

FOREIGN OWNERSHIP AND FIRM
PERFORMANCE: A CLOSER LOOK
AT OFFSHORE-OWNED
COMPANIES IN UKRAINE

by

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Abstract

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This study investigates the effects of foreign ownership on performance of Ukrainian manufacturing companies in 2002 – 2006. It addresses two important issues, namely the distinguishing between different types of foreign owners and reverse causality between ownership and performance. The empirical results confirm the hypothesis that in studying the ownership-performance relationship a closer look at foreign offshore and foreign non-offshore owners is crucial. The positive effect of investment coming from the group of developed countries, USA and Cyprus is found, while capital from transition economies is negatively related to profitability. These results are discussed in the context of on-going debates on international tax cooperation standards and informational transparency of ownership structures. Besides ownership variables, two firm-specific characteristics, leverage and firm size, are important determinants of profitability. The results of the study suggest in favor of taking into account the international standards when policy concerning offshore and “pseudo-offshore” structures is adopted.

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GLOSSARY

Foreign ownership. Complete or majority ownership/control of a business in a country by companies whose headquarters are not in that country.

Offshore ownership. Complete or majority ownership/control of a business in a country by companies whose headquarters are based in places where the tax system is more advantageous than that of the home country.

Chapter 1

INTRODUCTION

One of the gains of the transition process in Ukraine is the possibility to attract foreign capital as far as the domestic economy has become more open. Among different sources of financing, foreign direct investment (FDI) plays a major role in transition economies. FDI is defined by national legislation as the acquisition of corporate rights of domestic company which allows a foreign investor to exert control over company's management and assets¹. Therefore, the possession of control rights creates the grounds for the investor's lasting interest in the host country. Recent economic literature documents the benefits of FDI in terms of bringing new technologies and managerial techniques, increase in productivity and competition of the domestic industry (e.g., Javorcik, 2004). However, FDI per se cannot be considered as a remedy for problems in transition economies, rather vice versa: the effectiveness of foreign ownership heavily depends on the development of country's legal framework and the institutional environment (e.g., Svejnar, 2002). In practice, the evidence on the positive effect of foreign investments on the domestic economy is not conclusive.

One of the reasons why the effectiveness of foreign ownership in transition economy might raise a doubt is the structure of foreign investment in terms of country of origin. Recent statistical information provided by the State Statistics Committee of Ukraine² documents the prevalence of offshore investment in the structure of FDI. In particular, Cyprus made the largest volume of direct

¹ The decree of the National Bank of Ukraine "On the regulation of foreign investment in Ukraine", 2005

² The Internet address is <http://ukrstat.gov.ua>.

investment as of 01.04.2009. Another offshore zone, Virgin British Islands, is among the top-10 foreign direct investors. The share of these two countries as the ratio to total cumulative FDI amounts to 25% (see Appendix A). The problem with offshore ownership is that it results in extremely low ownership structure transparency; therefore offshore firms are widely used for money-laundering purposes³. The capital inflows from offshore zones in form of FDI might be simply the transfer of domestic capital to its owners and have nothing to do with the improvement of production and managerial techniques.

The question of the relationship between ownership and performance has both research and policy importance. Firstly, there is not much literature devoted to the origin of foreign capital in Ukraine as well as in other countries. However, there are papers on different aspects of corporate governance, including the link between different types of ownership and performance (e.g., Akimova and Schowödiauer, 2004, Zheka, 2005). This research can contribute to the existing body of literature since it explicitly takes into account the source country of foreign capital in investigating the link between ownership and firm performance. Secondly, the study may have implications for regulation of offshore investment which is relevant from the policy perspective. By this time, legal regulation of offshore zones is limited mainly to passing the list of countries and regions that are officially recognized as offshore.⁴ This list is called a “black” since financial transactions carried out with the assistance of countries listed in it are subject to tough financial control. At the same time, the Ukrainian legislation does not even provide a strict definition of offshore zones which creates the ground for

³ State Committee on Financial Monitoring argues that offshore firms are among the most popular means to hide profits. Their contribution to “money-laundering” was estimated at UAH 32 billion in 2006 (the internet address is <http://www.pravda.com.ua/news/2006/11/27/51373.htm>)

⁴ The official list of offshore zones is ratified by the governmental decree, the link to the document is <http://zakon1.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=77-2003-%F0>

ambiguous interpretation of the law. For instance, the main changes in “black” list during the last years consisted in the inclusion/exclusion of Cyprus, and this decision was greatly impacted by political discretion of every newly formed government. Cyprus was “labelled” in 2005, and excluded from the list in 2006. However, the revision of government policies should be brought about by the evidence on the effect of a particular source of investment on economic performance rather than by political discretion.

This research aims to determine the relationship between foreign ownership and firm performance taking into account the source country of capital. The analysis is conducted using financial and ownership data on open joint stock companies that operated in Ukraine in 2002 – 2006. The data on owners affords to study the effects of various sources of foreign capital on firm performance by including ownership shares of different types of investors into the model. In addition, firm-specific and industry specific characteristics are taken into account. In studying the link between ownership and performance the problem of reverse causality between ownership and performance is addressed. Past (pre-privatization) financial ratios are considered to be relevant instruments for the endogenous ownership.

The results suggest the absence of the clear ownership-performance link when the benchmark fixed-effect model is estimated. In contrast, IV/GMM technique provides the evidence on the relationship between ownership and performance. In particular, investors of both types, offshore and non-offshore are positively associated with firm profitability, but this effect comes mainly from the group of developed countries, USA, and Cyprus. Other types of ownership are found to have no impact on firm performance, with exception of “transition” type exhibiting negative effect on ROA. Among the control variables, leverage and firm size are important determinants of firm performance.

The rest of the paper is organized as follows. Chapter 2 reviews theoretical background and empirical evidence on the issue. Chapter 3 discusses research methodology, Chapter 4 describes the data needed for the analysis. The results of the estimation are presented in Chapter 5, and Chapter 6 concludes.

Chapter 2

LITERATURE REVIEW

There is an extensive body of literature devoted to investigating the link between ownership and firm performance. It is reasonable to present the existing evidence on the particular issues which are relevant to this study. Firstly, the findings on the effects of foreign ownership on firm performance are discussed. Secondly, the importance of the distinction between different types of foreign owners is considered. Thirdly, the issue of reverse causality between ownership and performance is addressed with the reference to the history of privatization process in Ukraine.

Foreign vs. domestic ownership is one of the most debated issues in the literature focused on the effects of different types of owners on corporate performance. The empirical evidence in developed countries does not document drastic differences in performance of domestically-owned and foreign-owned firms. For instance, Barbosa and Louri (2003) find out no evidence that multinational corporations perform better than domestic firms in Portugal and Greece in terms of return on assets as a performance measure. Similarly, Pfaffermayr and Bellak (2000) state that the performance gaps (in terms of labor productivity, investment propensity, and profitability) among the domestically-owned and foreign-owned firms in Austria are not explained by the foreign ownership per se. They argue that gaps concerning the investment propensity and growth are mainly explained by firm characteristics rather than ownership. In addition, the positive spillovers are found for the firms participating in a foreign MNE's network. Similarly, the effect of the foreign firms' presence on the domestic economy is investigated by Reganati and Sica (2005). The authors suggest the absence of "horizontal

spillovers” (at the intra-industry level) and the presence of “vertical spillovers” (at the inter-industry level) in manufacturing sector: foreign firms act as a driving-force to their domestic producers. However, the majority of the studies in developed economies do not distinguish between different sources of foreign investment. One of the studies that do take into analysis the origin of foreign capital is the paper by Ford et al. (2008) for the case of developed economy, US. They provide evidence that the source country contributes to the differences in output per worker of domestic and foreign firms. Namely, growth is dependent upon how closely related are the source countries’ and host economy’s endowments.

