



# The impact of equity ownership groups on investment: Evidence from Ukraine<sup>☆</sup>



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## ABSTRACT

We empirically investigate the impact of different ownership groups on companies' investment in Ukraine with a novel dynamic investment model where investment is based on present and historical levels of profitability (market-to-book value of equity) and lagged investment. Groups include state, insider, non-domestic, financial and financial and industrial group (FIG) ownership. Contrary to the literature, we find that the past level of profitability significantly affects investment; the majority presence of and increases in state ownership have a negative impact on firms' investment, as is the case for non-domestic and financial companies' ownership. Insider and FIG ownership have no impact on investment. We explain the results by the extent of liquidity concerns (hard and soft budget constraints), measured by cash flow interacted with a dummy variable of majority ownership of the respective group, and the extent of asset stripping for the corresponding ownership group and relate them to over- and under-investment, and to the free cash flow or cash constraint hypothesis.

## 1. Introduction

Recent research in corporate finance and governance provides evidence that agency and informational issues make the ownership structure of firms relevant for its performance (for example, Lemmon and Lins (2003) and Demsetz and Villalonga (2001), Shleifer and Vishny (1997)). Recent studies of companies' investment behavior and ownership structures emphasize the role of liquidity (hard and soft budget constraints) and asset stripping.

In this paper, in contrast to the literature, we empirically investigate the impact of different equity ownership groups on companies' investment with a novel dynamic investment model where investment is based on present and historical levels of profitability (market-to-book value of equity), lagged investment and the sensitivity of investment with respect to cash flow of the ownership groups to capture soft and hard budget constraints. Companies may base their investment decisions not just on current profitability of investment or Tobin's Q but also on historical values thereof and a good predictor for current investment may be past investment. We apply this model to a panel data set of Ukrainian stock market listed industrial and manufacturing firms for the period 2002 to 2007. The ownership groups include state, insider, non-domestic, financial, and financial and industrial group

(FIG) ownership. We also investigate the impact of the existence of a significant minority with the ability to block major decisions within the company on investment.

In addition, we investigate a reduced form regression (Hoshi et al., 1991; Perotti and Vesnaver, 2004) with the present value of the market-to-book value and the overall cash flow sensitivity of investment as explanatory variables.

Contrary to the literature, we find that the *past* level of the market-to-book value of equity (MBV) significantly affects investment; the majority presence of and increases in state ownership have a negative impact on firms' investment, as is the case for non-domestic and financial companies' ownership. Insider and FIG ownership have no impact on investment. We explain the results by the extent of liquidity concerns (hard and soft budget constraints) and the extent of asset stripping for the corresponding ownership group, gauge the relative effect of these factors and relate them to over- and under-investment.

There are several studies analyzing the impact of ownership structures on companies' investment in Central and Eastern European transition countries: Lizal and Svejnar (2002) (Czech Republic), Perotti and Vesnaver (2004) (Hungary), Mickiewicz et al. (2004) (Estonia), Colombo and Stanca (2006) (Hungary), Konings et al. (2003). The following stylized facts emerge. First, the market-to-

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book value of equity (MBV), a measure of the profitability of investment, is usually not used in these investment regressions. If the market to book value is used, as in [Perotti and Vesnaver \(2004\)](#), it turns out not to have explanatory power for investment. This is usually attributed to immature capital markets. The conventional wisdom is that especially in Central and Eastern European capital markets, a Tobin's Q model should not be used in analyzing investment. Second, state ownership has a negligible impact on companies' investment rates. Third, there is evidence for the presence of soft budget constraints for state ownership and financial imperfections for other groups and evidence for the cash constraint theory.

In a related paper, [Mykhayliv and Zauner \(2013\)](#), with a data set that also includes financial firms, use the change in Tobin's Q, but not lagged investment, as explanatory variables and emphasize the role of private benefits of control. They provide evidence for a significantly negative impact of state ownership on investment, but a positive impact of financial firm ownership on investment. [Mykhayliv and Zauner \(2015\)](#) analyze the probability of investment using a survey of non-listed Ukrainian manufacturing firms.

Analyzing the determinants of the performance of firms including firms' investment has been an important topic in the economic literature for decades. In the context of economies that are in transition from state ownership structures to Western-like market economies ([Megginson and Netter \(2001\)](#)), the analysis of the determinants of the growth of fixed assets of firms is even more important. The Central and Eastern European economies were subject to privatization efforts to move them away from state ownership structures and closer to market economies, and, thereby, it had been hoped, improving the performance of firms (see [Roland \(2000\)](#)). The relationship between state ownership and companies' performance is of particular interest ([Megginson and Netter \(2001\)](#)). Surprisingly, a stylized fact is that the impact of state ownership on investment is weak in Central and Eastern European countries (cf. [World-Bank, 2002](#)).

An important factor in explaining companies' investment rates of state owned companies is the concept of soft budget constraints ([Kornai \(1979\)](#), [Kornai \(1980\)](#), [Kornai et al. \(2003\)](#)), that is, activities that allow companies to neglect financial discipline. Even though there is ample evidence for the presence of soft budget constraints, the empirical link between companies' performance ([Djankov and Murrell \(2002\)](#), [Estrin and Rosevear \(1999, 1999a\)](#), [Grygorenko and Lutz \(2007\)](#)) or investment ([Lizal and Svejnar \(2002\)](#), [Perotti and Vesnaver \(2004\)](#)) on one hand and state ownership on the other is weak.

