UNIVERSITY OF LJUBLJANA
FACULTY OF ECONOMICS

MASTER'S THESIS

INCREASING INDEBTEDNESS OF SLOVENIAN COMPANIES AS A RESULT OF OWNERSHIP TRANSFORMATION

Ljubljana, September 2015 MIHA DOMINKO

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INTRODUCTION

What is the reason for such a turning point in the understanding of the financial structure (financial debt) of Slovenian companies? Berk (2006) shows that, comparatively speaking, Slovenian companies carry too little debt and that their financial structure is dominated by equity capital. Bole, Prašnikar & Trobec (2012) demonstrate that in a very short period of time (2004–2008) Slovenian non-financial companies increased their indebtedness disproportionately. How much of it was due to the privatization of Slovenian companies, which accelerated in the aforementioned period?

The following thesis aims to answer precisely these questions. The usual approach in economic theory of finding the optimal financial structure is microeconomic. Different theories have been developed that try to adequately explain companies' capital structure decisions. From the beginnings of Modigliani & Miller (1958), who claimed that in an efficient market capital structure is irrelevant for maximizing the value of the company, to the currently dominant trade-off theory, according to which companies substitute debt with equity or vice versa until the value of the company is maximized (Myers, 1984), and pecking order theory, which states that companies follow the pecking order, financing their investment projects first by retained earnings, followed by low risk debt, high risk debt and external equity (Baker & Martin, 2011). The time frame in which Slovenian companies increased their indebtedness is too short to be qualified as the companies' experimentation in finding the optimal capital structure. Therefore, the reason for a sudden increase in the indebtedness of Slovenian companies has to be found elsewhere – the global financial crisis by many authors identified as the so-called "balance sheet" crisis (Minsky, 1986; Kiyotaka & Moore, 1997; Koo, 2008; Krishnamurthy, 2010; Miller & Stiglitz, 2010). The decisions on financial debt remain in the hands of companies, but changes in the environment lead to an increase in corporate returns, which enables companies to increase borrowing by banks. Because banks are assessing the creditworthiness of their clients based on their balance sheet, which gives favorable results due to the higher than expected returns, credit is granted. Due to growing optimism, credit furthermore increases the returns, which are the source of new borrowing. Since all businesses behave similarly, something that is a very basic (microeconomic) process leads through the so-called financial accelerator (Bernanke, Gertler & Gilchrist, 1999) and relaxed external borrowing of banks (Miller & Stiglitz, 2010) to disastrous macroeconomic outcomes.

What is the role of ownership transformation (privatization) in this scenario? Ownership transformation in Slovenia began already at the beginning of the nineties. But if the so-called primary privatization of Slovenian companies in the nineties can be evaluated as relatively successful when it comes to the privatization of small and medium-sized companies, this cannot be said for larger companies, as a large share of state and para-state ownership remained in their equity structure. An accelerated withdrawal of the state from the ownership of companies in 2005 was a signal for agents that the state is in favor of the

privatization process and is, particularly through state-owned banks, willing to finance it. It represented a "trigger" ("Minsky moment," Minsky, 1986) for an increase in the optimism of agents and an increase in financial debt at the expense of investments in purchases of equity shares of companies. As a result, the ownership and organizational structures of Slovenian companies transformed. Financial holding companies, for example, have often acted as a special purpose vehicle for the privatization of companies with the help of bank loans. With the concentration of ownership, power was accumulating in the hands of the majority owner or the coalition (two, three or more) owners. Some companies maintained state ownership, while in others dispersed ownership prevailed.

In the thesis, we want to determine the role of various types of owners in the debt accumulation process of Slovenian companies in the periods before the eruption of the crisis (boom), at the height of the crisis (bust), and the recovery period (deleveraging). For the purpose of the research, we constructed a database of 4,448 Slovenian companies for the period from 2006 to 2014. The database contains companies that employ more than 50 people or have at least two million € in total assets. Additionally, the database holds data on the ten largest owners and their share in the analyzed period. As such, it allows us to test hypotheses related to the given research questions, which were derived on the basis of the relevant economic theory and the developments in Slovenia in pre-crisis and post-crisis periods. Based on our analysis, we were able to give suitable answers to these research questions.