One of the reasons why the origin of capital is not taken into consideration in developed countries is that developed economies have not experienced crucial transformation of ownership, in contrast to transition countries. The emergence of transition types of owners, such as “pyramid” ownership, “crony” firms, and firms with headquarters in offshore zones is a particular feature of transition economies. There are problems with distinguishing between different types of owners and determination of the ultimate owners, mainly because of low transparency of companies’ ownership structures. Consequently, many studies do not manage to separate the effects of foreign non-offshore ownership and foreign offshore ownership. For instance, Yudaeva et al. (2003) argue that foreign firms in Russia are more productive than domestic ones in terms of value added. Moreover, the authors find the presence of positive spillovers from foreign-owned firms to domestic firms in the same industry (intra-industry spillovers) and negative vertical spillovers (inter-industry spillovers). There is no discussion of offshore ownership in the paper despite the fact that in many Russian enterprises the core company is surrounded by offshore firms (Sprenger, 2002). The recent study of Aydin et al. (2007) provides similar evidence on the effect of foreign

ownership: foreign firms operating in Turkey are found to perform better than domestic ones in respect to return on assets.

In general, as it is reported in the survey of Djankov and Murrell (2002), the majority of studies on the ownership-performance relationship in transition economies do suggest that foreign ownership is effective from the point of view of enterprise restructuring and improving productivity. However, taking into account the distinction between foreign offshore and foreign non-offshore firms, differences in their effects on firm performance are revealed. For instance, case of Bulgaria is presented by Mueller et al. (2003) who find a negative but statistically insignificant effect of offshore ownership on firm performance measured by ROA. Nenovsky et al. (2003) find out that offshore-owned firms with dubious origin of capital have higher bank crediting.

Ukraine, similarly to other East European countries, has experienced dramatic changes of ownership structures. The so-called “mass” privatization was completed in 1998; therefore the effectiveness of new types of owners can be measured by looking at their effect on firm performance, and the research interest to this issue has risen (e.g., Grygorenko and Lutz, 2004, Zheka, 2005). The ownership structure is usually measured by the percentage of shares held by each type of owner, for instance state, managers, workers, domestic and foreign concentrated owners, as Akimova and Schowödiauer (2004) do in their study. The authors find a non-linear impact of concentrated foreign ownership on performance: its effect is positive only up to a level that falls short of majority ownership. The effects of foreign ownership are investigated also by Pivovarsky (2001) who finds that the concentration of ownership by foreign companies is positively associated with enterprise performance in Ukraine. However, none of the above mentioned studies presenting the case of Ukraine “labels” the foreign

capital by its country of origin. This might raise doubts about the validity of results concerning the presence of the link between ownership and performance.

The reason why we should be concerned about the separation of offshore ownership is that a substantial share of foreign capital into Ukrainian economy comes from the classical offshore zones such as Cyprus and British Virgin Islands. The problem is that offshore ownership results in low transparency of ownership structure, i.e. anonymity of the ultimate owners. Thus, the substantial part of offshore capital may belong to Ukrainian or Russian owners transferring their money through offshore schemes.⁵ Therefore, offshore firms by nature do differ from non-offshore foreign firms, and consequently companies under their control could perform differently. It is not obvious whether offshore investments improve company performance since the goals of these companies are not always in line with conventional theory of firms' profit-maximizing behaviour. Controlling for the origin of foreign capital, it is possible to reveal whether owners' characteristics contribute to the differences in firm performance.

One more concern about the validity of results that reveal the ownership-performance link is the problem of reverse causality, or endogeneity. The assumption of exogenous ownership (which is accepted by the majority of studies in this area) is very strong and can explain the ambiguity of results across different empirical studies. A similar problem is revealed in the analysis of the effects of privatization upon firm performance. Bevan and al. (1999) argue that firms which are selected for privatisation are typically not selected purely randomly, and similarly, the particular ownership is determined by the firm's perspectives from the point of view of potential investor. This argument is supported by the studies that manage to deal with reverse causality between

⁵ Additional commonly known purposes of offshore firms' usage are tax optimization of export operations and investments, avoidance of raider attacks and monopoly regulation

privatization and ownership, or firm performance and ownership. For instance, Smith et al. (1997) estimate the elasticity of firm's value added with respect to foreign ownership and find positive association between two variables after controlling for simultaneity between privatization and firm performance in Slovenia (namely 3.9% increase in value added is due to foreign ownership). Other study by Benfratello and Sembenelli (2006) does not find any significant effect of foreign ownership on total factor productivity of firms in Italy after controlling for simultaneity of foreign ownership variable. These studies highlight the importance of controlling for the direction of the link between the variables of interest.

However, there are papers that point out the issue of endogenous ownership but manage to justify that this is not the case for their particular study. For instance, Xu and Wang (1997) argue that in the institutional environment where legal person have less power to select the shares of which company to purchase, the issue of endogenous ownership is not crucial. The authors present the case of China where the state has the control over which company to be listed and how many shares to be kept in the hands of the state, therefore they find it to be unlikely that the state would prefer to keep the shares in poorly performed firms, while better performed would be bought by private sector. As for Eastern and Central Europe, ownership was largely determined through political and administrative processes (Djankov and Murrell, 2002), but legal persons had more power to select the firms for purchase. Anecdotal evidence from transition economies suggest that it can be the case that stakes of better performing firms are bought by investors setting aside poorly performing enterprises, therefore ownership is usually viewed as endogenous (e.g., Demsetz and Villalonga, 2001).

The empirical evidence suggests that a particular study on the ownership-performance relationship has to take into account the quality of national legal and

regulatory environment and the features of privatization programs. The reason is that this information does not only contribute to our understanding of why different types of owners may have (or may not have) effect on firm performance but also helps to decide on the appropriate estimation technique. In contrast to developed economies where the particular ownership structure is the outcome of market forces, the ownership structure of firms in transition economies is generally recognized to be endogenous mainly due to the implementation of different mass privatization schemes (e.g., Grosfeld and Hashi, 2003). In particular, privatization program of state-owned enterprises in Ukraine was adopted in early 90's. The first stage (from 1992 to 1994) was characterized by the struggles of so-called "red directors" for the stakes of enterprises which de-facto were under their control. As far as it became obvious that such a scheme had nothing to do with the economic efficiency and reform of the ownership, "mass" privatization was introduced in 1994. "Mass" privatization (or voucher privatization) offered the possibility of fast transfer of assets from the state to large number of private owners (Estrin and Rosevear, 2003). The program stated that it was aimed at the establishment of dispersed ownership; however, in practice it was associated with political discretion and greatly complicated by the lack of legal protection of minority shareholders. Consequently, the evidence of "fair" privatization turned out to be illusory, since de-facto control was exercised by the business groups closely connected with political circles. The privatization process in 1992 – 1998 in Ukraine was associated with growing disillusionment of the population; however, it managed to transform the state ownership into the private ownership which became the base of the Ukrainian economy.

"Mass" privatization, however, as a whole could not ensure the emergence of real owners dedicated to the interest of profit which meant that enterprise performance did not improve (Estrin and Rosevear, 2003). Moreover, the government failed to realise the value of its portfolio which could have been

accomplished with the privatization by sale. The latter required well-functioning capital markets for valuation of the companies, making this method of privatization simply infeasible at early stages of transition. Starting from 2000, case-by-case privatization took the place of previous scheme, in particular due to the privatization of strategic units which required individual approach and more rigorous valuation techniques. Again, as anecdotal evidence suggests, it was associated with non-competitive (and even illegal) practices for the transfer of property. The ownership structure of the majority Ukrainian companies observed after 2002 is the outcome of the market and non-market forces that took place after the “mass” privatization.

This short discussion of privatization process is needed in order to decide whether ownership should be treated as endogenously determined. I believe that it is worth looking for the various determinants of ownership among the enterprises’ accounting information prior to 1998. The latter provided the potential buyers with the information necessary for valuation of the company and estimation of its future prospects. This approach (i.e., usage of pre-privatization performance measures) is employed in studies on ownership-performance relationship in transition economies. For instance, Filatotchev and Mickiewicz (2002) discuss the relevant characteristics determining the ownership structure among which are firm size, investment needs, industry, location, export potential. Demsetz and Villalonga (2001) show that ownership concentration is related to firm size and the degree of the regulation of the given industry. Similar approach is employed by Claessens and Djankov (1997), and Hanousek et al. (2004).

Therefore, the relationship between ownership and performance is the subject of an ongoing debate in the literature. I try to contribute to the existing evidence by addressing the important issues of endogenous ownership and distinguishing between foreign offshore and foreign non-offshore owners owners.

