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PRIVATIZATION, OWNERSHIP  
STRUCTURE AND COMPANY  
PERFORMANCE: CASE OF  
UKRAINE

by

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Abstract

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This paper assesses the role of privatization in the transition process and analyses the impact of *ownership structure* on company governance and performance. This research also addresses the impact of *institutional factors* on company performance. With respect to ownership, the study provides evidence for Ukraine that company performance improves with ownership concentration. An important finding of this research is to demonstrate that concentrated insider-owned firms show the best performance in Ukraine.

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## GLOSSARY

**Insiders** are shareholders - company management and employees.

**Insider-concentrated ownership** is shareholding by the management at least 25% of company shares.

**Mass privatization** is the sale of state-owned enterprises to a "mass" number of investors (employees and the public) of a large percentage of shares (25% to 100% of each enterprise) in exchange for privatization certificates distributed free-of-charge to all Ukrainian citizens.

**Outsiders** are private investors other than company management and employees.

**Outsider-concentrated ownership** is shareholding by investors other than company management and employees when the stake of at least one of these investors exceeds 25% of company shares.

**Ownership concentration** is associated with existence of at least one private owner holding more than 25% of company shares.

**Privatized company** is a company where more than 50% of company shares have been transformed from the state to private property.

**State-owned company** is a company where the state owns at least 50% of company shares.

## *Chapter 1*

### INTRODUCTION

The shift from planning to a market economy, with its substantial institutional changes, has received extensive attention both in academic writings and empirical studies. Particular emphasis is placed on the role of privatization in the evolution of transparent private ownership structure and establishing market institutions. The importance of privatization, often seen as a remedy for successful transition to the market, lies in changes that it brings. Privatization transforms not only the owners but also the goals of the firm, its organisational and financial structures, and its managerial behaviour. Most important, it paves the way for a corporate governance system.

The effectiveness of the mechanism of corporate governance determines the ultimate success of privatization in bringing efficiency gains. Failure to establish such a mechanism, along with incomplete market institutions, will yield results different from those expected. That is why analysis of the ownership structure and corporate governance systems that evolve from privatization and of their impact on company performance is of great importance both for the insight it gives to existing knowledge and for the policy implications it offers to the transition economies.

The literature on privatization expresses different opinions about its relevance in raising company efficiency and its ability to create effective economic and legal institutions of corporate governance. Despite extensive work on privatization issues there is still limited understanding about how ownership structure and enterprise performance are related. The *link between ownership structure and company performance* remains an open hypothesis. This link is empirically tested in this study. Also there has been little systematic research on corporate governance in most transition economies. But what almost all of

the available empirical studies agree on is that privatized enterprises outperform state-owned ones (Frydman et al. 1997, Meggison et al. 1994, Pohl et al. 1997, Lopez-de-Silanes and La Porta 1997, Szyrmer et al. 1998).

Although evidence on positive results of privatization comes from almost all transition economies, Central European and Baltic states demonstrate the highest benefits from privatization while the countries of the CIS show less promising results (Nellis 1999). This gap in privatization effectiveness might be explained by different institutions across transition countries. Those countries that established market institutions, enforced hard budget constraints and secured property rights, like the Czech Republic, Hungary, the Baltic States, all achieved growth. Those that failed to create a competitive market environment, like Ukraine and Russia, have not grown. Thus the real world practice shows that there is a complementarity between the impacts of privatization and market institutions on company performance. This paper also provides such evidence.

The widespread belief in the importance of privatization in the transition process is due to an assumption behind it. It envisages a movement of firms closer to efficiency and more productive use of limited resources via changes in the ownership structure (Stiglitz 1999). That private ownership, evolved from privatization, improves efficiency is explained by different incentives which private owners and state employees face: profit maximization and soft budget constraints accordingly. The weak incentives of state employees with respect to cost reduction and quality innovation underlie the basic case for the superiority of private ownership (Shleifer 1998).

But privatization per se does not achieve efficiency benefits. To ensure the transformation of incentives, a change in managerial behaviour and, finally, better company performance, it has to create an effective mechanism of corporate governance. This implies establishing such a system that will assure owners of capital, i.e. shareholders, of getting a maximum return on their

investment (Shleifer and Vishny 1997). This need for a mechanism that protects investors from managers' expropriation arises because of separation of ownership and control over cash flow rights and the resulting principal-agent problem.

The corporate governance problem, i.e. how shareholders make managers maximize a return on their investment, becomes particularly significant the more owners hold ownership rights over company assets. Dispersion of ownership emerges when shares are distributed among numerous small shareholders. Then company finance and management, or ownership and control, are rather mismatched. If there is an effective mechanism of legal protection of minority ownership rights, the problem of ownership dispersion may not be large. Once it is missed, as in most transition economies, ownership dilution implies creation of weak and non-transparent corporate governance systems. This is one of the possibilities that privatization may lead to.

Another alternative is concentration of ownership among a few large investors. Then limited managerial ability to expropriate the investors, as well as reduced agency costs, makes the corporate governance system transparent for large shareholders. This facilitates external capital supply and ultimately improves company performance. Hence, the type of ownership structure and corporate governance mechanisms created, and consequently company performance, depend on the method of privatization employed.

