remained in its original state) thus far.

Parametric models of survival analysis use different assumptions of the residual distribution. In contrast, semiparametric models do not make any assumptions of distribution of event time, though they still parameterize the effect of regressors. Thus, these models are more suitable for changing circumstances such as the economic and regulatory environment during transition.

We utilize the Cox proportional hazards model, which is a semi parametric estimator. In our case, we thus do not make any parametric assumptions as to how exactly the pressure to transfer the assets was changing over time. This method also accounts for the censoring problem, i.e. the fact that some firms still had housing left in 2003 and we do not know when the change is going to happen.

In the core of survival analysis is the hazard function, which measures the risk of (or the contemporaneous probability of) change of the state the object is currently in:

[12] For data description see Appendix 2, for variable definitions Appendix 3

$$h(t) = \frac{f(t)}{1 - F(t)}$$

The resulting coefficients are thus hazard ratios (exponentiated coefficients from the model), which measure the risk of divestment. E.g. hazard ratio of 1.2 indicates that a one-unit change of the variable increases the risk of divestment by 20%, that is, leads to faster divestment.

In the second part of our analysis we test with OLS and Probit the effects the amount of assets and divestment timing have had on the firms' performance, measured by profitability, labor productivity and investment.

4.2 Determinants of divestment of social assets

As the property rights over social assets were poorly defined in the first place, we would expect both the municipality and the firm to minimize their costs from the social assets within the loose framework set in the law on divestment. We find that the higher the size of housing per employee in 1990, the faster the firm divested of it (see Table 2) [13]. The amount of housing a firm had also represents its threat point whereby in the worst case the firm could simply abandon its assets, as anecdotal evidence indeed suggests was possible. For the firm then to keep the assets voluntarily there should be special incentives or pressure from the public sector or other sources. In support of the first of these hypotheses, we find that the firms which transferred housing to the municipality late or still continue to keep it, also receive more budget assistance, such as subsidized credits, tax benefits and direct subsidies, and have higher share of sales to state. The firms with a higher share of municipal ownership also divested later while the total share of state ownership as well as insider ownership do not have an effect on housing divestiture (see Table 2, columns 1-3). On the pressure side, local authorities can also harass the firm through various regulatory agencies to make it keep assets. We find that the firms that divested later or did not divest yet also spend more time with regulatory agencies (Table 2, column 4).

The extent of lobbying and bargaining by the firms depends also on the amount of resources available, in particular, the share of own tax and non-tax revenues the municipality

[13] In all regressions in Table 2 we include industry dummies. Our results show that the firms in energy sector and metallurgy divested faster (as they operate at the national or international level and do not need to bargain with municipalities).

can collect. We assume here that the municipalities with a higher own income share have more discretion over their spending, and thus can provide more preferential treatments. Indeed, we find that in the municipalities with a higher share of own budget revenues the firms kept housing for a longer time (Table 2, column 5)[14]. The same effect is found for day care.

Quite naturally, the bargaining power of the firm affects the bargaining outcome. We asked the firms directly whether they can influence the laws and regulations adopted at the local, regional or national level[15]. We argue that in the municipalities where there are more rents to extract, measured by the share of own revenues in the total budget incomes, the firms would bargain for keeping the assets longer. Indeed, the data shows that the ability of the firm to influence municipal or regional authorities is not significant per se, but in those municipalities where the share of own budget revenues is high this ability results in later divestment (Table 2, column 6 and Table 3).

An alternative measure of a firm's bargaining power is its relative importance for the municipality. We measure this by the tax share of the firm in the total municipal budget incomes. When including this variable into regression analysis, the share of own municipal budget incomes becomes insignificant while the share of taxes of a particular firm in the municipal budget is highly negatively significant , i.e. it causes faster divestment. Thus, being a major tax payer in a locality has a countervailing effect to the share of own budget incomes in the municipality. A possible interpretation is that when one firm provides a large part of the tax revenues in the municipal budget, there are fewer resources to be transferred to this firm from other taxpayers. In other words, it is more difficult for the local authorities to favor a major tax payer at the expense of the other firms. It is also difficult to provide high tax reductions to a major taxpayer as the municipality will be left with much lesser incomes.