Chapter 3

METHODOLOGY

3.1 Performance measures

In order to estimate the link between ownership and performance it is necessary to decide on the appropriate performance indicators. Bevan et al. (1999) in their comparative study of literature on the determinants of enterprise performance discuss the advantages and shortcomings of different performance measures stressing the interpretation and measurement difficulties connected with each indicator. In particular, poor accounting standards and the underdevelopment of stock markets are the main reasons why Tobin's Q, the traditional measure of performance in developed countries, can not be employed in transition context. Even in developed countries performance measures based on capital stock, assets, or equity are criticized for the lack of precision, not to mention transition countries. As an alternative, the researchers refer to labour productivity, total factor productivity, proportion of sales exported, investment propensity, firm growth, and profitability ratios as performance measures.

Profitability is widely viewed as the best measure of corporate performance, especially in transition context, as it is suggested by Kocenda and Svejnar (2002). This indicator is usually calculated using the financial information of large companies which is publicly available. Among the financial ratios, the most commonly used candidates for performance measures are return on assets (ROA), return on sales (ROS), and return on equity (ROE). Return on assets as the ratio of net profit to firm's assets gives an idea as to how efficient management is at using its assets to generate earnings. Return on sales is

the ratio of yearly sales to assets and captures company's operational efficiency and growth opportunities. Return on equity (ROE), the ratio of net profit to equity, captures firm's efficiency at generating profits from shareholders' equity. In general, the existing literature documents the appropriateness of these financial ratios as performance measures in transition context. For instance, Hanousek et al. (2004) use two measures of profitability: return on sales and return on assets, and two additional performance measures which are the rate of change in sales revenue and in labour cost.

However, there are potential problems with the usage of the above-mentioned ratios. ROE is subject to the most serious accounting distortions. The problem is that the positive ROE does not always witness that a company is profitable. This is due to the fact that many Ukrainian firms report negative equity in their balance sheets. If the corporation incurs losses during several accounting periods, accumulated losses appear in the equity section of balance sheets and may result in negative value of equity. Therefore, positive values of ROE may occur as the ratio of two negative entries, loss to equity. It may turn out that loss-maker has a positive return on equity, therefore this measure has nothing to do with the actual firm performance. As to the remaining ratios, ROA and ROS, they may also suffer from the accounting errors (both random and intended), missing values in financial reports that cause the bias in estimation. However, they can be mitigated by applying screening procedures, as many researchers do (e.g., Kocenda and Svejnar, 2002). The magnitude of possible distortions in measuring ROA and ROS is therefore much smaller than in case of ROE and these profitability ratios are considered to be appropriate performance measures. In general, it is reasonable to refer to several performance measures rather than to the single indicator in order to compensate for individual shortcomings.

3.2 Ownership variables

The main research question relates to the impact of foreign offshore and foreign non-offshore ownership on performance: it is unclear whether foreign capital from different source countries affects firm performance differently. In order to investigate this question it is needed to decide on how the ownership is captured. Previous studies by Mueller et al. (2003) and Nenovsky et. al. (2003) employ dummy variables to capture the effect of offshore ownership: the offshore largest owner dummy that is 1 if the largest shareholder of the company is an offshore owner, and 0 otherwise; an offshore owner dummy if the firm has some offshore owner, and 0 otherwise. A similar approach is used by Yudaeva et al. (2003) who control for the effect of foreign ownership with dummy variable, which takes value one for fully or partially (at least 10%) foreign-owned firms. Another way to capture the effect of ownership is to use the percentage of shares held by foreign owners (e.g., Lee, 2008), and this study uses the latter approach.

The data on the largest shareholders provided by State Commission on Securities and Stock Market includes the names, addresses and shareholdings of the largest shareholders. These data allows to compute the ownership stake of foreign ownership from each country. However, owners from some countries posses the stakes in only a few Ukrainian companies so that the data are not sufficient to create the separate variable for every country of origin. A separate variable is created either for the group of countries or for one country in case there are enough observations and there is a reason to regard the country individually. The variable capturing the origin and concentration of capital is constructed in the following way (consider the case of Cyprus): it is equal to the proportion of shares held by Cyprian company if there is Cyprian owner, and zero otherwise. For the convenience of classification, I define two main blocks of countries:

foreign offshore and foreign non-offshore jurisdictions within which more detailed classification is applied.

The first block consists of countries that are officially recognized as offshore zones according to the Ukrainian government's regulations. Foreign offshore countries are grouped as follows:

- Cyprus⁶ (the biggest foreign investor in Ukrainian economy);
- British Virgin Islands (the second biggest foreign offshore investor in Ukrainian economy);
- Other offshore zones: Seychelles, Panama, Bahamas, Saint-Vincent and Grenadines, Saint-Kitts and Nevis, Belize, Isle of Man, and Gibraltar.

The second block consists of countries which are subject to specific regulation by The Organisation for Economic Co-operation and Development (OECD) because they have not implemented internationally agreed standards of tax cooperation and the effective exchange of information. These jurisdictions are often called "tax havens". In April 2009, at the behest of the London G20 meeting OECD published three lists of countries: the "black" list (countries that ignore foreign fiscal authorities), a "grey" list (countries that supposedly lack fiscal transparency but have committed to change), and a "white" list (countries that substantially implemented the agreed tax cooperation standards)⁷. OECD's 7 April press release has moved last four black-listed countries (Costa Rica, Malaysia, Philippines and Uruguay) to the grey list so that black list is empty now. However, there are still doubts whether it is possible to ensure there are no

⁶ Since 2006 Cyprus has not been officially recognized as offshore zone because of its exclusion from the list. This initiative was driven by the fact that Cyprus had joined EU, as officials argued. However, there are thoughts that this decision is a matter of political conspiracy.

⁷ A progress report on the jurisdictions surveyed by the OECD Global Forum in implementing the internationally agreed tax standards, accessed at <http://www.oecd.org/dataoecd/38/14/42497950.pdf>

longer tax havens⁸. Thus, the second block consists of countries that have been indulged by OECD in harmful tax practices during the last several years. They are called “pseudo-offshore” for the convenience of notation. Two variables are defined as follows:

- “Pseudo-offshore” countries (Europe): Liechtenstein, Luxembourg, United Kingdom, Denmark, Switzerland, Belgium, Austria, and Netherlands;
- United States of America⁹.

It is worth mentioning that many of these jurisdictions have recently concluded bilateral tax agreements and have made commitments to work with OECD and its partners to improve transparency. However, Liechtenstein is still defined as “tax haven” while Austria, Belgium, Luxembourg, and Switzerland are categorized as “other financial centres” and included into the OECD “grey list”.

The third group of foreign investors consists of foreign non-offshore countries, and dummy variable is created for each of the following groups of countries:

- Developed economies (appear on OECD’s “white list”): Germany, France, Sweden, Italy, Norway, and Canada;
- Transition economies: Slovakia, Latvia, Lithuania, Poland, Estonia, Greece, Hungary, Bulgaria, and Czech Republic;
- CIS: Russia and Moldova.

Thus, eight variables capturing the effect of ownership are constructed. First three variables comprise the group of “foreign offshore” countries, while the rest are called “foreign non-offshore” countries.

⁸ “White” list comprises a number of offshore and low-tax jurisdictions, including Barbados, Cyprus, Guernsey, Ireland, Isle of Man, Jersey, Malta, Mauritius, Seychelles, the United Arab Emirates, and the US Virgin Islands.

⁹ In particular, the LLC legislation of State of Delaware allows to register offshore structures.

Since the aim of this study is to examine the relation between ownership and performance, the main hypothesis concerning this link can be formulated as follows: foreign offshore ownership is negatively related to firm performance suggesting the possibility of money-laundering purposes of owners' offshore registration. Foreign non-offshore ownership is supposed to affect firm performance positively. However, I abstain from making any strong predictions on the sign of the effect of each type of owners even though I would expect the countries belonging to the group of non-offshore jurisdictions to be positively associated with firm performance and those belonging to offshore zones to be negatively linked to performance.

3.3 Model specification

Past literature suggests to estimate performance as a function of ownership, firm attributes, industry-specific and macro-economic variables. Among the firm-specific characteristics, financial structure, size, market share and business strategy are found to be important determinants of corporate performance (e.g., Joh, 2003). The model that links performance, ownership and other variables is usually specified as follows:

$$Performance_{it} = X_{it} \times \beta + Ownership_{it} \times \alpha + Z_{it} \times \gamma + u_{it},$$

where X_{it} is a set of firm-specific characteristics, $Ownership_{it}$ is a set of ownership variables, Z_{it} is a set of dummies (region, industry, and year), u_{it} is an unobservable term, β , α and γ are vectors of unknown parameters.