Inherent in every privatization method is a trade-off between achieving social equity and economic efficiency objectives. This conflict among privatization goals has led the governments in most transition economies to use a combination of privatization approaches. Mass privatization and sales to employees, adopted for the purposes of equity, as well as to facilitate reforms and ensure their irreversibility, resulted in the creation of diluted ownership. When all shareholders are dispersed, monitoring of managers is a public good

and, hence, is under-supplied (Stiglitz 1999). As a result, all owners have little control over managers that may pursue goals different from those of profit-maximizing shareholders. This eventually has a negative impact on company performance. Moreover, whereas countries with developed financial markets can rely on them to allocate assets to the most productive owners, the financial market infrastructure in all transition economies was primitive at the time of privatization, and could not efficiently allocate resources (Hashi 1997).

The privatization pattern of direct sales of large share blocks to inside and outside investors leads to ownership concentration. In the early transition this approach was seen as socially undesirable, politically unfeasible and unacceptable. It thus has received little popularity as political, not economic, factors primarily determined the choice of the privatization method (Boycko et al. 1994, Paskhaver 1999). Only recently, transition economies seem to acknowledge the advantages of sales to large, so-called strategic investors. Both market and transition economies give evidence on the beneficiary impact of concentrated ownership on company performance. But for transition economies, where legal protection of minority rights is weak, market institutions are relatively undeveloped and contract enforcement is poor, ownership concentration may be the only way that allows owners of capital to appropriate a return on their investment. Hence, until the legal framework that effectively protects minority rights and prohibits investors against managerial expropriation is established, concentrated shareholding might be a base for an effective corporate governance system.

The association between ownership structure and company performance became a matter of concern as soon as shareholders became dissociated from the management. The classical paper in this respect is the Berle-Means research (1932) which already at that time demonstrated a negative impact of diffuse ownership structures on company performance. Since then, some researchers have cast doubt on this thesis putting an argument of no significant relationship between ownership structure and company

performance (Demsetz and Kehn 1985, Demsetz 1983). The advocates of this approach claim that, even when the ownership structure is dispersed, effective monitoring is possible due to open to the public analysts' reports on widely held firms. However, most evidence has borne out the Berle-Means view. These studies confirm improvement in company performance with larger shareholder ownership and attribute it to better managers' monitoring (Mork et al. 1988, Shleifer and Vishny 1986, Megginson et al. 1994).

The evidence from transition economies also shows that ownership concentration assures investors of improvement in the corporate governance system and company performance (Marcincin and Wijnbergen 1995). The empirical findings support the view that concentrated ownership is positively related to the probability of restructuring. This happens because owners push restructuring if they are satisfied with the company's governance. Only then they are willing to supply capital to pursue new investment projects. Positive impact of concentrated shareholding on the probability of restructuring, company performance and market valuation is found in most studies on transition economies (Djankov and Claessens 1999, Pohl et al. 1997, Barberis et al. 1996, Earle 1999, Earle and Estrin 1996).

While most researchers agree that ownership concentration is positively associated with company performance, opinion on whether an insider owner is more effective rather than an outsider remains an open question. The empirical studies on this issue produce ambiguous results. Some studies find no significant difference in the performance of outsider-owned versus insider-owned firms (Earle et al. 1996, Djankov and Pohl 1998). Several researchers argue for the best performance of insider-owned companies (Estrin and Rosevear 1998). Others give evidence on better performance of outsiders (Frydman et al. 1997, Barberis et al. 1997).

This disparity in opinions may be related to the time framework in which the analysis is conducted. The effects from outsider privatization might require a

longer period to become apparent (Havrylyshin and McGettigan 1999). Another issue concerns the evidence on significant differences in the performance of manager-owned versus employee-owned firms. Unification of these different ownership types may lead to a downward bias of findings on insider ownership effectiveness and twist the results of insider-outsider comparison (Frydman et al. 1999).

This paper assesses the role of privatization in the Ukrainian transition process and analyses the impact of *ownership structure* on company governance and performance. This research also addresses the impact of *institutional factors* on company performance. With respect to ownership, the study finds evidence for Ukraine that company performance improves with ownership concentration. But a principal contribution of this paper is to demonstrate that in Ukraine concentrated *insider-owned* firms show the best performance. The suggested explanation to this result is the role of institutions. In a system with prevailing powerful *informal norms*, huge information asymmetry and non-transparency, e.g. Ukraine, insider concentrated ownership may be a profit-maximizing solution to deal with a bad institutional framework.

The remainder of this paper is organized as follows. Section 2 presents the theory of corporate governance. Section 3 describes the data on Ukrainian enterprises and offers the specifications for estimation. Section 4 discusses the results. Section 5 concludes.

## Chapter 2

### THEORY

There is no disagreement that the final goal of the transition to market is improvement in companies' efficiency. Privatization of state-owned property, i.e. its transfer to private hands, is supposed to build the basis of a market economy by imposing transparency of ownership. Then profit-maximizing behaviour of private owners will ensure efficiency growth. Yet, this achievement requires not only privatizing state property per se but also setting an institutional framework that will enforce rules necessary for a competitive market economy to function.

The ultimate success of privatization depends to a large extent on a corporate governance system created. Efficiency of corporate governance mechanisms is a straightforward consequence of resolving the agency or principal-agent problem. In the theory of corporate governance it is referred to as separation of ownership and control over cash flow rights (Shleifer and Vishny 1997). Two approaches to corporate governance specify how suppliers of finance (the principal) protect themselves against expropriation by managers (agents). These are investors' legal protection and ownership concentration (ownership by large investors) that both directly impact company performance. In the first approach suppliers of finance have *legally protected power* over their investment and thus ensure getting a return on it. In the second approach large shareholders obtain power over their investment through *matching control rights with cash flow rights* (Shleifer and Vishny 1997). Here large investors can significantly reduce agency costs, ensure better company performance and, hence, a higher return on their investment. This reasoning of the corporate governance theory grounds the argument, which is a concept of this thesis

research, about the positive impact of ownership concentration on company performance.