Based on these results we can distinguish between three groups of firms in terms of the share of their taxes in total municipal budget incomes, the share of own revenues in the municipal budget, and the size of the locality[16]. A firm of the first type would be located in large municipality with a high own budget income share with the share of this firm in the local industry and local budget being small. These are likely to be firms in big industrial cities. For them the time of housing divestment is the longest. A firm of the second type

[14] Whenever municipal level data is used, Moscw and St.Petersburg are excluded. There are no municipal data for them and they are in general very special cases.
[15] Interestingly, these are not only huge firms. Though average size of firms in this group is larger there are number of firms from 100 to 500 employees that are able to capture the state.
[16] The three groups of firms were determined using cluster analysis, the details of which are beyond the scope of this paper.

would be located in somewhat smaller municipality with medium own budget income but it would have a larger share in the local industrial employment and budget. These would be smaller regional centers. Such firms are less able to get preferential treatments and the time of divestment for them is shorter. Firms of the third type are located in small municipalities with low own budget incomes and play an important role in the locality. The so-called monotowns – towns dominated by one large industrial firm – are likely to fall into this group. For them it is easier to pressure the municipality to accept social assets but harder to get benefits as the budget is poor. Hence their divestiture is the fastest.

Consequently, while in 1990 the firms in larger municipalities, measured by population size, were less likely to have housing (bigger cities had a higher share of municipal housing), by 2003 this relationship reversed: firms in larger municipalities were more likely to have housing.

Labor and product market forces may also influence the outcome of bargaining between the firm and the municipality. Our data shows that in regions with more active housing market measured by the growth of housing per capita from 1990 to 2001 and size of housing per capita in 2001, firms divested housing earlier. To support our view that firms do get benefits from providing social assets to employees, as mentioned in the previous section, there is evidence that in the early 1990s firms were opposing privatization of apartments in "their" houses. However, we do not find that the concentration in the local labor market per se or the tightness of the labor market, measured by estimated time needed to find new employees, would have an effect on the timing of divestiture (Table 2, column 10)[17]. The share of the firm's employment in the municipal industrial employment has a significant negative effect on the timing of divestiture but this variable is highly correlated with the tax share of the firm. The share of the firm's employment in the working-age population of municipality is again insignificant.

Do competitive forces in the product market make firms to get rid of assets faster? Rather counterintuitively, we find that the firms which operated in less competitive markets (measured by Herfindahl-Hirschman index in 1990) actually divested housing faster (Table 2, column 9)[18]. This seemingly surprising result may have the following explanation: if the potential for rent extraction is high then firms facing tough competition would try to cushion

[17] Nevertheless, concentration has a strong positive effect on the probability of having or supporting housing in 2003; also, firms that face more concentrated labor markets are less willing to get rid of housing now. See a companion paper by Haaparanta and Juurikkala (2004)

[18] As a robustness check we use another measure of industry level concentration – the share of the two largest firms in the industry. This measure has the same effect as HHI.

themselves from competition by keeping assets and extracting budget assistance in return. Indeed, we find that in municipalities with a low own budget income share, industry concentration is not significant while in municipalities with high own income share, the effect of concentration is to reduce the time of divestiture considerably (Table 3). Also in support of this hypothesis we find significant interactions between some measures of competition and state capture (ability to influence laws and regulations): among the firms that have an ability to capture the authorities, the firms in more competitive markets will keep assets longer.

4.3 Social assets and firm performance

Finally, we analyze the restructuring and performance effects of divestment timing. Here as well as in previous analysis we look mostly at housing as it is the single most important part of the firms' social assets.

To capture the effect of both the size of housing the firm had in the beginning of the 1990s and the timing of divestiture, we take the number of square meters of housing the firm had in 1990 per employee[19] and weight it by the time when it divested all or most of its housing. Thus, we assume that providing housing extensively in the beginning and divesting of it fast has the same effect as having less housing initially but keeping it longer – in the first case firm bears high costs for a short period of time, in the second case – smaller costs but for a longer period.[20]

The measures of firm performance available to us are profitability, labor productivity and investments. Figures for sales, profits and employment are mostly taken from the registry of Russian industrial enterprises (Goskomstat data), while data on investments come from our survey. Profitability and labor productivity are measured both in absolute values and relative to 5-digit industry medians; labor productivity is always in logs. As the results in Table 4 show, by almost any measure of firm performance, weighted housing has significant negative effect on performance. Firms that had more housing per employee in 1990 and/or divested of it later performed worse in terms of their profitability and labor productivity, relative to other firms in the sample and to the industry median. Firms over-burdened with housing for a longer time were also less likely to make investments in the last three years, especially to invest into the expansion of existing production or production of new products. Thus, high