Among the control variables, traditional firm-specific characteristics widely used in the literature on ownership-performance relationship are leverage, firm size, and liquidity. These variables are used in this study and viewed as exogenous

which can be subject to critique. Leverage, according to different theories of capital structure, depends on past profitability. Most tax and agency-cost models of capital structure predict that leverage is increasing in profitability due to the possibility of managers to exploit valuable tax shields (e.g., Myers, 2003). Debt may yield a disciplinary effect on the distribution of free cash flow (Jensen, 1986). Empirically, the opposite relationship is often found (e.g., Fama and French, 2002) which is supported by pecking-order theory suggesting that profitable firms borrow less because they have more internal financing available. The causation between leverage and profitability may in fact run in both directions. For instance, the effect of debt on performance is estimated using simultaneous equations in the study of Baker (1973). Similarly, there are arguments in support of the simultaneous determination of profitability and firm size (e.g., Hall and Weiss, 1967).

Nevertheless, the majority of studies on ownership-performance relationship regard firm-specific characteristics as exogenous control variables. I follow the methodology of Joh (2003), Mueller et. al. (2003), Barbosa and Louri (2003) whose primary research interest is the effect of ownership on firm performance while firm-specific characteristics are regarded as predetermined. Therefore, the following control variables are employed:

- **Leverage** is measured as the ratio of total debt to assets. Higher leverage increases the risk of bankruptcy and is associated with firm dependency and bargaining power in the capital market, as Barbosa and Louri (2003) suggest. At the same time, leverage increases profit opportunities. The on-going debates on relationship between variables of interest refrain from making strong predictions on the ex-ante sign of the effect.

- **Firm size** (measured by the logarithm of company's assets) is positively related to profitability in case the firms make use of the economies of scale and scope. The logic is that large firms have all options of small firms, and, in addition, their scale allows to invest in projects that are not available for small firms (e.g., Hall and Weiss, 1967). However, the management of large companies is associated with bigger bureaucracy and increasing monitoring costs. One possible explanation of the negative relationship between firm size and performance is the separation of ownership and control in modern corporations. The conflict of interests between managers and owners arises when managerial utility maximization replaces profit maximization as the firm's objective function. This separation may increase with firm size, therefore large firms are more vulnerable to managerial discretion (e.g., Ammar et. al., 2003). As empirical studies provide varying results for firm size-performance relationship, I do not make a strong prediction on the sign of the relationship.

- **Liquidity** is a measure of asset management efficiency and reflects the speed of assets conversion in order to respond to profit opportunities (Barbosa and Louri, 2003). Liquidity can be measured by several ratios, such as quick liquidity ratio (cash-to-current liabilities ratio) or current ratio (current assets-to-current liabilities ratio), and this study employs the latter. Efficient liquidity management balances the risks of inability to pay out short-term obligations with the avoidance of excessive holdings of liquid assets which do not bring the return until are invested. Liquidity-profitability trade-off is discussed in detail by Abuzar (2004) who finds significant negative relation between the firm's profitability and its liquidity level, as measured by current ratio.

Region, industry and year dummies are available to control for location, industry and time.

The starting point for the studying of the link between ownership and performance is the fixed-effect estimation for panel data. This approach deals with the unobserved heterogeneity which causes OLS estimates to be biased and inconsistent. Using fixed-effect estimator, we allow for heterogeneity across panel units and confine this heterogeneity to the intercept of the relationship. In the model proposed above, performance depends on a set of the ownership variables, firm-specific characteristics which do vary over time (leverage, firm size, and liquidity), and time dummies.

Possible problems with the fixed-effect estimation, however, refer to the presence of reverse causality in case firm characteristics (in particular, firm performance) determine ownership structure. The point is that firms of specific ownership are not randomly “selected”, that is their assets are purchased by different types of foreign owners conditional on some observable firm characteristics. The latter may be efficiency, productivity, growth opportunities or other firm-specific characteristics.

The problem of endogeneity is addressed in several studies on the ownership-performance relationships, particularly by Demsetz and Villalonga (2001) and Earle and Estrin (1997) who study the impact of privatization upon firm performance. There are several approaches how to deal with reverse causality suggested in the literature. For instance, Smith et. al. (1997) control for simultaneity between privatization and firm performance employing two-stage Tobit least-square procedure while Mueller et. al. (2003) use binary logistic regression. Alternative approach is to use IV-GMM technique which is employed by Benfratello and Sembenelli (2006) for the estimation of effect of foreign ownership on total factor productivity of Italian manufacturing firms. Similar approach is used for transition economies by Claessens and Djankov (1997), and Hanousek et al. (2004). The authors use the set of variables reflecting different

firm characteristics in pre-privatization period, more specifically, the number of privatization projects, net asset value, number of shares, geographic and industry location of the firm, sales, profit, debt and employment prior to privatization. In addition, Claessens and Djankov (1997) argue that sales to foreign investors were possibly focused on firms with substantial market power.

Usage of pre-privatization performance measures as the predictors of firm's ownership structure indeed make sense. The essence of the instrumental variables approach is to find exogenous variables uncorrelated with dependent variable, but strongly correlated with endogenous regressor, and pre-privatization performance indicators comply with these requirements. In this respect, special attention should be paid to the history and schemes of privatization process in a particular country since the latter may induce the emerging ownership structures (e.g., Bevan et al., 1999). As it was already discussed, in Ukraine sale to outsiders required the valuation of the firm which was extremely problematic in the context of undeveloped capital markets. In this respect, reported accounting information had some predicative power for the estimation of company's perspectives and could be used for its valuation. It has to be noted that there are many problems associated with the data in this period. First, this information is often not available due to the lack of regulation that obliged all the companies to make their reports public. Secondly, if these data are available, they are subject to many serious accounting distortions mainly due to the hyperinflation, changes in input prices, and imperfections of accounting standards. These problems, in particular, force to refer to ratios rather than to nominal values as the candidates for instruments. Among the possible instruments, I identify the following ratios:

- **Return on sales** can be considered as a proxy for firm's growth opportunities and may have influence on the preference of investors for better performing firms;

- **Capital productivity ratio** (sales divided by the basic capital) is considered to be the measure of operational efficiency as it shows the possibility of firm's resources to generate sales;
- **Firm size** which is captured by the number of employees.

The above-mentioned performance measures prior to 1998 are expected to perform well as instruments for endogenous ownership. What is important with regard to the instruments is that they can not be correlated with the error term in the period under investigation (2002 – 2006). Therefore, IV-GMM approach can be employed to estimate the relationship between ownership and performance. Usage of IV-GMM approach is justified by the fact that it is more efficient than 2SLS in case of overidentification as “boiling down” of the available instruments is not necessary.

Chapter 4

DATA AND SAMPLE DESCRIPTION

The data used in the empirical analysis is provided by State Commission on Securities and the Stock Market¹⁰. This datasets covers about 13,000 of Ukrainian companies of two types, open and closed joint stock companies. For the analysis, financial data (companies' balance sheets and income statements), ownership data for 2002 – 2006, and pre-privatization indicators (1993 – 1998) are used. The latter dataset includes a number of important firm indicators such as profits, sales, basic capital, employment etc. As it was mentioned above, these data suffer from accounting distortions due to the general economic instability and the absence of approved accounting standards¹¹. These shortcomings are mitigated by applying screening procedures and referring to the ratios rather than to nominal values when excluded instruments are chosen. It is worth mentioning that the data on closed joint stock companies are deliberately excluded from the analysis since closed joint stock companies are not obliged to report the information on their owners, therefore it is not publicly available. In addition, financial companies are not taken into analysis.

The sample for the analysis includes 264 manufacturing firms which have the share of foreign ownership in their equity. For these firms, there is data about ownership and accounting variables for the period 2002 – 2006, and accounting data for 1993 – 1998 (the breakdown of the firms by industry and region is

¹⁰ The Internet address is <http://www.smida.gov.ua>, the link effective as of May 2009.