The structure of the thesis follows the presented research frame. In the chapter following this introduction, we first define the factors that led to the financial crisis in Slovenia. For a better understanding, we first summarize Minsky's financial instability hypothesis. Then we illustrate the developments in the banking sector and the non-financial enterprises sector. In the second chapter, we study the relation between capital structure and the different ownership and organizational forms of companies. We present the current economic theory on this issue and the process of ownership transformation of companies, as well as its impact on the development of organizational and ownership structure of Slovenian companies. The third chapter presents the theoretical model, the specifications of the empirical model, and the hypotheses of the thesis. In the fourth chapter, we present the data and the variables that occur in the empirical part, while in the fifth chapter the empirical results are presented. The final chapter provides a conclusion to the thesis, in line with the empirical research presented.

1 THE DEVELOPMENT OF THE FINANCIAL CRISIS IN SLOVENIA

1.1 Minsky's financial instability hypothesis

The global financial crisis is by many considered as Minsky's crisis, it is even labelled as the Minsky moment. The basic idea behind the financial instability hypothesis is that capitalist economies revolve in a cycle and that, from time to time, inflations and debt-deflations arise, which tend to spin out of control. This is due to the nature of the capitalist economic system which amplifies the movements of both inflation and debt-deflation. History teaches us that governments were mostly unable to contain economic deterioration, which supports the view that the economy is not constantly in an equilibrium seeking and sustaining system. The hypothesis' argument starts by defining the economy as a capitalist economy that moves through real calendar time, where present money is exchanged for future money. Present money pays for the resources that go into the production of investment output, while future money stands for profits. Due to the process of financing investments, the control over the items in the capital stock is financed by liabilities. Expectations of future profits determine the market price of existing financial relations and the flow of financing contracts to businesses. Furthermore, profit realization determines whether contractual commitments are met. Although in time financial relations have become more complex, profits remain the most important determinant of system behaviour. The financial instability hypothesis pays special attention to banks, which seek profits by financing activity, and bankers. Like other entrepreneurs, banks are aware that innovation fosters profits, so they act as dealers of debt who strive to innovate in the assets they acquire and the liabilities they market (Minsky, 1992).

Minsky identifies three different income-debt relations: hedge, speculative, and Ponzi. Hedge financing units can fulfil all of their contractual payment obligations by their cash flows. The greater the weight of equity financing in the liability structure of a unit, the greater the likelihood that the unit is a hedge financing unit. Speculative financing units are able to meet their payment obligations on "income account" on their liabilities, even when they are unable to repay the principle out of income cash flows. They need to "roll over" their liabilities, which means that they have to issue new debt to be able to meet the commitments on maturing debt. Ponzi financing units are unable to fulfil their payment obligations on neither principle nor interest due on outstanding debt by their cash flows from operations. They can either sell their assets or borrow money, which lowers the unit's equity. If an economy is dominated by hedge investors, equilibrium seeking and sustaining may prevail. On the contrary, if speculative and Ponzi investors prevail, the greater the likelihood that the economy is a deviation amplifying system. The financial hypothesis theory builds on two theorems. The first one states that economies have financing regimes under which they are stable and those under which they are unstable. The second theorem

states that under a prolonged period of prosperity, economies transit from financial relations that are stable to those that are unstable. Units change their positions from being hedge units to becoming speculative and Ponzi financing units. Moreover, if an economy dominated by speculative investors is in an inflationary state and monetary constraints are exercised by the government, speculative units will become Ponzi units. Consequently, previous Ponzi units are forced to sell their assets, which likely leads to the collapse of asset values. Finally, the financial instability hypothesis does not rely on exogenous shocks to generate business cycles, but holds that business cycles of history are compounded from internal dynamics of capitalist economies and the system of regulations designed to keep the economy in reasonable boundaries (Minsky, 1992).

The hypothesis seems like a perfect fit for Slovenia in the "boom and bust" period. It explains the creation of asset bubbles in Slovenia appropriately. The investment boom, which was triggered by Slovenia's entry into the European Union and Economic and Monetary Union and the privatization process, caused assessments of earning potentials to be overly optimistic. The companies' position changed from a "robust" financial position with little leverage in normal times ("hedge finance") to "speculative" investors. When exogenous shocks hit Slovenia, uncertainty grew and prospects of good times lessened, "hedge" investors became "speculative," and "speculative" became "Ponzi" investors (Bole, Oblak, Prašnikar & Trobec, 2014a). Because over-indebted companies need to sell their assets in order to repay their debt (Minsky moment), which puts downward pressure on asset prices, deflation and a generalized economic crisis arise as a result (Minsky, 1986).