The theory of corporate governance indicates both advantages and disadvantages to the company owners from dilution in ownership structure. The most significant negative factor, which is associated with diffused ownership, is low incentives for small shareholders to control and influence managers and greater incentives for them to shirk and free-ride on others. The decision to pursue the ownership tasks and control cash flows is confounded by the externalities that this activity, with certain features of a public good, has. The cost of shirking by an individual owner, as a result of inefficient management monitoring and worse company performance, is borne by all shareholders. The benefit derived by that owner from shirking is his entirely owned gain. The divergence between benefits and costs from shirking for each shareholder is larger the more widely-owned the company is. Hence, the possibility of neglecting the ownership tasks and non-controlling managers is more likely for a company owned by a large number of small shareholders (Demsetz and Lehn 1985). As a result of individual shirking all owners jointly have little control over managerial performance and cannot properly evaluate it. Facing few constraints, managers may pursue goals different from those of their principal, profit-seeking shareholders. Moreover, diffuse ownership is usually associated with less transparent corporate structure (Shleifer and Vishny 1997). Then investors cannot freely observe their cash flows and thus have little incentive to provide additional finance. All this ultimately has a negative impact on company performance and its market value.

The externalities of management monitoring and consequent inefficiency are much lower the more concentrated company ownership is. Then benefits and costs of shirking are borne by the same owner or shared among a few large shareholders proportionally to their stake. This gives large investors great incentives to control managers and not to shirk. Benefits from economies of

scale in monitoring costs grant further incentives and resources for large owners to effectively monitor managers. Apart from incentives in monitoring managers and getting a return on their money, large shareholders have enough power to demand that return. Thus, in a case of concentrated ownership, managerial ability to act in their own interest and benefit at the expense of shareholders is significantly limited and the agency costs are reduced. Consequently, ownership concentration allows suppliers of finance to assure the maximum return on their investment. This is of particular importance in a case of undeveloped legal framework of minority rights protection when ownership concentration becomes the only way owners of capital can assure themselves of getting a return on their investment (Shleifer and Vishny 1997). In this respect weak legal protection of minority ownership rights and low transparency of a company environment, typical to many transition economies, explain why there might be a tendency to ownership concentration in these countries.

Concentrated ownership is also more efficient, and thus more likely to exist, in the case of an unstable company environment. Managerial behaviour is much more difficult to observe under environmental uncertainty when it is not obvious how to isolate the effect of management on company performance from that of its environment (system transparency and predictability, market fluctuations). This kind of imperfect information raises monitoring costs, and then higher cost of management control may be paid off mostly for large investors. Hence, under uncertainty concentrated ownership is more efficient in ensuring a maximum return on owners' investment (Demsetz and Lehn 1985).

Despite the mentioned disadvantages of diluted ownership, it nevertheless exists in the real world and is even quite widespread (Bearle and Means 1932). Each company presumably operates under the goal of profit maximization, and thus cannot rationally adopt an inefficient ownership structure. This implies existence of certain features that make concentrated ownership less

attractive for investors. These factors include excessive risk, borne by large non-diversified investors; potential expropriation of large investors by other investors (take-overs); significant transaction and information costs associated with maintenance of corporate control (Demsetz and Lehn 1985, Shleifer and Vishny 1997).

The first argument for the benefit of diffused ownership has both its advocates and opponents. The former claim that the larger is a company size the more diffused the ownership structure should be (Demsetz and Lehn 1985). The ground for this hypothesis is the fact that to maintain concentrated ownership in case of large capital needs, owners will have to supply more finance into a single company. Given the assumption that investors are risk averse, they will demand compensation for additional risk. This will increase capital cost that presumably will discourage owners to maintain concentrated ownership. The opponents justify their argument by pointing to widely spread concentrated ownership in the real world. This should indicate that costs associated with poor diversification by large shareholders are lower in comparison with benefits obtained from tight control and reduced agency costs (Shleifer and Vishny 1997).

The problem of potential divergence in the interests among different large investors is much more serious. The ability to expropriate other investors is particularly likely for investors with control power in excess over their cash flow rights. This may be possible in case of unequal voting rights and preferential position of some investors over others (control through a pyramid structure). Then the principle of one-share-one-vote is not maintained, and some investors obtain power to discriminate among shareholders and redistribute rents to themselves (Grossman and Hart 1988, Shleifer and Summers 1988). This problem is particularly important if expropriated investors are of a different type from the large investor. Then shareholders may benefit at the expense of other owners, creditors, by taking an excessive risk and transferring all potential costs from those risky projects

on creditors. At the same time creditors may expropriate other owners by postponing good investment projects because they have to incur some cost of the projects while benefits from them will be shared among all owners (Myers 1977).

Most of the recent evidence is that the costs associated with concentrated ownership, although important, nevertheless are much less than benefits accrued from tighter control over cash flows and reduced agency costs. Then it is in the interest of profit-maximizing owners to favour a more concentrated ownership structure. The real life evidence confirms this theoretical argument for efficiency of ownership concentration. A number of empirical studies demonstrate the prevalence of concentrated ownership even among large corporations (Shleifer and Vishny 1986, Demsetz 1983, Demsetz and Kehn 1985). These empirical results contrast with the classical observation that in most cases ownership is diluted among small owners while managers are not constrained in their self-dealing activity (Berle and Means 1932).