¹¹ The Law “On accounting and financial reporting in Ukraine” was passed in 2000. Consequently, Ukrainian accounting standards came into line with International Accounting Standards.

presented in Appendices B and C). The unbalanced panel includes 794 observations, each firm is observed for at least two reporting periods. It has to be noted that pre-privatization data for some companies is unavailable which reduces the effective number of observations. Some firms may be lost because they have gone out of business or have merged with other companies, that is they may drop from the data due to some reasons correlated with firm performance. In order to verify the possibility of sample selection, it is needed to check whether the variables of interest are systematically different for two groups of companies, namely those for which the pre-privatization data is available and those that miss this information. t-test on the equality of means does not reveal significant differences in mean values of ROA, ROS and control variables for two groups.

Ownership data is taken from the reports of open joint-stock companies on firm's largest shareholders with 5% of equity or more. The information reported includes the name and address of the owner (legal entity) which allows to determine the "origin" of ownership¹². There are 36 different sources of foreign capital in the sample of Ukrainian corporations (see Appendix D). Based on the groups of countries defined as above, the variables capturing share ownership are computed. For instance, variable CYPRUS captures ownership of Cyprian companies in the equity of Ukrainian firm, and it is equal to the proportion of shares to all equity.

The descriptive statistics on the main financial indicators and ownership variables used in the analysis is presented in Table 1. As it can be observed, Ukrainian joint

¹² It must be mentioned that the identification of the ultimate owners is indeed infeasible. For instance, there is no guarantee that the company-owner from, say, UK or Netherlands is not just an intermediary in offshore scheme. The reasoning that even country with relatively "good" reputation can be blamed for tax haven's practices is supported by the OECD's reports on internationally agreed tax standards. This shortcoming of the ownership data is acknowledged and taken into account when the estimation results are analyzed.

stock companies with the shares of foreign ownership appear to be, on average, unprofitable, as the mean values of ROA and ROS are negative. Mean of leverage shows that these firms are, on average, financially stable: debt-to-assets is ratio is equal to 1:2.5. Liquidity ratio suggests that firms' current liabilities are covered by working capital more than two times. Firm size is measured in constant 2002 prices. As to the ownership structure, the average share of foreign ownership in the equity of the sample of Ukrainian companies is about 48%. In general, foreign ownership is concentrated enough varying from 23 to 71% of company's equity (on average, ownership of investors from developed countries is the most concentrated). Cyprus is the most preferred location of owners' official registration among all the source countries.

Table 1. Descriptive statistics of the main variables

Variable	Definition	Mean	Standard Deviation	Number of observations
<i>Ownership variables</i>				
	Proportion of shares in firm's equity			
Foreign ownership		0.482	0.296	794
Cyprus		0.399	0.277	219
British Virgin Islands		0.248	0.239	105
Other offshore zones		0.230	0.133	78
Pseudo-offshore		0.399	0.290	248
USA		0.333	0.235	107
Developed		0.708	0.316	73
Transition		0.421	0.253	81
CIS		0.470	0.312	67
Domestic ownership		0.400	0.233	788
State		0.397	0.229	114
<i>Accounting variables</i>				
ROA	The ratio of net profit to assets	-0.003	0.081	794
ROS	The ratio of net profit to sales	-0.070	0.257	787
Size	Log of firm's assets (in constant 2002 prices)	10.786	1.980	794
Leverage	The ratio of debts to assets	0.432	0.294	794
Liquidity	The ratio of working capital to short-term debts	2.249	2.532	790

It is worth mentioning that such industries as Metallurgy, Food, and Mining are of the biggest interest to owners from Cyprus in the sample, and the majority of them are located in Eastern Ukraine (Dnipropetrovska, Zaporizka, and Donetska regions). In addition, the stakes of Cyprian owners are present in 13 out of 21 energetic companies (mainly these are public utilities companies, “oblenergo”). One more popular jurisdiction is British Virgin Islands that invest mostly in Chemicals, Food, and Metallurgy in Dnipropetrovska and Zaporizka regions. Domestic owners on average possess about 40% of the equity, and one sixth of the companies are partly owned by the state.

This simple univariate analysis is extended by comparing the main financial indicators of firms owned by different types of owners. First, I break down the sample into two groups: firms with majority foreign ownership (more than 50% of equity) and firms with majority domestic ownership. The differences between two groups of countries are tested with t-statistics.

Table 2. Financial ratios, by type of majority owners

Variable	Definition	Majority domestic ownership (431 observations)	Majority foreign ownership (363 observations)	t-statistics on the equality of means
ROA	The ratio of net profit to assets	-0.013 (0.079)	0.009 (0.083)	-3.763***
ROS	The ratio of net profit to sales	-0.086 (0.267)	-0.052 (0.242)	-1.858**
SIZE	Log of firm's assets (in constant 2002 prices)	10.698 (2.108)	10.891 (1.813)	-1.374*
LEVERAGE	The ratio of debts to assets	0.460 (0.304)	0.399 (0.278)	2.904***
LIQUIDITY	The ratio of working capital to short-term debts	2.110 (2.421)	2.429 (2.651)	-1.838**

Note: standard deviations are in brackets. *, **, *** correspond to 10, 5, and 1% level of significance, respectively.

As it can be seen from Table 2, firms with majority domestic ownership perform relatively worse in terms of return on assets and return on sales comparing to foreign-owned firms. It worth mentioning that state-owned firms demonstrate on average even lower performance than privately-owned firms (these computations are not presented in table). In addition, foreign-owned firms are relatively larger, less levered and have on average higher liquidity ratio comparing to domestically-controlled firms.

Next, I break down the sample of foreign-owned firms into two by types of foreign owners: firms with the share of foreign-non offshore ownership and those with offshore ownership only (Table 3). Firms with both types of owners (91 observations) are not taken into account in order to get independent samples.

Table 3. Financial ratios, by type of foreign owners

Variable	Definition	Foreign-non offshore (448 observations)	Foreign offshore (255 observations)	t-statistics on the equality of means
ROA	The ratio of net profit to assets	-0.007 (0.085)	0.001 (0.077)	-1.241
ROS	The ratio of net profit to sales	-0.078 (0.256)	-0.068 (0.268)	-0.488
SIZE	Log of firm's assets (in constant 2002 prices)	10.336 (1.852)	11.284 (1.971)	-6.374***
LEVERAGE	The ratio of debts to assets	0.419 (0.296)	0.456 (0.296)	-1.594*
LIQUIDITY	The ratio of working capital to short-term debts	2.319 (2.566)	2.170 (2.589)	0.737

Note: standard deviations are in brackets. *, **, *** correspond to 10, 5, and 1% level of significance, respectively.

As it can be seen from the Table 3, there are no drastic differences in average performance and liquidity between groups; however, offshore-controlled firms are on average larger and more levered.

I try to explore some differences using more detailed division, namely by type of foreign owners as described in the methodology section. t-statistics is used to see whether the means of firm-specific characteristics statistically differ across firms with different owners. For instance, it can be tested whether mean ROA of firms with share ownership from Cyprus is statistically different from the mean ROA of firms without Cyprian ownership.

Table 4. Financial ratios, by type of foreign owners (eight groups)

Variable	Cyprus (219 obs)	BVI (105 obs)	Other offshore (78 obs)	Pseudo-offshore (248 obs)
ROA	0.005** (0.080)	0.003 (0.071)	-0.001 (0.076)	0.002 (0.086)
ROS	-0.056 (0.248)	-0.061 (0.080)	-0.108* (0.346)	-0.067 (0.273)
SIZE	11.306*** (2.042)	11.630*** (1.939)	11.081 (1.872)	11.176*** (1.955)
LEVERAGE	0.448 (0.285)	0.486** (0.281)	0.412 (0.280)	0.440 (0.293)
LIQUIDITY	2.104 (2.422)	1.833** (2.001)	2.378 (2.682)	2.292 (2.629)

Variable	USA (107 obs)	Developed (73 obs)	Transition (81 obs)	CIS (67 obs)
ROA	-0.010 (0.067)	0.005 (0.098)	-0.020** (0.085)	-0.006 (0.066)
ROS	-0.080 (0.253)	-0.026* (0.169)	-0.084 (0.257)	-0.051 (0.140)
SIZE	10.662 (2.119)	10.602 (1.904)	9.499*** (1.281)	9.980*** (1.431)
LEVERAGE	0.434 (0.245)	0.520*** (0.317)	0.375** (0.295)	0.296*** (0.268)
LIQUIDITY	2.014 (2.406)	2.055 (2.223)	2.404 (2.343)	2.775** (2.369)

Note: standard deviations are in brackets. *, **, *** correspond to 10, 5, and 1% level of significance, respectively for the t-test on equality of means between the corresponding type of ownership and the rest of the sample.