In the following section, the financial instability hypothesis will be presented through the transformation of Slovenia's banking and non-financial sectors from bright prospects to millstones drowning the Slovenian economy.

1.2 Development of the business environment in Slovenia leading to the financial crisis

1.2.1 Slovenian banking sector

1.2.1.1 Slovenian banking sector prior to Slovenia's accession to the European Union

Slovenia began its rehabilitation process in 1993 by assuming full responsibility for the frozen accounts of Slovenian depositors. Furthermore, the rehabilitation process dealt with the solvency problems of Slovenian banks, due to the lost markets of former Yugoslavia. In 1994, two new banks from the two largest banks were created: NLB, d.d. and NKBM, d.d. All large Slovenian banks were nationalized (Bonin, 2004). In the period from 1995 to 2000 the number of banks declined from 31 to 25 and the assets-to-GDP ratio grew by 15 percentage points. In the period from 2000 to 2004, Slovenia's banking sector was still

developing quite gradually. The number of banks declined from 25 to 18 and the assets of commercial banks rose by more than ten billion €. Furthermore, the assets-to-GDP ratio increased by almost ten percentage points. Market concentration, measured as the share of the five largest banks, increased for more than six percentage points in 2001, but started declining in 2003. An overview of the basic information on Slovenian banking in this period can be seen in the table below (Štiblar, 2010).

Table 1. Basic information on Slovenian banking from 2000 to 2004

Year	Number of banks	Assets of commercial banks (in thousand €)	Assets/GDP (%)	Market concentration (%)
2000	25	13,683,623	78.9	62.8
2001	21	16,909,469	83.7	69.1
2002	20	16,909,469	86.7	69.5
2003	19	21,363,531	88.6	67.7
2004	18	23,786,159	88.4	66.3

Source: F. Štiblar, *Bančništvo kot hrbtenica samostojne Slovenije,* 2010.

A Comparison of Banks in Central and Eastern Europe in 2000 revealed that the Slovenian banking sector remained relatively closed. Foreign banks in Slovenia held only 15% of all bank assets, which is less than in the Slovak Republic (76%), the Czech Republic (67%), Bulgaria (67%), Hungary (62%), Poland (49%), Croatia (38%), Romania (31%), and more than in Russia (7%) and Ukraine (6%). Table 2 shows that the ownership structure of Slovenian banks first changed in 2001, when the share of foreign owners increased by four percentage points. A bigger change happened in 2002, when the share of foreign owners substantially increased and the share of state ownership decreased. This is due to an increased share of Italian capital in Banka Koper, d.d., an acquisition of Krekova banka, d.d., from an Austrian bank, and the purchase of a 39% share of NLB, d.d., from a Belgian bank and the European Bank for Reconstructuring and Development (EBRD) (Štiblar, 2010).

Table 2. Ownership structure of the Slovenian banking sector from 2000 to 2004 (in % of equity capital)

	31.12.2000	31.12.2001	31.12.2002	31.12.2003	31.12.2004
Foreign	12.0	16.0	32.5	32.4	32.4
State-owned	36.8	37.0	20.3	19.4	19.1
Domestic	51.2	47.0	47.2	48.2	48.6

Source: Bank of Slovenia, *Annual report of the Bank of Slovenia*, 2001; 2004.

1.2.1.2 Slovenian banking sector after Slovenia's accession to the European Union

The developmental strategies of Slovenian banks have focused on the domestic market even after Slovenia entered the European Union in 2004. This was the result of relatively favorable conditions for the development of banking in Slovenia and big growth potential on the domestic market compared to developed markets. Furthermore, Slovenian banks were not strong enough to expand on foreign markets, with the exception of South-East Europe. Also, foreign-owned banks were dependent on their group, which had different subsidiaries on different markets and would not let them expand on other markets (Košak, 2007). A study by the Faculty of Economics in Ljubljana in 2006 (Košak et al., 2006) revealed that the most important goal for Slovenian banks was to increase their market share, which is achievable through credit growth. A basic overview in Table 3 shows that the number of banks has stabilized at around 20. Assets have started to increase at a faster pace. In the period from 2000 to 2004, the assets of commercial banks increased by approximately ten billion €. In the period from 2004 to 2008, assets increased by nearly 30 billion €. Furthermore, the assets-to-GDP ratio started to increase. Although Slovenia experienced relatively high percentages of real GDP growth in this period, 5.7% in 2006 and 6.9% in 2007, respectively (Eurostat, 2015), the assets-to-GDP ratio rose by 35.2 percentage points. Market concentration in this period was falling, from 66.3% in 2004 to 58.9% in 2008, which means that the five biggest banks were losing some of their market share to smaller banks (Štiblar, 2010).