[19] We use the employment figure for 1998 as figures for earlier years have much fewer observations; number of employees in 1990 and 1998 are correlated at 92 percent in our sample.
[20] In the analysis of this section, we include also those firms which did not have housing in 1990

burden of housing and its late divestment hinder the current performance of a firm and its ability to invest. We can say that the firms, which were involved in some private dealings with the municipality over social assets, delayed restructuring as they could survive with inefficient production due to support from the municipality and thus performed worse[21].

Regarding potential labor shedding, if we look at the change in the firms' employment in the year following housing divestment, the firms that divested reduced their employment more than the firms that had housing and did not divest in the same year, though the difference is not statistically significant. Also, the percentage change in employment from 1990 to 2001 is positively correlated with the time of transfer of housing – the later the firm divested of housing the more it increased (the less it decreased) its number of employees. Finally, the firms that divested of housing before 1995 on average reduced number of employees from 1995 to 2001 (mean reduction 7.6%, median 5.6%) while the firms that divested of housing after 2000 or still keep it on average increased number of employees during the same period (mean increase 3.2%, median 4.7%). As these results show, the firms that already divested of their housing were more willing to cut employment.

Poorly defined property rights over an asset should result in its over-exploitation and under-investment. Indeed, there is anecdotal evidence that some firms ran housing for several years without investing in it and then transferred it to the municipality in very poor condition. In our data we also find evidence of this kind of distorted incentives. Among firms that divested most of their housing, many still have some housing left and they apparently consider these leftovers as their property[22]. Among the firms that divested most of their housing before 2000 and still have something left, 63% made investments in housing in the last three years. Of all the firms that divested housing after 2000 or did not divest at all, only 34% made investments in housing in the last three years. In terms of size of investment per square meter of housing, the firms that divested most of their housing before 2000 (2001, 2002) also invested more than the firms that divested on or after this date (the difference is statistically significant). Finally, the firms that divested of part or all of their housing build new housing much more: 45% of firms that divested of old housing at some point built or bought new housing after 1990 compared to only 22% of firms that did not divest their old housing to the date.

[21] Of course, there is an issue of causality here. It may well be that worse performing (=less efficient) firms were reluctant to divest assets in order to be able to bargain for budget subsidies or other preferential treatments.
[22] To support this view, among the firms in which managers answer that they don't want to get rid of their housing, there is a higher percentage of those who already transferred some of their housing to the municipality.

5. Conclusions

Industrial restructuring in Russia is definitely a complex issue. In this paper we do not limit our analysis to restructuring but take a political economy approach to the divestment process of enterprise social assets to municipalities in the last decade or so. We argue that under poorly defined property rights, bargaining between the firms and the local authorities over costs and benefits from service provision drives the divestment process.

The rents the firms and the municipalities may bargain over mainly consist of firm profits and public sector budget flows, but also firm survival and political support. Bargaining is aggravated by the fact that social assets present a financial burden both to the firms and municipalities due to the social service sector being heavily subsidized. The firm and the municipality employ various bargaining instruments: municipality uses both carrot and stick – preferential treatments and harassment, the firm uses bribes, favors or threats, such as shedding of extra labor or even shutting down altogether, or abandoning of assets. Although there are examples of firms and municipalities achieving formal agreements over the use and joint financing of social assets, a significant share of these issues has been governed by informal relations.

We utilize a recent survey of 404 firms in 40 regions to study the determinants of the divestment timing decision and the effects it has had on firm performance. Our results show that the firms which divested assets later receive more benefits from the local authorities, especially in places where there are more rents to extract (i.e. the local budget is richer). At the same time, firms that play an important role in the locality in terms of tax payments and employment divest of assets faster as they are in a better position to push municipality to accept assets, but are at the same time able to squeeze less benefits from the municipal budget at the expense of other firms.