The results presented in Table 4 suggest the differences in performance: Cyprus-owned firms are more profitable, while “transition”-owned companies are the worst performers in terms of ROA comparing to the rest. As for ROS, the worst performers are “other-offshore”-controlled firms, while the “developed”-controlled firms are the least loss-makers. Firms with offshore ownership from Cyprus and British Virgin Islands, and “pseudo-offshore” companies are relatively larger comparing to the rest, while companies labeled with “transition” and “CIS” ownership are smaller. Mean of leverage is higher in firms with investment from British Virgin Islands and developed countries, while firms with “transition” and “CIS” ownership are the least levered. “BVI”-owned companies have on average low liquidity, while “CIS” firms have the highest current liquidity ratio.

The univariate analysis provides some evidence on the differences in performance and operational efficiency of companies with different owners which may be due to the specific nature of owners. An insight into the causal relationship between ownership and performance can be gained with regression analysis.

EMPIRICAL RESULTS

5.1 Fixed effects and IV/GMM estimation

The starting point of the estimation is fixed-effect estimation for unbalanced panel data as a benchmark. The regression results for the specifications when there are only two types of owners, foreign-non offshore and foreign-offshore, are presented in Table 5.

Table 5. Regression results: fixed-effect estimation of the effects of two types of owners

	ROA	ROS
SIZE	0.0620*** (0.0104)	0.1274*** (0.0392)
LIQUIDITY	-0.0003 (0.0017)	0.0030 (0.0081)
LEVERAGE	-0.1688*** (0.0301)	-0.2596*** (0.0824)
FOREIGN-NON OFFSHORE	-0.0194 (0.0221)	-0.1466* (0.0763)
OFFSHORE	0.0292 (0.0189)	0.0248 (0.0614)
Constant	-0.6142*** (0.1092)	-1.3052*** (0.4110)
Number of observations	790	787
R ²	0.1617	0.0684

Note: Heteroskedasticity-robust standard errors are in brackets. Time dummies are included into the regression but not reported. *, **, *** correspond to 10, 5, and 1% level of significance, respectively.

As it was expected, I do not find persuasive evidence on the effect of ownership on performance in these specifications. Surprisingly, when ROS is used as a dependent variable, foreign non-offshore owners are found to influence firm

performance negatively. Firm-specific characteristics, size and leverage, are found to be significant determinants of firm performance: size is positively associated with both performance measures while leverage decreases firm performance. Similarly, Mueller et al. (2003) find out the positive and statistically significant effect of firm size on performance, and negative but statistically insignificant effect of leverage. R^2 is relatively low, especially when ROS is used as a dependent variable.

Similarly, fixed-effects are estimated including all the types of foreign-owners (Table 6). The signs, magnitudes and significance of firm-specific characteristics are almost unchanged. The only type of ownership which demonstrates statistically significant effect on firm performance is pseudo-offshore ownership which appears with the negative sign.

In case there were not reverse causality problem I would rely on these estimates suggesting the absence of strong ownership-performance relationship¹³. However, there are several problems associated with fixed effect estimation. The first problem is that there can be not enough variation in ownership making it unable to explain the variation in performance. In addition, the results suggesting that ownership is not consistently related to the performance may indicate that underlying assumption of exogenous ownership is not satisfactory. It can be the case that ownership structure is determined by the “quality” of the company which is the outcome of privatization process. To address endogeneity problem, instrumental variables approach is employed. Past performance are used as the determinants of equity stakes held by foreign investors.

¹³ Hausman test performed after the estimation of two alternative models, fixed-effects and random-effects, suggests in favour of the former.

Table 6. Regression results: fixed-effect estimation of the effects of eight types of owners

	ROA	ROS
SIZE	0.0630*** (0.0104)	0.1380*** (0.0383)
LIQUIDITY	-0.0003 (0.0017)	0.0027 (0.0084)
LEVERAGE	-0.1672*** (0.0307)	-0.2748*** (0.0812)
CYPRUS	0.0334 (0.0215)	-0.0066 (0.0578)
BVI	0.0216 (0.0312)	0.2108 (0.1724)
OTHER OFFSHORE	-0.0029 (0.0496)	-0.1063 (0.1262)
PSEUDO OFFSHORE	-0.0804** (0.0316)	-0.3769*** (0.1359)
USA	0.0160 (0.0398)	-0.0427 (0.0794)
DEVELOPED	0.0342 (0.0615)	0.0804 (0.1394)
TRANSITION	0.0636 (0.0618)	-0.0761 (0.2258)
CIS	0.0098 (0.0275)	0.0534 (0.0651)
Constant	-0.6288*** (0.1097)	-1.4135*** (0.4014)
Number of observations	790	787
R ²	0.1537	0.0767

Note: Heteroskedasticity-robust standard errors are in brackets. Time dummies are included into the regression but not reported. *, **, *** correspond to 10, 5, and 1% level of significance, respectively.

IV-GMM is estimated by instrumenting two types of owners, foreign non-offshore and foreign-offshore owners. Four financial ratios such as return on sales in 1993 and 1998, logarithm of employment in 1994 and 1997 are used as instruments. In contrast to FE estimation, there is the evidence on the ownership-performance relationship. The regression results (Table 7) suggest the presence of positive effect of both foreign non-offshore and foreign offshore ownership on firm performance in terms of both performance measures, and the effect of offshore ownership is larger in absolute value. The latter result

contradicts the hypothesis of the study. However, this is the effect of the aggregated group of the countries that are put into one category based on the official document. Owing to the fact that more detailed classification of owners is available, it is possible to look which owners contribute to this increase in profitability. As to the control variables, the coefficients on them are of the same sign as in FE-estimation, however, the magnitude of coefficients is smaller and leverage has no statistically significant on ROS in IV estimation.

Table 7. Regression results: IV estimation of the effects of two types of owners

	ROA	ROS
SIZE	0.0141*** (0.0031)	0.0226*** (0.0079)
LIQUIDITY	0.0022 (0.0021)	0.0091 (0.0066)
LEVERAGE	-0.0824*** (0.0184)	-0.0235 (0.0507)
FOREIGN-NON OFFSHORE	0.1717*** (0.0422)	0.2614** (0.1265)
OFFSHORE	0.1913*** (0.0600)	0.3512** (0.1681)
Anderson canon. corr. LR statistic	58.636 (p=0.0000)	58.574 (p=0.0000)
Hansen J statistic	14.636 (p=0.4035)	12.353 (p=0.5770)
Wu-Hausman F-test	7.157 (p=0.0279)	5.495 (p=0.0641)
Number of observations	631	630

Note: Excluded instruments: Return on sales in 1993, Return on sales in 1998, Log (employment) in 1994, Log (employment) in 1997. Cluster-robust standard errors are in brackets. Time, industry and region dummies are included into the regression but not reported. *, **, *** correspond to 10, 5, and 1% level of significance, respectively.

Next two specifications with ROA and ROS as dependant variables include eight types of foreign owners as the regressors (Table 8). Ownership variables are instrumented with past financial measures, namely ROS, logarithm of employment, and capital productivity ratio prior to 1998. The control variables preserve their signs and significance in two specifications, that is the negative

effect of leverage and the positive effect of firm size is observed. As to the ownership variables, the positive effect of two groups of investors is decomposed.