Table 3. Basic information on Slovenian banking from 2004 to 2008

Year	Number of banks	Assets of commercial banks (in thousand €)	Assets/GDP (%)	Market concentration (%)
2004	18	23,786,159	88.4	66.3
2005	19	29,324,736	103.6	66.3
2006	22	33,868,481	114.6	62.4
2007	21	42,194,719	123.8	61.2
2008	19	53,229,740	123.6	58.9

Source: F. Štiblar, *Bančništvo kot hrbtenica samostojne Slovenije,* 2010.

Slovenia's entry into the European Union, the European Exchange Rate Mechanism 2 (ERMII), and the Economic and Monetary Union (EMU) coincided with a booming world economy. The period was marked by falling nominal interest rates, falling sovereign risk premium, and stable foreign exchange rates. Furthermore, banks had free access to external loanable funds and competition among new banks entering the market was fierce (Prašnikar, Domadenik & Koman, 2015). The nominal convergence of interest rates caused the migration of household bank deposits to (foreign) capital market instruments, as well as an increase of outward direct investments. These two outflows were predominantly financed by large net inflows of loans to banks (Bole, Prašnikar & Trobec, 2014b). In this

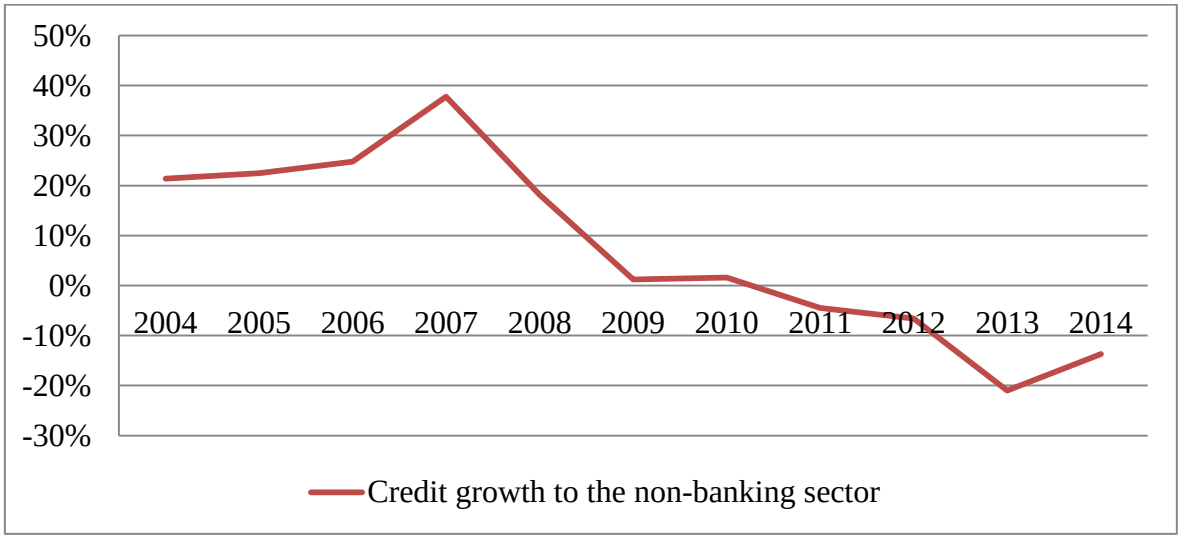
period, Slovenian banks greatly increased their liabilities to other banks, especially foreign, as seen in Table 4. In 2004, the liabilities to other banks amounted to 4.7 billion €. By 2008, the number increased to 19.3 billion €, of which 16 billion € were liabilities to foreign banks (Damijan, 2013). As a consequence of the falling lending rates in the period from 2000 to 2007, as seen in Figure 2, credit growth started increasing. In 2004, credit to the non-banking sector grew by 21.4% and continued growing until it reached 37.8% in 2007. In 2008, with the eruption of the crisis, credit growth experienced a sharp decline. The problems of the banking and corporate sectors reflect the further decline of credit, which remained negative from 2011 on. In 2013 and 2014, credit declined by 21% and 13.7%, respectively (see Figure 1).