We also find that the firms facing more competition in the product markets divested later, which could indicate that social assets are used to lobby for protection by the authorities against competition. Further, we find evidence that the firms which transferred assets later performed relatively worse in 2002 in terms of profitability, productivity and investments. Finally, our data shows that poorly defined property rights have an adverse effect on the incentives to invest in social assets, and hence, on the quality of public service provision.

Given the essence of both a competitive private sector and the quality of public services for sustainable development and growth, our findings point out that attention should be given to institutional aspects when designing economic reforms.

References

Angelucci M., A. Bevan, S. Estrin, J. Fennema, B. Kutznetsov, G. Mangiarotti and M. Schaffer (2002): The Determinants of Privatized Enterprise Performance in Russia. CEPR Discussion Paper No 3193.

Brown , J. D. and J. S. Earle (2000): Competition and Firm Performance: Lessons from Russia. SITE working paper No 154.

Carlin W., S. Fries, M. Schaffer and P. Seabright (2003): Competition, Restructuring and Firm Performance: Evidence of an Inverted-U Relationship from a Cross-country Survey of Firms on Transition Economies.

Commander S. and M. Schankerman (1997): Enterprise restructuring and social benefits, EBRD Working Paper No. 22.

Freinkman, L. M. and I. Starodubrovskaya (1996): Restructuring of enterprise social assets in Russia: Trends, problems, possible solutions. *Communist Economies and Economic Transformation*, Vol. 8, pp.437-469.

Friebel, G. and S. Guriev (2002): Should I Stay or Can I Go?- Attaching Workers Through In-Kind Payments. CEFIR Working Paper. A revised version of CEPR DP 2368 (2000).

Haaparanta, P., T. Juurikkala, O. Lazareva, J. Pirttilä, L. Solanko and E. Zhuravskaya (2003): Firms and public service provision in Russia. BOFIT Discussion Paper No 16/2003.

Haaparanta P. and T. Juurikkala (2004): Property rights and local service delivery in Russia. Paper presented at the BOFIT-CEFIR Workshop on Transition Economics, Helsinki, April 2004.

Lancaster, T. (1990): *Econometric Analysis of Transition Data*. Cambridge University Press, Cambridge.

Leksin, V. and A. Shvetsov (1998): ‘ “Nezametnaya reforma”: peredacha sotsial’nyh ob’jectov predpriyatiy v munitsipal’nuyu sobstvennost’ (transfer of social assets of enterprises into municipal ownership), *Russian Economic Journal*, Issue 1, 2 .

Leksin, V. and A. Shvetsov (1999): *New Problems of Russian Cities*, Moscow.

Libecap, G. (1989): *Contracting for Property Rights*. Cambrigde University Press, New York.

Murphy K., A. Shleifer and R. Vishny (1993): Why Is Rent-Seeking so Costly to Growth? *American Economic Review Papers and Proceedings*, May.

Shleifer, A. and D. Treisman (2000) Without a Map: Political Tactics and Economic Reform in Russia. MIT Press, Cambridge, MA and London, England.

Shleifer A. and R. Vishny (1994): Politicians and firms. *Quarterly Journal of Economics*, 995-1025.

Slinko, I., E. Yakovlev, and E. Zhuravskaya (2003): Institutional Subversion: Evidence from Russian Regions. CEFIR Working Paper.

Sonin, K. (2003): Provincial Protectionism. William Davidson Working Paper No. 557, April, University of Michigan Business School.

Starodubrovskaya, I. (2001) Housing and Utility Services, in Granville, B. and P. Oppenheimer (Eds.) *Russia's Post-Communist Economy*, Oxford University Press.

Starodubrovskaya, I. (2002): Trends in divestiture: Issues, Instruments and Outlook for Russia. Presentation at IFC Workshop on Local Management of Mineral Wealth, June 10 – 11, 2002.

Stryk R. and N. Kosareva (1994): *Reform of Housing Sector in Russia in 1991-1994.* Urban Economics Institute, Moscow

Zhuravskaya, E. (2000): Incentives to provide local public goods: Fiscal federalism, Russian style, *Journal of Public Economics*, vol. 76, No. 3, pp. 337-368.