Table 8. Regression results: IV estimation

	ROA	ROS
SIZE	0.0146*** (0.0037)	0.0316** (0.0145)
LIQUIDITY	0.0031 (0.0028)	0.0100 (0.0107)
LEVERAGE	-0.0944*** (0.0266)	-0.0797 (0.0892)
CYPRUS	0.1902** (0.0817)	0.6246** (0.3004)
BVI	0.1983 (0.1349)	0.7969 (0.6005)
OTHER OFFSHORE	-0.1352 (0.1698)	-0.7555 (0.9155)
PSEUDO OFFSHORE	-0.0106 (0.0629)	-0.3272 (0.2980)
USA	0.3871*** (0.1490)	1.2529** (0.5780)
DEVELOPED	0.1581*** (0.0537)	0.3770* (0.2026)
TRANSITION	-0.1882* (0.0980)	-0.4893 (0.4077)
CIS	-0.0835 (0.1130)	-0.4827 (0.5001)
Anderson canon. corr. LR statistic	24.713 (p=0.0750)	24.240 (p=0.0844)
Hansen J statistic	8.788 (p=0.8884)	7.899 (p=0.9278)
Wu-Hausman F-test	14.401 (p=0.0719)	20.971 (p=0.0072)
Number of observations	627	626

Note: Excluded instruments: Return on sales in 1993, Return on sales in 1994, Return on sales in 1996, Return on sales in 1997, Return on sales in 1998, Log (employment) in 1993, Log (employment) in 1994, Log (employment) in 1996, Log (employment) in 1997, Capital productivity ratio in 1995, Capital productivity ratio in 1996. Cluster-robust standard errors are in brackets. Time, industry and region dummies are included into the regression but not reported. *, **, *** correspond to 10, 5, and 1% level of significance, respectively.

Positive and statistically significant relationship between “developed” ownership and both profitability measures is found: if the ownership stake of investors from Germany, France, Sweden, Italy, Norway, or Canada increases by 1%, ROA increases by 0.0016 and ROS increases by 0.0038. Similarly, positive effect is found for the effect of investments from the USA. These two findings are in line with the *priori* expectations. However, as it turns out, the positive effect of offshore ownership comes from the Cyprian ownership, the coefficient on which is significant and especially high in case of ROS (increase of Cyprian ownership by 1% increases ROS by 0.0062). One more unexpected result is the negative effect of “transition” ownership (Slovakia, Latvia, Lithuania, Poland, Estonia, Greece, Hungary, Bulgaria, and Czech Republic) on ROA (we recall that descriptive statistics reveals that this type of ownership is relatively worse in terms of ROA).

Other offshore zones such as Seychelles, Panama, Bahamas, Saint-Vincent and Grenadines, Saint-Kitts and Nevis, Belize, Isle of Man, Gibraltar, and British Virgin Islands do not contribute to the change in firm performance. Similarly, ownership of entities registered in “pseudo-offshore” jurisdictions (countries under the special attention of OECD) and in the members of CIS, Russia and Moldova, is irrelevant. These results are discussed in the next subsection with the reference to actual data and recent improvements of international disclosure standards.

Several issues on the estimation technique and specifications tests have to be mentioned. Even though panel data are used for estimation, I do not employ two-stage least-squares within estimator because the instruments do not vary within the firm (that is, ROS in 1993 is the same for every year when the firm i is observed). In a pooled estimation (no fixed or random effects), it may be reasonable to assume that the observations on the same firm (cluster) in two

different periods are correlated, but observations on two different firms are not. I estimate the model which is robust to arbitrary heteroskedasticity and intra-cluster correlation, and this is useful alternative to the fixed or random IV estimators because it relaxes the constraint imposed by the latter estimators that the correlation of individual observations within a group is constant (Baum et al. (2003)).

Instrumental variables must satisfy two requirements: they must be correlated with the included endogenous variables, and orthogonal to the error process. The former is tested by examining the first stage regressions. Commonly used statistics are R^2 of the first-stage regression with the included instruments “partialled-out” and F-test of the joint significance of excluded instruments. However, these statistics are not sufficient to decide in the instruments’ relevance because of multiple endogenous regressors. The relevance of the instruments is tested with Anderson canonical correlations likelihood-ratio test of whether the equation is identified. The null hypothesis of the test is that the matrix of reduced form coefficients equation is underidentified. As it can be seen from the Tables 7 and 8, we can reject the null, as p-values are sufficiently low. The rejection of the null provides the measure of instruments’ relevance.

To check whether there is non-orthogonality between regressors and errors, endogeneity tests of ownership variables is performed. This is Wu-Hausman F-test analogous to a Hausman test comparing IV and OLS estimates. The null hypothesis is that the specified endogenous regressors (namely, ownership variables) can actually be treated as exogenous in order to derive consistent estimates. Again, p-value is sufficiently low to reject the null, therefore IV should be used.

However, rejection of the null should be treated with caution because it does not eliminate weak instrument problems. In the context of IV/GMM, the Sargan-

Hansen test of overidentifying restrictions suggests whether the instruments are valid. The null hypothesis is that they are uncorrelated with the error term, and that the excluded instruments are correctly excluded from the estimated equation. The statistics performed in overidentified models suggest that we cannot reject the null (p-value is sufficiently high).

4.2 Effects of ownership: looking for possible explanations in the actual data

Even though the regression results provide the evidence on the relationship between ownership and performance, the signs of the coefficients are not always in line with the priori expectations. Possible explanation of the observed effects may come from the actual data. Firstly, the positive impact of Cyprian ownership is found. The logical question arises from this result: should be Cyprus treated as offshore? The Ukraine's legislative practices evidence that its status was largely determined by political discretion of every newly-formed government. The first time Cyprus was "labeled" in 2000. In 2002, two controversial events happened: its exclusion from the list on February and inclusion on March. In 2003, the "stigma" of being tax haven was eliminated again. During 2003 – 2005, the volume of FDI from Cyprus increased drastically. Then, Cyprus was "labelled" in 2005, and excluded from the "black" list in 2006.

On the international level, the offshore regime in Cyprus has changed as part of the island's accession to the EU in 2004, and as a result of agreements with the Organisation for Economic Cooperation and Development (OECD). Cyprus was excluded from the OECD's June 2000 "harmful" tax haven blacklist in return for pledging a commitment to amend its tax practices. The progress of Cyprus made at 2nd April 2009 is its recognition as a "jurisdiction that have substantially implemented the internationally agreed tax standard" (in other

words, it belongs to the OECD “white” list). However, Cyprus still remains one of the world’s most attractive financial centres having the lowest corporate tax rate in Europe and containing many favourable tax provisions. Therefore, its status is subject to discussion.

The regression results suggesting the positive effect of Cyprian ownership raises doubts. The main concern is that in reality the ultimate owners of stakes in company’s equity are not known since offshore registration guarantees the anonymity of owners. This problem is aggravated by the fact that so-called strategic firms are often of this type of ownership. For instance, 13 out of 21 energetic companies in the sample are partly owned by Cyprus, and in 5 of them Cyprus has a majority ownership. Anecdotal evidence suggests that purchase of the stakes in strategic units is often associated with fraud and raider’s attacks. However, I do not find clear evidence that the subsequent firm performance after the privatization is deteriorated by the presence of this non-transparent type of ownership.

The positive effect of investment from USA is also subject to discussion. It is possible to register offshore companies in the State of Delaware and the state of Oregon. However, USA is positioned as a zealous proponent of information transparency and international tax standards. According to the classification of this study, USA is defined as “pseudo-offshore” country, together with the group of European countries such as Liechtenstein, Luxembourg, United Kingdom, Denmark, Switzerland, Belgium, Austria, and Netherlands. In contrast to the American owners, the group of European countries is found to have no effect on firm performance. According to OECD list, Liechtenstein is officially recognized as tax haven, while Austria, Belgium, Luxembourg and Switzerland are labelled as “other financial centres” lacking the substantial implementation of tax standards. In March, 2009 Austria, Belgium,

Luxembourg and Switzerland withdrew their reservations to Article 26 of the OECD Model Tax Convention which creates an obligation to exchange information that is relevant to the correct application of a tax convention¹⁴. As to Denmark, Netherlands and United Kingdom, they are listed as countries with good reputation, however in practice they allow to register private companies with limited liability similar to offshore structures. Comparing to the registration on Panama or Seychelles, it costs more for the Ukrainian residents, however the reputation of such firms is better. They are commonly used as intermediaries in more complicated offshore schemes, according to the State Committee on Financial Monitoring.

British Virgin Islands and other offshore zones, except Seychelles (official offshore according to the Ukrainian legislation) are also under special attention of OECD. No effect of investment from these offshore countries is found confirming the OECD's policy concerning these jurisdictions.

The result which is in line with priori expectations is the positive and statistically significant effect of the capital coming from developed economies such as Germany, France, Sweden, Italy, Norway, or Canada. These countries are co-operative and well-regulated places and whitelisted compliant jurisdictions. One more country which belongs to this category is Russian Federation, however the coefficient on investments from Russian Federation and Moldova (CIS) appears in the regression results with minus sign but is insignificant.