Table 4. Liabilities of Slovenian banks to other banks (in billion €)

	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
All banks	2.4	3.5	4.7	8.4	10.8	16.1	19.3
Foreign	1.9	2.9	4.2	7.9	10.1	14.4	16.0

Source: J. P. Damijan, *Bančna luknja: Niso hoteli, da se ples konča,* 2013.

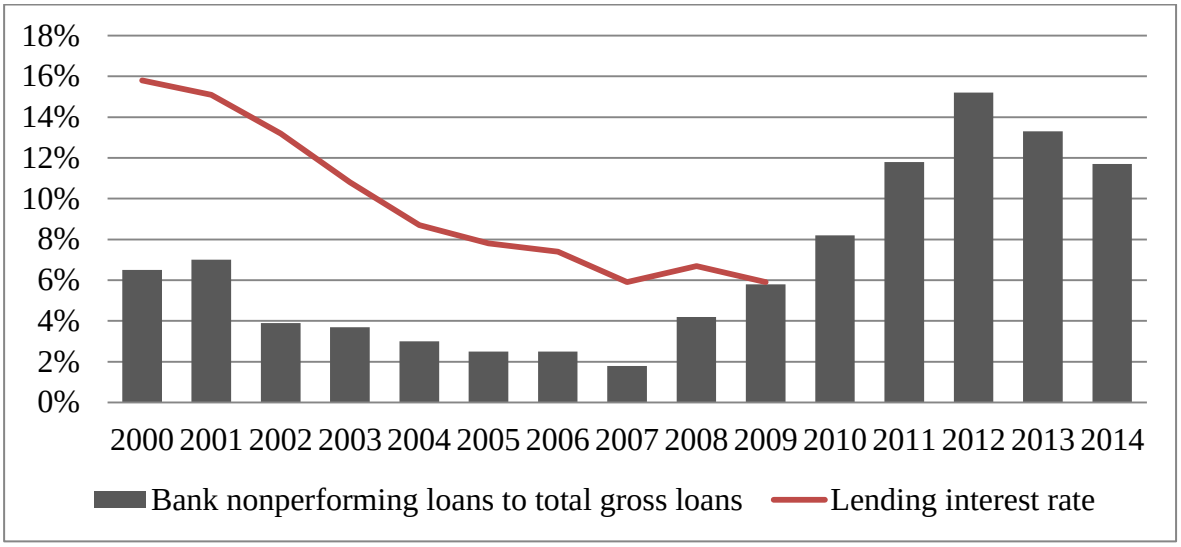
Figure 1. Credit growth to the non-banking sector in Slovenia from 2004 to 2014 (in %)



Source: Bank of Slovenia, *Annual report of the Bank of Slovenia*, 2001; 2004.