Figures and Tables

Figure 1 How many firms reported their last divestment in a certain year

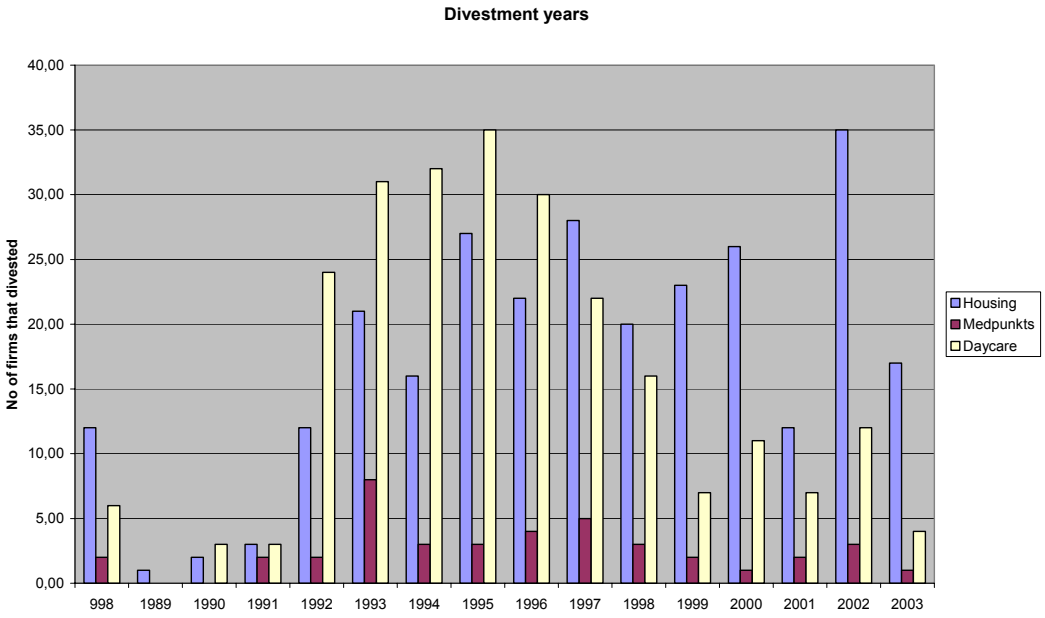

Table 1 Social asset provision: information from firm survey

How many firms, % of total 404 firms surveyed…	Housing	Medical care	Daycare	Recreation
Had in 1990	78.5	76.7	69.8	38.2
Have in 2003	39.5	78.5	11.9	25.9
Spent money on municipal assets in 2002	11.6	15.4	16.6	5.7
Of those who have:				
Deem it profitable	1.9	1.3	2.1	4.8
Want to get rid of (sell or transfer)	70.7	12.4	46.8	29.4
Of those who want to get rid of:				
Local authorities would agree to accept	42.7	35.9	63.6	40.0
Have legal or admin. barriers to selling	38.9	35.9	31.8	23.3

Table 2. Cox proportional hazard model for the factors determining housing divestment timing

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Log_emp1998	0.880	0.916	0.924	0.932	0.929	0.937	0.947		0.924	0.961
	(0.082)	(0.084)	(0.085)	(0.074)	(0.070)	(0.072)	(0.082)		(0.071)	(0.073)
Hous1990_per_employee	1.020***	1.019***	1.020***	1.023***	1.019***	1.019***	1.019	1.020***	1.023**	1.023***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.014)	(0.007)	(0.010)	(0.007)
budget_assist	0.779*	0.798	0.780*	0.823						
	(0.114)	(0.117)	(0.114)	(0.115)						
state_sales2000	0.565**	0.596*	0.575**	0.541***						
	(0.146)	(0.158)	(0.143)	(0.129)						
Munic_ownership	0.146*									
	(0.162)									
state_ownership		0.740								
		(0.236)								
inside_ownership			1.328							
			(0.274)							
Regulation_burden				0.986***						
				(0.005)						
Own_budget_income_share1999					0.311**	0.291**	0.346			
					(0.179)	(0.172)	(0.235)			
State_capture						0.862				
						(0.115)				
Tax_share							2.769***			
							(0.826)			
Empl_share1998								1.805*		
								(0.595)		
HHI1990									3.201***	
									(1.399)	
HHI_labor_market1992										1.043
										(0.548)
Observations	208	210	209	236	231	224	181	208	236	240

Robust standard errors in parentheses; industry dummies included; hazard ratios instead of coefficients reported
* significant at 10%; ** significant at 5%; *** significant at 1%

Formatted: English (U.S.)