The analysis of the corporate governance theory proposes certain considerations about how ownership structure and company performance may be related. The main idea in this respect is that ownership concentration ensures better company performance than a dispersed ownership structure, and this gap is particularly large in countries with weak protection of minority rights and low transparency of a company environment, e.g. Ukraine.

## *Chapter 3*

### DATA AND MODEL

In this section I describe the data set used. Then I discuss specification of the variables employed in the analysis of the relationship between company performance and ownership concentration. Finally, I present an empirical model of ownership concentration impact on company performance.

#### 3.1 Data Description

This research uses data obtained by the Harvard Institute of International Development (HIID) from the Ukrainian Committee on Securities and Stock Exchange. The sample consists of 190 open joint stock companies from six sectors of the Ukrainian economy, in particular, construction, machinery, metallurgy, food industry, transport and trade and services sector. The selection is made to address the peculiarities specific to the methods of privatization employed and, hence, ownership structures created across different industries. Also, to avoid the problems inherent in privatization of the largest industrial enterprises and monopolies, in particular, those from energy, oil and gas sectors, such enterprises are not included in the sample. Appendix 1 presents the sample distribution by the type of ownership structure and sector.

The companies represent all types of ownership created in the process of privatization in Ukraine. The sample also includes enterprises where the state is a dominant owner (state stake exceeds 50%). As the goal of the analysis is to compare performance of privatized companies with concentrated ownership versus those with deconcentrated the sample does not include new private enterprises or *de novo* firms.

As I detail below, the data on ownership structure and company performance are difficult to gather. Moreover, their quality is very likely to adversely affect results of the analysis. Low transparency of all Ukrainian companies, the significant proportion of their activity in the shadow economy, and closed accounting data limit the choice in the sample selection and mitigate the analysis power. The instability and distortions of the transformation process are also reflected in the data used in this research. Appendix 2, on the example of the raw data, indicates vast variation and hard to explain instability of performance across companies. This drawback of the data should be taken into consideration while analysing the model results.

Also, the sample exhibits a certain selection bias, as enterprises considered are only open joint stock companies. Closed joint stock companies are not incorporated into the analysis, as at this stage such data are not available to the public. Nevertheless, I think that the sample used may be reasonably expected to provide only indicative, but still meaningful results. Firstly, the mentioned distortions are likely to be smoothed by the influence of the law of large numbers. Secondly, most researchers, while doing the kind of work I do, faced similar problems. Despite this, they were able to produce useful results and reveal certain trends. This is what I expect to achieve given my data.

### 3.2 Definitions of Variables

In this analysis the question asked is whether ownership concentration leads to better company performance. At this stage of the analysis I do not try to measure the degree of ownership concentration. Instead I use only a dummy variable, which distinguishes between concentrated and diluted forms of ownership. An appropriate measure should reflect interactions between large shareholders of different companies. This kind of data is not available.

The definition of ownership adopted in this analysis relies on voting rather than cash flow rights. The issue here is that the largest shareholders may have

control over a company in excess of their cash flow rights (Shleifer and Vishny 1986). Hence, in practice, if other owners have marginal and dispersed shares, a blocking stake of 25% + 1 share may provide its holder with a significant control over a company. This idea motivates the *definition of concentration* used in this paper that associates ownership concentration with existence of at least one private owner holding over 25% of company shares.

All companies are classified into three subcategories. The first distinction is between state-owned companies and privately owned companies. A company is referred as a state-owned enterprise if at least 50% of its shares, i.e. the controlling stake, belongs to the state. Otherwise, it is considered a private company. As a benchmark for this selection, the 50% stake is chosen for it gives its shareholder effective control over a firm. No decision can be taken without an agreement of this shareholder. A dummy variable PRIV is used to represent this subcategory.

The second subdivision refers to distinguishing among private companies with respect to their ownership concentration. Here companies are divided into those that are widely held, i.e. companies with a diluted ownership structure, and those with relatively few large owners, i.e. companies with a concentrated ownership structure. The benchmark to decide whether an owner is sufficiently large to create ownership concentration is 25% + 1 share. The motivation behind this choice is explained above. The dummy variable CONCTR (privatized company with concentrated shareholding) identifies this subcategory. It accounts for an additional effect for private companies from having a concentrated ownership structure.

A final subdivision is made in order to distinguish between insider and outsider largest shareholders. The dummy INSCONCTR (privatized company with concentrated shareholding by insiders) defines this subcategory. It gives an additional impact for privatized companies with concentrated ownership from having an insider as the largest shareholder.

To study the impact of ownership type on company performance, I relate ownership concentration to one performance indicator, labour productivity, which is measured by its annualized rate of growth. Labour productivity is defined as a ratio of production output, measured in constant prices of 1998, to nominal number of employees. The choice of labour productivity as a performance indicator was based on the following arguments. Firstly, official accounting data give a significantly distorted picture of company activity. Widely spread tax avoidance, demonetization, i.e. barter operations, shadow activity, dumping sales to branch, so-called managerial pocket enterprises lead to constant understatement of profit and sales data in the official statistics. Hence, these indicators are likely to produce misleading results. Secondly, labour productivity is a good proxy for company efficiency, as it shows how effectively production resources, here labour, are used. Finally, the use of an annualized rate of growth of labour productivity should incorporate and smooth any disturbances of the transformation period. Hence, a performance indicator used can be reasonably expected to reflect the effects of change in ownership.