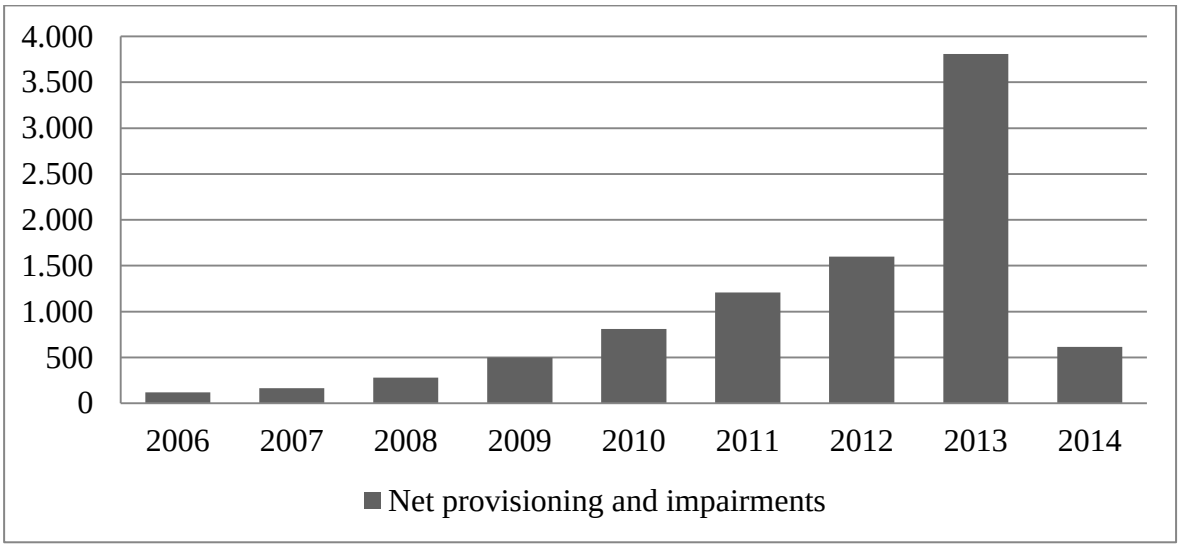
In the credit expansion period before the crisis, many projects were financed with short-term debt. With the eruption of the crisis, a lot of companies were unable to repay their debt and had to default. Nonperforming loans started increasing already in 2008, when they amounted to 4.2% of total gross loans, and continued to increase until 2012, when they reached 15.2% of total gross loans. Since then, nonperforming loans are decreasing, although they still remain relatively high (see Figure 2). Consequently, banks started increasing their net provisioning and impairments, as seen in Figure 3. They peaked in 2013, when they amounted to approximately 3.8 billion €.

Figure 2. Bank nonperforming loans to total gross loans and the lending interest rate in Slovenia from 2000 to 2014 (in %)[1]



Source: The World Bank, *Data*, 2015.

Figure 3. Net provisioning and impairments of Slovenian banks from 2006 to 2014 (in million €)



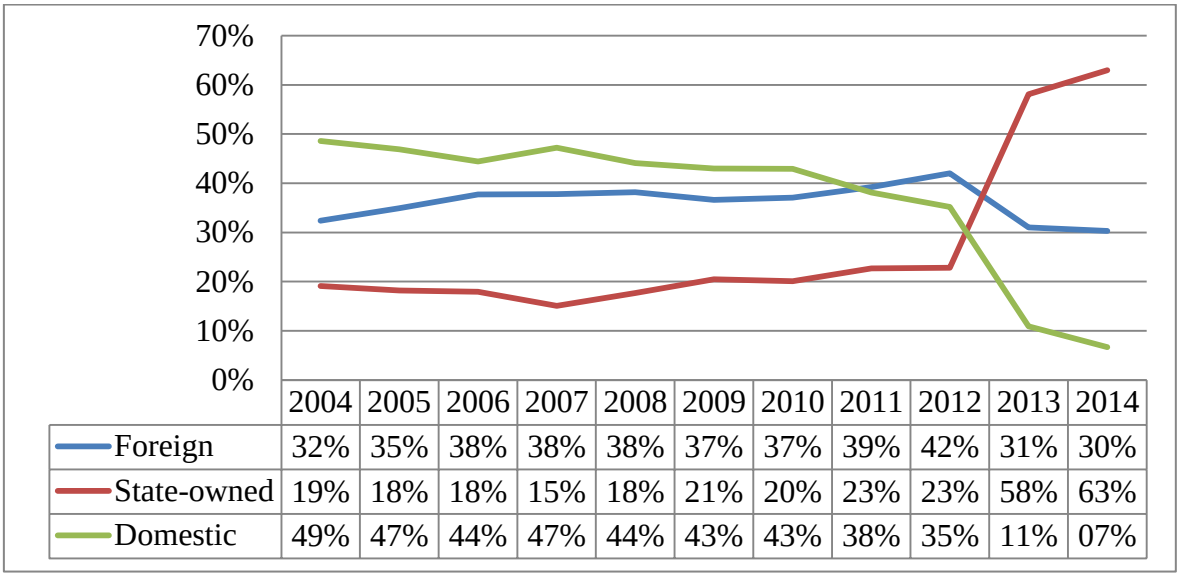
Source: Bank of Slovenia, *Annual report of the Bank of Slovenia*, 2006-2014.