The second factor in explaining investment is related to actions that reduce the value of the company in order to improve the private welfare of some individuals or groups who are able to exert control over the company against the welfare of shareholders. These actions are commonly labelled tunnelling ([Johnson et al. \(2000\)](#)), asset stripping ([Campos and Giovannoni \(2006\)](#), [Ochoa et al. \(2015\)](#)) or, in a less pronounced form, private benefits of control ([Grossman and Hart, 1988](#); [Mykhayliv and Zauner, 2013](#)).

The third factor is related to financial imperfections in the form of hard budget constraints or financial constraints ([Fazzari et al. \(1988\)](#), see also [Barran and Peeters \(1998\)](#); [Bassetto and Kalatzis, 2011](#); [de Wet, 2004](#)). Under perfect capital markets without taxes and the assumption that the individual investor faces the same borrowing rate as firms, the capital structure of a company is irrelevant ([Modigliani and Miller, 1958](#)), that is, it does not matter whether internal or external funds are used to finance investment. However, it is well known that external funds are typically costlier than internal funds due to agency and informational issues. Given these three and other factors, ownership plays an important role in the performance and investment behavior of companies, particularly where ownership and control functions are separated ([Fama and Jensen, 1983](#); [Belkhir et al., 2014](#)).

We relate our results to recent theories that to a large degree explain companies' investment rates, the cash constraint and the management discretion theory ([Hadlock, 1998](#)) or the free cash flow

**Table 1**  
Summary of Financials in US\$.

Financials	Mean	Std. Dev	Min	Max
Total Assets	358938.7	643963.5	8558	74199651
Fixed Assets	162428.8	264431	433	2052003
Investment	35233.5	82375.06	-114297	803287
MBV	2.368675	6.148593	0	99.56863
Net Income	22927.35	65477.76	-162091	580383
Depreciation	12509.5	37864.57	-2628	756780

Note. Mean, standard deviation, minimum and maximum of financials in thousands of US\$. MBV is the market-to-book value of equity. Source: [Mykhayliv and Zauner \(2013\)](#)

theory of [Jensen \(1986\)](#). The cash constraints theory relates investment rates to hard budget constraints whereas the management discretion theory and the free cash flow theory relates them to the abusive use of funds by the management to build empires and to increase their private welfare to the detriment of the value of the company or to soft budget constraints. These two theories are also relevant for the issue of over- versus under-investment.

The plan of the paper is as follows. [Section 2](#) presents the data and the models. [Section 3](#) provides the estimation results. [Section 4](#) concludes.

## 2. Companies' investment rates and ownership groups

In this paper, we use the data set in [Mykhayliv and Zauner \(2013\)](#) with 134 listed, large Ukrainian companies and 590 observations over the years 2002 to 2007. The companies in the data set come from different sectors of the Ukrainian economy, in particular, electricity and energy (21.54%), engineering (11.96%), mining (11.96%), metals (6.72%), steel (6.72%), chemicals (6.72%), and others. More details on the data set can be found in [Mykhayliv and Zauner \(2013\)](#). Summary statistics are contained in [Table 1](#). The data set is derived from [Dragon-Capital \(2006, 2007\)](#), the First Securities Trading System PFTS (<http://www.pfts.com.ua/ukr/>) PFTS (2002–2008) and the Agency for the Development of Infrastructure for Funds Market in Ukraine ([www.smida.gov.uk](http://www.smida.gov.uk)). The ownership data were checked using the Ukrainian business press. The ownership data relate for almost all observations to the year 2005. For some companies the ownership data relate to 2006. There are a few companies for which the ownership data relate to 2005 and 2006. We assume the ownership data for earlier [later] years are the same as the ownership data for the first [last] available year. Therefore, the time dependency of the ownership data is extremely limited and can be viewed as constant over the period. Summary statistics of the ownership group shares are given in [Table 2](#).

We drop financial firms from the sample as their behavior appears to be different from manufacturing, industrial and utility firms and we are left with a pool of 566 observations and 125 firms.

[Mykhayliv and Zauner \(2010, 2013\)](#) introduce private benefits of control into a Tobin's Q investment model. The private benefits of control are modeled as shares of cash flow that can be diverted out of the company at the expense of passive shareholders. This implies that investment is impacted by marginal Q, a measure of the profitability of

**Table 2**  
Ownership Group Shares.

Variable	Mean (%)	Std. Dev.	Min (%)	Max(%)
State	14.74	0.2784	0	96.8
Insider	12.57	0.2841	0	96
Non-Domestic	18.21	0.3203	0	98.3
Finance	16.94	0.312	0	100
FIG	35.88	0.4064	0	100

Note. Mean, standard deviation, minimum and maximum of the ownership group shares. FIG stands for financial and industrial groups. Source: [Mykhayliv and Zauner \(2013\)](#)

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