At the same time labour productivity, as it is defined here, has its shortcomings. Firstly, the best way to calculate it would be on the basis of value added rather than company production output. In this case intermediate and capital inputs, as well as taxes, wouldn't affect the value of labour productivity. Unfortunately, the available data do not allow to use this approach. Moreover, the issue of arrears and non-payments for final products and their impact on labour productivity cannot be addressed on the basis of these data.

Secondly, this definition is based on nominal rather than *effective* employees. In transition economies it is of particular importance to take into account widely spread involuntary under-employment. Unpaid leave, shortened working days distort the actual picture of labour use. Then nominal employment may overstate effective, or actual, employment and hence, underestimate labour

productivity. Given the vast variation of unpaid leave by industries and ownership types, it is advisable to adjust nominal employment to these distortions. At this stage of the analysis this kind of data is not available.

Another argument that is often put forward against the production output per employee is that company output may give a biased picture of its sales. I do not support this view for the following reasons. First, “production for a warehouse” rather than for a customer was a natural picture in the Soviet times and in the early 1990s. Since the onset of the transition, with its ownership transformation and market orientation, the situation has changed considerably. Few private and even state enterprises may afford to produce goods that nobody wants to buy. If a company has no funds to modernize its production facilities and train employees’ skills to be able to compete with imports, it in most cases stops working. This argument is confirmed by the data on involuntary under-employment, e.g. unpaid leave, in the Ukrainian economy in 1994-1998 (Appendix 3). Hence, the use of production output is a good indicator of company production and performance. Second, for the above-mentioned reasons, sales may give a rather distorted picture of company performance, and thus should not be preferred to output.

Table 1 gives a summary of all variables used in this research. Summary statistics for these variables are presented in Table 2.

TABLE 1 Description of Variables

<i>Dependent Variable</i>	
LPGrowth (LP - labour productivity)	Annualised rate of growth of labour productivity (LP) <sup>1</sup> measured as a rate that satisfies $LP_T/LP_t = (1 + LPGrowth)^{(T-t)}$ , where T is 1998 for all companies; t is the year of privatization for companies privatized before 1996; otherwise, it is 1995 <sup>2</sup> .
<i>Independent Variables</i>	
LPInitial (LP - labour productivity)	Labour productivity measured as a ratio of production output to nominal employees <sup>3</sup> . Output measured in constant prices of 1998, in UAH 1,000s. Reported for the year of privatization for companies privatized before 1996; otherwise for 1995. Unit of measurement is UAH 1,000s per employee.
PRIV (Privatization)	One if a company is privatized by 1998; zero otherwise.
CONCTR (Concentration)	One if a company is privatized and at least one shareholder owns more than 25% of company stock; zero otherwise.
INSCONCTR (Concentration by insiders)	One if a company is privatized, and at least one company owner holds more than 25% of company stock and this owner represents company management (i.e. insider); zero otherwise.
Softness	A proxy for soft budget constraints defined as a) a ratio of company budget areas to its tax liabilities; b) a ratio of company liquid assets to its accounts payable. Unit of measurement is UAH 1,000s.

<sup>1</sup> Example: LPGrowth equal to 0.09 means a 9% growth in labour productivity per year during the estimated period.

<sup>2</sup> The best way to compare performance of each company of certain ownership type is to match the annualized period within each category. However, there are no time series data necessary to conduct such separate comparisons. Hence, 1995 is chosen as a benchmark year as it gives a period large enough to assess the impact of ownership transformation.

<sup>3</sup> By nominal employees I mean actual number of company employees not adjusted to involuntary under-employment (unpaid leave, shorted working hours, etc.)

TABLE 2

Summary Statistics of Variables for 190 Companies in Sample

Variable	Mean	Standard Deviation	Minimum	Maximum
LPGrowth	0.36	1.39	-0.95	10.51
LPInitial	24.42	36.32	0.002	191.63
PRIV	0.87	0.33	0	1
CONCTR	0.23	0.42	0	1
INSCONCTR	0.07	0.25	0	1

### 3.3 Model. Statistical Analysis

The empirical part of this research tests the hypothesis that concentrated ownership positively affects company performance. Also, within a concentrated ownership structure a distinction is made between outsider and insider owners. I test the hypothesis by evaluating the impact of ownership structure on the growth of labour productivity. In doing so, I control for other factors that may affect this performance indicator. In particular, I control for the impact of *soft budget constraints* (Softness) that in the transition economies like Ukraine may largely influence company performance. Also I control for industry specificity by including sector dummies.

To examine the impact of ownership structure on company performance I hypothesize the following ordinary least square (OLS) regression model:

$$\text{LPGrowth}_i = \alpha_0 + \beta_0 \text{LPInitial}_i + \beta_1 \text{PRIV}_i + \beta_2 \text{CONCTR}_i + \beta_3 \text{INSCONCTR}_i + u_i \quad (1)$$

where all the variables used are those specified in Table 1. OLS estimates of company performance indicator are shown in Table 3.

In the initial specification of equation (1) to control for the possible impact of other than ownership factors, I included a proxy for soft budget constraints, Softness, and sector dummies. In the view that this inclusion had no

statistically significant effect on either the sign or the magnitude of the explanatory variables coefficients I do not report them in my model specification<sup>4</sup>.