To mitigate the severe problems of bad loans in the Slovenian banking sector, the Slovenian government established the Bank Asset Management Company, the so-called "bad bank," where bad loans would be transferred to. To assess the banking sector, a comprehensive asset quality review and stress tests were conducted in 2013. The government had to recapitalize five banks (NLB d.d., NKBM d.d., AbankaVipa d.d., Factor banka d.d., and Probanka, d.d) on the basis of a decision on state aid by covering the

[1] Lending interest rates for the period from 2010 to 2014 were not given by the World Bank.

losses with shares of the existing owners, thereby becoming the sole owner. This resulted in an increase in the equity share held by the state by 35 percentage points, while the proportion held by non-residents declined by 11 percentage points and the proportion held by other domestic owners declined by 24 percentage points, as seen in Figure 4 (Bank of Slovenia, 2013).

Figure 4. Ownership structure of the Slovenian banking sector from 2004 to 2014 (in % of equity capital)



	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Foreign	32%	35%	38%	38%	38%	37%	37%	39%	42%	31%	30%
State-owned	19%	18%	18%	15%	18%	21%	20%	23%	23%	58%	63%
Domestic	49%	47%	44%	47%	44%	43%	43%	38%	35%	11%	07%

Source: Bank of Slovenia, *Annual report of the Bank of Slovenia*, 2004-2014.

1.2.2 Slovenian non-financial enterprises

1.2.2.1 Non-financial enterprises prior to Slovenia's accession to the European Union

Before Slovenia's accession to the European Union, Slovenian companies had relatively low levels of debt. Berk (2006) grouped Slovenian companies into four categories: manufacturing, trade, transport and communication, and real estate. He found that in 2002, the most indebted was the real estate sector, followed by trade, manufacturing, and transport and communication sectors. Companies also exhibited different levels of debt in the same industry, with the exception of the manufacturing sector, where the debt-to-capital ratio remained relatively stable. Compared to other European countries, Slovenian companies were on average relatively less indebted than companies in a comparable industry and size group. Table 5 shows that the Slovenian corporate sector reached less than half of the indebtedness of the European Union average. Especially notable is the transport and communication sector, where European companies reached a multiple of almost ten times the debt-to-capital ratio of their Slovenian counterparts.

Table 5. Comparison of debt-to-capital ratios of European companies in 2002 (in %)

	Manufacturing	**Trade**	**Transport & Communication**	**Real estate**	**All industry**
Portugal	28	45	63	61	49
Austria	40	48	30	72	47
Italy	42	46	36	60	46
Netherlands	33	42	71	33	45
France	33	39	72	28	43
Belgium	41	29	55	40	41
Spain	35	25	58	47	41
Finland	30	25	45	25	31
EU average	35	39	54	46	43
Slovenia	16	21	6	26	17

Source: A. Berk, *Determinants of leverage in Slovenian blue-chip firms and stock performance following substantial debt increases*, 2006.

1.2.2.2 Non-financial enterprises after Slovenia's accession to the European Union

According to Bole et al. (2012), two particular changes that happened after Slovenia entered the European Union and the ERMII mechanism were crucial for the corporate sector: a considerable acceleration of final demand and the reformation of the tax system. Economic activity was driven by the inflow of foreign capital, due to the falling sovereign risk premium, export demand, and domestic investments, where government investments made a crucial contribution. Tax system reform resulted in a drop of government revenues, without any cut in the cyclically adjusted government spending. As a result, the cyclically adjusted fiscal stance was aggravated. Simultaneously, cyclicality was strongly stimulated by an already overheated economy.

A more accessible European market increased the ambitions of Slovenian companies. According to Bole et al. (2012), Slovenian companies borrowed approximately 13 billion € in the period from 2004 to 2008. Around 60% was aimed to finance "core investments." The rest went for financing financial investments and real estate investments, out of which around one third represents financial investments made by banks into companies abroad, especially in countries of former Yugoslavia, one third was dedicated to financing investments in real estate business, and one third was used for financing the purchases of equity shares. Due to political support[2] and cheap credits, the amount of management buyouts, especially in big companies, increased heavily. These buyouts can be thought of as investments with strategic delay, where investors want to take advantage of the information revealed by others (Prašnikar et al, 2015). Decisions are made when enough

[2] See chapter, Ownership transformation after Slovenia's accession to the European Union.

information is gathered about the decisions of other investors (Chamley & Gale, 1994). In the case of Slovenia, information was quick, which resulted in a lot of purchases in a short amount of time. Because all companies were doing the same, asset bubbles started forming. The financial accelerator[3] endogenously drove the amplification process of a company's debt accumulation. The main determinant of its power was the discounted capital return. Due to a booming stock market and a peaking property market, expected discounted capital returns had been increasing. The increase in the companies' net worth increased their collateral, which further on increased the accessible size of loanable funds (Bole et al., 2014b).