Table 3. The effects of high own budget income

	Low own budget income share*	High own budget income share
State_capture	0.961	0.569**
	(0.145)	(0.150)
Observations	167	78
HHI90	1.948	8.285***
	(1.011)	(5.054)
Observations	162	74

Coefficients from Cox regression (as in Table 2) for subsamples, controlling for size, industry and housing per employee, robust standard errors in parentheses

*Less than 40 percent which is 75th percentile of own budget income share distribution

Table 4 The effect of housing transfer time on firm performance, OLS and Probit

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Profit/sales 2002[1]	Profit/sales 2001 relative to industry	Profit/sales 2001 relative to industry	Log labor productivity 2001	Log labor prod. 2001 relative to industry	Log labor prod. 2001 relative to industry	Investments in last three years[2]	New investments in last three years[2]
log_emp1998	-0.550	-1.568	-0.639		-0.012	-0.069	0.036	0.045
	(0.784)	(1.011)	(0.790)		(0.062)	(0.054)	(0.029)	(0.039)
Industry dummies	+	+	-	+	+	-	+	+
Hous1990_per_emploee_weighted	-0.294	-0.522***	-0.490***	-0.038***	-0.027**	-0.029**	-0.016***	-0.023***
	(0.249)	(0.158)	(0.138)	(0.015)	(0.013)	(0.013)	(0.005)	(0.009)
log_capital_emp2001				0.299***				
				(0.053)				
Constant	15.205***	21.118***	9.080*	4.178***	0.653	0.928**		
	(5.546)	(7.108)	(5.334)	(0.283)	(0.449)	(0.368)		
Observations	282	315	315	324	317	317	329	325
R-squared	0.04	0.08	0.02	0.36	0.12	0.04	0.05	0.05

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Notes:
[1] Data from the survey, rest of regressions – data from Goskomstat registry; in profitability variables in (1)-(3) outliers are removed (one percentile at both tails of distribution)
[2] Probit regressions, marginal effects instead of coefficients reported

Appendix 1. Legal Basis for the Transfer of Social Assets to Municipalities [23]

In spite of the obvious importance of large scale transfer of social assets kept by enterprises under ownership of municipalities, there was never a federal law regulating this process. Instead, the reform was regulated by series of legal acts, enactments, decrees etc at all levels of government. Many important acts were introduced with delays, sometimes only several years after the start of actual process of transfer, when the most acute problems had surfaced.

The formation of municipal ownership over social and infrastructure assets started before mass privatization in 1991-1992. *Enactment by Higher Council of Russian Federation № 3020-1 on December 27, 1991* established the division of state ownership into federal ownership, ownership of subjects of federation and municipal ownership. This act defined the categories of assets which should be transferred into municipal ownership irrespective of who owned them or had them on their balance previously. They were:

- housing and other buildings
- enterprises servicing housing and other social assets
- infrastructure objects, city transport etc

Another *Enactment by President № 114-RP on March 18, 1992* established the procedures for the transfer of social and infrastructure assets, according to which municipal level property committee compiled the list of objects to be included into municipal ownership and higher level government confirmed the list.

As for the social assets held by enterprises, enterprises never owned them during soviet time as all assets were state owned, but they kept assets on their balance sheet. With the start of mass privatization of the enterprises these assets should have been either privatized or transferred to municipality. *Presidential Decree № 8 on January 10, 1993* defined the list of objects which could be included into the list of privatized assets of the firm with the requirement of keeping their profile. These included social and cultural objects (health, education, culture and sports facilities), consumer services (laundry, hairdressers etc.). At the same time Decree defined list of assets that could not be privatized by firms:

- Buildings occupied by trading, catering, consumer services establishments, organizations of social security for children, elderly and disabled
- Daycare and summer children's' facilities
- Regional transport and electricity infrastructure
- Medical facilities servicing population of the city/region
- Housing and related service facilities

All these assets were defined to be under federal state ownership and should have been transferred to municipal ownership. Further, several legal acts of State Property Committee were issued to clarify the procedures for transferring the assets listed above from firms to municipalities (again, municipalities were responsible for compiling the list of objects to be transferred to municipal ownership). The Decree and further acts also provided for a possibility for agreements between municipality and a firm about joint usage and financing of transferred assets. There were also other provisions for the ways to finance transferred objects. *The State Privatization Program* introduced at the end of 1993 did not add anything new to previous legal acts except that it set the time limit: municipality was

[23] Based on Leksin and Shvetsov (1999)

obliged to accept non-privatized social assets during six months after the acceptance of firm's privatization plan. The adoption of privatization plan of a firm then in practice initiated the process of transfer of these assets to municipal ownership. Further problems and questions arising during the process of municipalization of social assets were solved through multiple minor acts issued by different government bodies at all levels of government and in some cases through courts.