The reported model has the problem of multicollinearity. Its impact on regression results should be taken into consideration while analysing the meaning of coefficients. To address this drawback of my model I run individual regressions for every subset of companies by ownership type. These results are presented in Appendix 4. They confirm the findings of the main model demonstrating that at this stage of transition insider-concentrated companies show the best performance. Also these results provide evidence to the hypothesis of better performance of private companies with concentrated ownership. Finally, firms with diluted private ownership are found to perform worse than state-owned companies. This confirms the hypothesis that, what matters, is the way the state property is privatized rather than privatization per se. Appendix 5 gives the correlation estimates for variables in the model (1).

TABLE 3  
OLS Estimates of Company Performance

		Dependent Variable Annualized Rate of Growth of Labour Productivity (LP)
Intercept	$\alpha_0$	<b>0.76*</b> (0.28)
LPInitial	$\beta_0$	<b>-0.01*</b> (0.003)
PRIV	$\beta_1$	-0.43 (0.29)
CONCTR	$\beta_2$	<b>0.57*</b> (0.23)
INS CONCTR	$\beta_3$	<b>1.26*</b> (0.38)
<i>Number of observations</i>		190
<i>R Square</i>		0.17
<i>F</i>		9.56
<i>Durbin-Watson stat</i>		1.75

Note: \*p≤0.05, \*\*p≤0.10; Standard errors are in parentheses. Statistically significant coefficients are boldfaced.

<sup>4</sup> The estimation results of the initial specification, which incorporates soft budget constraints into the model and sector dummies, are available upon request.

I interpret the meaning of the coefficients in the equation (1) as follows. The average effect that initial performance has on the rate of labour productivity growth in the subsequent periods, is given by  $\beta_0$ . The impact of privatization is measured by  $\beta_1$ , which gives an average difference between state-owned and privatized companies in terms of labour productivity, the performance indicator used in this study. For private companies  $\beta_2$  shows an additional effect of having a concentrated ownership structure. Finally, for private companies with concentrated ownership  $\beta_3$  captures an average additional effect that an insider as the largest shareholder has on company performance.

## *Chapter 4*

### DISCUSSION OF RESULTS

All variables take the expected signs and the estimated coefficients, except for that of privatization, are statistically significant at 95% confidence level. Moreover, to test for structural differences the separate correlation equations are run for each of the following group: all companies, state-owned companies, companies with a diluted ownership structure, those with a concentrated ownership structure, those with an outsider-concentrated ownership structure and, finally, those with a concentrated ownership controlling for insider owners impact. The OLS estimates for these regressions are reported in Appendix 4. All they confirm the results obtained from the estimation of the main regression (1), in particular, a) concentrated ownership leads to better company performance; b) companies with insider concentrated ownership outperform all others. This analysis also provides justification for pooling companies in the sample together.

The initial level of labour productivity, although very low in the value<sup>5</sup>, has a statistically significant effect on the rate of growth of this performance indicator. The sign of the estimated coefficient is negative. The rapid downward changes in the macroeconomic conditions and an overall decline in the Ukrainian economy may explain this. Collapse of the old system, breakdown of the relations with partners from FSU republics and other impediments inherent in the transition process negatively affected companies of all ownership types and industries.

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<sup>5</sup> Given the mean value of the initial level of labour productivity (24.42 UAH 1000-s per employee) and its coefficient equal to  $-0.01$ , this variable has a marginal impact on the dependent variable.

Privatization is not found to have a significant impact on company performance. It also has an insignificant effect in the separate regression that estimates a difference between performance of privatized and state-owned companies. OLS regression estimates for this test are shown in Appendix 6. These results may demonstrate that, what is important for company performance is the way the ownership structure and corporate governance system are created rather than privatization per se.

The significant positive coefficient of ownership concentration confirms the hypothesis tested in this study that there is a positive relationship between concentrated private ownership and company performance. Thus Ukrainian data give evidence predicted by the standard theory of corporate governance. With respect to the rate of growth of labour productivity this study reveals that on average companies with concentrated ownership structure outperform widely-held by 0.59 times. This finding provides a strong argument against ownership dilution.

Finally, what may be the most important finding of this empirical study and actually its contribution to the existing knowledge, is revealing that the best company performance is associated with concentrated shareholding by insiders. The estimated coefficient of insider concentrated ownership shows invariably a significant positive impact of such ownership structure on company performance. On average, concentrated ownership by company management improves company performance, i.e. the rate of growth of labour productivity, by 1.27 times.

Also, the data were controlled for a potential selection bias. The analysis of the initial performance indicators does not support the view that managers obtained better enterprises. At the same the analysis of data on employment reveals that companies with concentrated ownership showed lower rates of labour shrinkage as compared to those with diluted ownership. This finding

controls for the impact of employment change on labour productivity. Appendix 7 gives supporting data for these claims.

Given low predictive power in my model and large data instability I suggest using its results primarily as *indicative of certain tendencies* (improvement in company performance with ownership concentration) rather than predicting performance of an individual firm. The model is rather rough. Yet, at this stage its further refinements make little sense unless better data are made available.

The findings of this paper should be interesting to researchers, they are different from those for developed market economies. In these economies concentrated shareholding by outsiders tends to show the highest positive impact on company performance and market valuation (Shleifer and Vishny 1997). What makes this difference? To suggest an explanation for this transition phenomenon, it is necessary to address the role of institutions, formal and informal norms, in Ukraine and other CIS countries.