Negative effect of "transition" ownership (Slovakia, Latvia, Lithuania, Poland, Estonia, Greece, Hungary, Bulgaria, and Czech Republic) in the specification when ROA is used as a dependant variable is hard to explain because none of

¹⁴ Information accessed at <http://www.oecd.org>

them is blamed in unfair tax malpractices. However, studies investigating the ownership structures document many problems associated with domestic ownership in these countries (for instance, Mueller et al. (2003) for the case of Bulgaria, Hanousek et al. (2004) for the case of Czech Republic, Javorcik (2004) for the case of Lithuania). Even in middle of 2000's it has been argued that positive effects of privatization on performance in transition economies are premature, and effects of many types of ownership are indistinguishable from that of state ownership. Thus, there are still on-going debates about the effectiveness of the privatization programs in these countries. This evidence may partly serve as the explanation why significant negative effect of this type ownership is found in one of the specifications.

The results of this study support the idea that the OECD as the international body has developed more or less sufficient criteria for the determination of jurisdictions which fall under suspicion of financial fraud and tax avoidance. There is still open question whether the OECD's agreements on the information exchange between countries ensure the improvement of transparency of ownership structures. However, recent achievements in internationally agreed standards of financial control must definitely be taken into account when state policy concerning the foreign ownership in Ukraine is designed. By this time, no drastic measures concerning the struggle with money-laundering and tax avoidance through offshore structures and the intermediaries in "pseudo-offshore" jurisdictions are undertaken.

CONCLUSIONS

This study investigates the effects of different types of foreign ownership on firm performance of Ukrainian manufacturing companies in 2002 – 2006. It addresses two important problems widely discussed in the existing literature on ownership-performance relationship. First, I distinguish between different types of ownership, namely foreign offshore and foreign non-offshore firms, using the data on the largest stockholders published by Ukrainian open-joint stock companies. Secondly, the endogeneity of ownership is dealt with instrumental variables calculated from the pre-privatization data. Two profitability ratios, ROA and ROS are used as the performance measures instead of single indicator in order to mitigate the possible accounting distortions. Additional controls, such as firm size, leverage and liquidity are used in the analysis.

The distinction between firms of different ownership is observed even when simple univariate analysis is conducted, and it is confirmed with the regression analysis. When fixed-effects regression is estimated, no consistent relationship between foreign ownership and performance is found. When more detailed classification of foreign ownership including eight types of owners is used, the negative effect of so-called “pseudo-offshore” ownership is observed. However, due to the endogenous ownership the results of this benchmark estimation are put into doubt. IV/GMM estimation provides the evidence that there is the link between some types of foreign owners and profitability. More specifically, both offshore and non-offshore owners are found to influence firm performance positively, however these effects are disseminated when more ownership types are analyzed. This approach confirms the idea that “a closer

look” at owners indeed makes sense. Thus, positive effects of capital from group of developed countries (Germany, France, Sweden, Italy, Norway, or Canada), USA, and Cyprus is documented, though the effect of last jurisdiction, Cyprus, is not in line with the priori expectations. Negative effect of so-called “transition” ownership is found in one of the specifications. The discussion of the effects observed in the data is focused on the recent achievements of different countries in implementing internationally agreed standards of information exchange. This is related to my study in a way that commitment of the countries to cooperate on tax issues improves information disclosure and guarantees more transparent ownership structures.

The coefficients on two control variables, size and liquidity, preserve their signs across the specifications and significantly impact firm performance in almost all of them. Leverage is negatively associated with firm performance suggesting that the bankruptcy costs are serious issue for Ukrainian manufacturing companies. Firm size increases performance which evidences in favour of the benefits of economy of scope and scale.

The results of the study contribute to the previous literature on the effects of foreign ownership on firm performance as they help to understand why the existing evidence on this issue is not conclusive. In particular, the underlying assumptions about ownership structure are crucial. The research is also important in context of recent global initiative of international community to improve the standards on tax issues and information transparency. The consequences of these efforts may be detrimental to the economies which do not comply with the requirements. As a result, the policies of other countries in relation to jurisdictions labelled as tax havens or suspected in other unfair practices have to be revised. These changes will probably affect Ukraine which has to comply with agreed standards in order to establish its reputation on the

international level. At this point of time, the impossibility to determine ultimate owners raises the main concerns about the results obtained, and further research able to deal with this issue can be conducted in case Ukraine undertakes sufficient steps concerning the disclosure of ultimate owners.

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Appendix A. Direct foreign investment in Ukraine¹

	The cumulative volume of FDI as of 01.04.09 (USD billion)	% share as the ratio to total
TOTAL	36526.6	100.0
Cyprus	7890.2	21.6
Germany	6441.2	17.6
Netherlands	3378.6	9.2
Austria	2448.6	6.7
United Kingdom	2248.6	6.2
Russia	2135.5	5.8
USA	1400.3	3.8
British Virgin Islands	1348.0	3.7
Sweden	1259.9	3.4
France	1221.8	3.3

¹Source: <http://ukrstat.gov.ua/>

Appendix B. Firms' breakdown by industry

Industry	Number of observations	Number of firms
1 Mining	67	24
2 Food	170	59
3 Textile	54	18
4 Wood processing	21	7
5 Chemicals	101	32
6 Construction Materials	74	25
7 Metallurgy	160	49
8 Electronic Tools	30	9
9 Machinery	37	12
10 Other processing	4	2
11 Energy	60	21
12 Retail and Wholesale Trade	13	5
13 Transport	3	1
Total	794	264

Appendix C: Firms' breakdown by region

Region	Number of observations	Number of firms
1 Cherkaska	21	7
2 Chernigivska	23	7
3 Chernivetska	6	2
4 Crimea	22	8
5 Donetska	88	26
6 Dnipropetrovska	85	29
7 Ivano-Frankivska	7	3
8 Kharkivska	29	9
9 Khersonska	9	3
10 Khmelnytska	11	4
11 Kirovogradska	10	4
12 Kyiv	72	18
13 Kyivska	39	14
14 Lvivska	42	16
15 Luganska	38	12
16 Mykolaivska	4	2
17 Odeska	34	11
18 Poltavska	24	7
19 Rivnenska	31	10
20 Sevastopol	3	1
21 Sumska	20	8
22 Ternopilska	4	2
23 Vinnytska	30	11
24 Volynska	16	5
25 Zakarpatska	26	8
26 Zaporizka	68	25
27 Zhytomyrska	32	12
Total	794	264

Appendix D. Percentage shares of foreign ownership in the sample of Ukrainian companies

Country	Mean	Standard deviation	Number of observations	Number of firms
1 Austria	45.919	36.813	22	9
2 Bahamas	16.260	6.088	18	8
3 Belgium	24.000	0.000	2	1
4 Belize	21.880	11.156	23	13
5 British Virgin Islands	24.758	23.877	105	54
6 Bulgaria	45.398	30.523	5	1
7 Canada	47.350	.	1	1
8 Cyprus	39.879	27.716	219	99
9 Czech Republic	43.273	28.567	21	8
10 Denmark	75.070	0.000	4	1
11 Estonia	46.944	22.878	4	2
12 France	62.484	30.214	7	4
13 Germany	62.310	34.045	36	12
14 Gibraltar	26.704	21.072	10	4
15Greece	33.212	6.996	5	1
16 Hungary	37.633	18.470	20	7
17 Isle of Man	20.495	9.984	18	8
18 Italy	26.609	0.000	2	1
19 Latvia	17.804	6.095	7	3
20 Liechtenstein	33.134	14.330	14	5
21 Lithuania	91.002	1.204	2	1
22 Luxembourg	9.000	0.000	2	1
23 Moldova	38.790	26.550	2	1
24 Netherlands	49.244	35.753	54	24
25 Norway	97.502	0.001	5	1
26 Panama	15.516	11.753	5	4
27 Poland	35.149	12.688	11	3
28 Russia	47.206	31.519	65	25
29 Saint Kitts and Nevis	22.339	10.152	9	6
30 Saint Vincent and Grenadines	14.710	7.739	4	3
31 Seychelles	12.499	0.000	2	1
32 Slovakia	52.844	35.075	9	2
33 Sweden	86.448	21.312	22	7
34 Switzerland	32.643	28.058	54	29
35 United Kingdom	31.024	20.905	117	54
36 USA	33.333	23.456	107	47
Total	48.176	29.559	794	264