Appendix 2. Data Description[24]

The results are based on a survey of 404 middle-sized and large manufacturing firms from 40 Russian regions in April-June 2003. In the survey we examined the extent of social service and infrastructure provision by the firms and the firms' assessment of the quality of public infrastructure and the regulatory environment. Background information of ownership, investment, performance, competition, and financing decisions of the firms was also gathered.

The source of information for the population of firms is the enterprise registry maintained by Goskomstat (State Committee of the Russian Federation on Statistics). In the construction of our sample we concentrated on the industrial sector, and within it manufacturing firms for which energy production is not a regular line of business. We set a minimum size limit of 400 employees, as pilot interview rounds indicated that smaller firms are unlikely to provide infrastructure or social services. Constructed in such a way, our sample frame contained 3523 firms. Our sampling technique includes a combination of clustering by region and systematic sampling by size. In the firms in our final sample, the general manager and the managers responsible for social and infrastructure affairs were interviewed face-to-face. Accounting information was left for self-fulfilling by the chief accountant.

In our sample, compared to the population of Russian firms, the majority of industries are adequately represented in terms of the share of the firms, as are the federal districts. The fact that we surveyed medium and large enterprises explains the bias towards metallurgical firms regarding the distribution of industrial employment. The size distribution of our final sample is close to the population with the median establishment having 784 and average over 1600 employees.

Only 5 % of the firms in the sample are relatively new, as they were created during the 1990s. The majority of the firms in the sample are open joint stock companies, which is not surprising as most of the formerly state-owned firms were turned into open joint stock companies during the mass privatization of the early 1990s and some 80 % of the sampled firms were privatized during 1991-1994. Lastly, similar to many previous surveys, the sample contains some degree of selection bias towards the better-performing firms.

In addition to the survey data, we use Goskomstat enterprise registry data on sales, profits, employment and capital to construct measures of industry-level concentration, labor market concentration, and firm performance measures. We also use data on municipal budgets, and some municipal- and regional-level indicators.

[24] For details see Haaparanta et al (2003)

Appendix 3 Description of Variables

Variable name	Description
log_emp1998	Logarithm of the number of employees in 1998
Hous1990_per_employee	Tens of square meters of housing the firm had in 1990 per employee
budget_assist	Dummy equal to 1 if firm received any budget assistance (such as subsidies and tax reductions) in the last three years
state_sales2000	Share of sales to state sector in 2000 (takes values from 0 to 1)
Munic_ownership	Share of municipal ownership stake (takes values from 0 to 1)
Own_budget_income_share1999	Share of own revenues in total income of municipal budget in 1999 (takes values from 0 to 1)
Regulation_burden	Weeks of general manager's working time spent in dealing with regulatory agencies in 2002
State_capture	Dummy equal to 1 if firm admits its ability to influence laws and regulations at local or regional level
HHI1990	Herfihdahl-Hirschman index for 5-digit industries in 1990
Hous1990_per_emploee_weighted	Tens of square meters of housing the firm had in 1990 per employee, weighted by the time of transfer (the earlier transferred the smaller the weight)
log_capital_emp2001	Logarithm of the ratio of capital to employment in 2001
state_ownership	Share of state ownership stake (takes values from 0 to 1)
inside_ownership	Share of insider (managers and workers) ownership stake (takes values from 0 to 1)
Tax_share	Share of taxes the firm paid to municipality in 2002 to the total municipal budget income in 1999 (municipal data for later years is not yet available)
Empl_share1998	Share of firm's employment in the total industrial employment in municipality in 1998 (takes values from 0 to 1)
HHI_labor_market1992	Herfihdahl-Hirschman index for the local labor market in 1992