Despite the rapid changes in the Ukrainian economy since the onset of the transition, this country still seems to have a semi-market economy. It lacks institutions, vital for a mature market economy to function. It still has powerful institutions that prohibit normal operations of a market economy. Informal networks and norms dominate in Ukraine. Widely advertised market reforms and economy transformation have not removed these institutions, inherited from the bureaucracy of Soviet era. People who manage the country, the economy, and the enterprises follow implicitly admitted informal rules, which are not consistent with a transparent competitive market. Otherwise, they would be out of the system. These informal norms are what make the whole system extremely non-transparent for outsiders, those who either do not know or do not want to follow the non-market rules.

This non-transparency further deepens asymmetric information between owners of capital and managers. In a transparent system outsiders may

monitor managers. If the outsiders have enough power, i.e. voting rights (concentrated ownership), they can dismiss managers. But if the management is a primary shareholder, it will not dismiss itself even if this would significantly improve company performance. This feature of insider ownership explains why concentrated shareholding by outsiders does perform better in market economies. But in a system like the Ukrainian one, outsiders, even with controlling shares, often cannot dismiss ineffective management. In doing so they risk to break off all connections to the political and economic elite that a current manager has. Given the role that informal norms and personal connections with top authorities and other companies play in the system, owners might have incurred much higher costs if they had done this.

Hence, at this stage in the transition economy concentrated insider ownership seems to outperform other forms of ownership. The possible explanations for the findings of my research may be insecure property rights and weak legal protection of investors, lack of strong market institutions, non-transparency of the economy and huge asymmetric information in the system. Then concentrated insider ownership may be a profit-maximizing solution under such institutional environment.

## *Chapter 5*

### CONCLUSIONS

The results of this study present an argument for concentrated ownership. The main message that this paper brings is that the structure of company ownership is related to company performance. With this respect the statistically significant positive relationship is found between concentrated shareholding and company performance in Ukraine. These findings confirm the corporate governance theory that predicts better performance of companies held by large shareholders due to effectiveness of a corporate governance system.

The analysis of the ownership structure and corporate governance systems that evolve from privatization, and their impact on company performance is of great importance both for the insight it gives to the existing theory and for the policy implications it offers to the transition countries. Given the weak legal protection of investors' rights, undeveloped market institutions, and primitive financial market infrastructure, which are usually typical for the transition economies, concentrated ownership seems to ensure the highest benefit for investors in such institutional environment. Only when the proper legal framework is developed, companies with dispersed ownership might show promising results. Hence, the policy advice here is "do not dilute when privatizing". For Ukraine the suggested turn towards large, so-called strategic investors is of particular importance given the magnitude of still non-privatized property.

An important contribution of this paper is to demonstrate that concentrated insider-owned firms show the best performance. This may be a profit-maximizing response of owners to a system with prevailing powerful *informal norms* and *institutions*, importance of personal relations, huge information

asymmetry and non-transparency, like in Ukraine. The strong performance of insider-owned firms seems to confirm a conclusion that this system is still a non-market economy. The results of this paper present a picture of dominance by the type of ownership that is widely believed to be inefficient, which seems to indicate that “something is wrong with this system”.

The success of insiders may be reasonably explained by the following arguments. Firstly, it may be an interim state, specific to a period of the transition from a personalized socialist bureaucracy to an impersonal market system. Then it should not cause significant concerns and may be considered as an inevitable stage in transition. Alternatively, it may indicate a much worse situation that would require vigorous political efforts to reform it. In the latter case insiders’ power represents damaging disturbances in the economy that impairs the activities of outsider owners and calls for the relevant policy to establish market institutions and introduce transparency into the system.

This study, while establishing the relationship between ownership structure and company performance, still leaves a number of open questions and possible directions for further research in this field. Firstly, it is advisable to try to generate more reliable data for future analysis. Secondly, alternative measures of company performance should be considered. Thirdly, it is important to understand how ownership concentration has been forming, i.e. why some companies were concentrated whether others left diluted. In this respect the hypothesis on dependence of ownership concentration on company performance should be tested. Also, the analysis of how company performance and ownership structure are interrelated should further disaggregate owners into different categories such as investment funds, foreign and domestic companies, etc. Finally, additional analysis is necessary to address the role of institutions in evolving ownership structures after privatization.

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## APPENDICES

### Appendix 1

### Sample Description

Sector \ Ownership Structure	State-owned	Private		Total
		Diluted shareholding	Concentrated shareholding	
Construction	3	15	9	27
Machinery	5	31	9	45
Metallurgy	9	13	6	28
Food industry	2	33	9	44
Transport	1	8	3	12
Trade and services	4	22	8	34
<b>Total</b>	<b>24</b>	<b>122</b>	<b>44</b>	<b>190</b>

*Source* Own calculation

### Appendix 2

### Raw Data Example (initial year is 1995)

Company	Production output		Employment		Labour productivity LP		Rate of growth of labour productivity Rate = $(LP_{1998}/LP_{1995} \text{ deflated})^{(1/3)} - 1$
	1998, UAH 1000s	1995, in real terms of 1998, UAH 1000s	1998	1995	1998, UAH 1000s per employee	1995, in real terms of 1998, UAH 1000s per employee	
Dniprodzerzhinsky house-building plant	1462	394.5	434	651	3.369	0.606	0.772
Kirovogradvodbud	111.4	6697.1	41	136	2.717	49.243	-0.619
House-building complex#3	30948.8	30263.5	1642	1754	18.848	17.254	0.030
Rogan meat processing plant	9940.5	84230.2	450	565	22.090	149.085	-0.471
Chernigovsky radio appliance plant	40064	29208.6	5923	8062	6.764	3.623	0.231
Paper-ruberoid complex	45771	81948.9	1305	1206	35.074	67.951	-0.198
Kievsky holod complex#2	6855.1	252.6	339	299	20.222	0.845	1.881
Dobropolsky bread plant	3680	475.6	163	163	22.577	2.918	0.978
Smilyansky machinery plant	9719	5874.1	1341	2871	7.248	2.046	0.524

*Source* HIID, ETAP State Property Fund of Ukraine, own calculation

Appendix 3 Involuntary Under-Employment<sup>6</sup>

% to the total number of workers in the sector

Sector \ Year	1994	1995	1996	1997	1998
Construction	31.6	30	41.9	43.8	45.9
Machinery	44.7	39.9	45.8	37.5	44.1
Metallurgy	25.7	15.9	16.6	20.4	21.9
Food industry	35.7	36	41	40.4	44.7
Transport	29	21.9	40.3	22.4	22.6
Trade and services	16.8	9.6	10.5	10.4	12.4

*Source* Ministry of Statistics of Ukraine

Appendix 4

OLS Estimates of Structural Regressions

Dependent variable: Annualized Rate of Growth of Labour Productivity (LP)

Variable	All companies	State-owned companies	Privatized companies with ownership structure			
			Diluted	Concentrated	Outsider concentrated	Insider concentrated
Intercept	<b>0.62*</b> (0.12)	<b>0.75*</b> (0.27)	<b>0.38*</b> (0.08)	<b>1.21*</b> (0.39)	<b>0.70*</b> (0.31)	2.72 (1.45)
LPInitial (slope)	<b>-0.01*</b> (0.003)	<b>-0.01*</b> (0.005)	<b>-0.01*</b> (0.003)	<b>-0.01**</b> (0.008)	-0.01 (0.005)	-0.05 (0.07)
<i>Number of observations</i>	190	24	122	44	37	7
<i>R square</i>	0.07	0.17	0.16	0.07	0.07	0.21

Note: \*p≤0.05, \*\*p≤0.10; Standard errors are in parentheses. Statistically significant coefficients are boldfaced.

<sup>6</sup> Workers that were on unpaid leave or on a partial salary leave

Appendix 5

Correlation Estimates

		Annualized rate of labour productivity	Labour productivity in real terms of 1998	Private in 1998	Concentrated ownership	Insider concentrated ownership	Softness
LPGrowth	Annualized rate of labour productivity growth	1					
LPInitial	Labor productivity in real terms of 1998	-0.275	1				
PRIV	Private in 1998	-0.007	-0.134	1			
CONCTR	Concentrated ownership	0.187	0.032	0.209	1		
INSCONCTR	Insider concentrated ownership	0.282	-0.114	0.103	0.197	1	
Softness	Softness	-0.034	-0.052	-0.038	0.044	-0.029	1

*Source:* Own calculation based on the data sample

Appendix 6

OLS Estimates of Privatization Effectiveness

Dependent variable: Annualized Rate of Growth of Labour Productivity (LP)

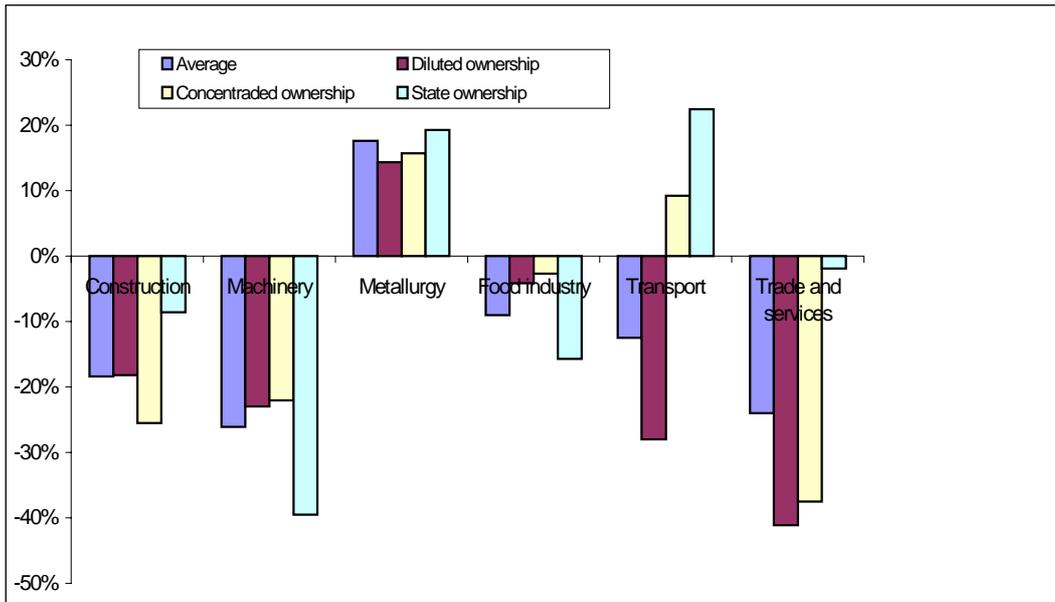
Variable	
Intercept	<b>0.79*</b> ( 0.29 )
LPInitial	<b>-0.01*</b> ( 0.003 )
Privatization	-0.18 ( 0.29 )
<i>Number of observations</i>	190
<i>R square</i>	0.08

Note: \*p≤0.05, \*\*p≤0.10; Standard errors are in parentheses. Statistically significant coefficients are boldfaced.

Appendix 7

Analysis of Employment

Figure 1. Employment Change by Ownership and Sector in 1995-1998, %



Source: Calculation based on the sample