Endogenous processes were interrupted when the global financial crisis emerged. Due to growing uncertainty on the financial markets, a credit crunch on the wholesale market of loanable funds was triggered. Slovenian banks were only partly able to refinance their foreign credit, which led to a restricted supply of credit on the domestic market. Banks started restructuring their portfolio of assets in favour of claims against the government or in favour of clients with a higher available collateral. Furthermore, they started squeezing their balance sheets, by selling assets and cutting credit. Additionally, the so-called "Lahovnik's Law" in 2009 prevented state-owned banks from further lending to "Tycoon" companies. These companies were unable to return their credit, therefore banks seized their shares, which were given to them as a collateral when the companies took the loan (Prašnikar et al., 2015). According to Bole et al. (2014b), the deleveraging process of Slovenian companies had high opportunity costs, due to wrong timing, sequencing and calibration. Procyclical interventions of the banking regulator, such as increased capital requirements for banks, prolonged the credit crunch period and the spiraling financial deintermediation. Banks were cutting credits independently of company performance in the first years after the crisis, which led to an increase in the migration of companies to negative cash flow and bankruptcy in the following years.[4] Additionally, due to low levels of collateral, companies in the services and construction sectors in particular increased their levels of forced (intercompany) credit. This spread illiquidity to the entire economy. The study by Bole et al. (2014b) claims that taming deleveraging in the first years after the crisis would have decreased intercompany illiquidity by 40%. They propose an alternative approach, where banks would revolve credits at first, which would reduce intercompany credits, and banking credits would be reduced afterwards.

[3] Bernanke, Gertler & Gilchrist (1996) build their study on the financial accelerator on the principal-agent problem, which provides several robust results for the basis of the financial accelerator. First, unless external finance is fully collateralized, internal finance is less expensive. Secondly, the amount of finance required is negatively correlated with the borrower's net worth, where net worth is defined as the sum of internal funds and the collateral value of illiquid assets. And third, a fall in the borrower's net worth reduces his spending and production. More generally, financial and macroeconomic downturn is propagated by adverse conditions in the real economy and the financial markets.

[4] In 2014 the number of initiated bankruptcy procedures in Slovenia amounted to 1,302, while in 2008 the number was only 337 (Ajpes, 2015).

2 THE RELATION BETWEEN OWNERSHIP STRUCTURE AND CAPITAL STRUCTURE

Prašnikar et al. (2015) identified the government's decision to engage in a new wave of privatization in 2005 (Šušteršič, Damijan & Zajec, 2006) as one of Minsky's "game changers," which triggered excessive optimism and was followed by companies investing into core business, real estate, and shares. While a lot of studies have devoted their attention to the relation between ownership structure and the performance of a company, a lot less research has been conducted on the relation between ownership structure and capital structure. This chapter will provide a literature overview of the effect ownership structure has on capital structure. The effect of different types of owners on leverage as well as the relation between ownership concentration and leverage will be presented. Furthermore, a historic overview of ownership transformation in Slovenia will be given.

2.1 An overview of theoretical and empirical literature

2.1.1 The effect of different types of ownerships on capital structure

The theory on the effect family ownership has on leverage has mostly found arguments supporting a negative relation between family ownership and leverage. First of all, family companies usually have large undiversified owners and long-term investors. They desire to maintain the company in the family and therefore reduce risk by avoiding higher levels of debt. Secondly, families tend to pursue their own personal goals at the expense of other shareholders. Because debt can be understood as a monitoring device for managers and blockholders, family companies are anticipated to use less debt. Finally, recent studies have found that family-owned companies distribute higher levels of results, while a negative relation between leverage and dividends was found, which constitutes another reason supporting a negative relation between family ownership and leverage. Empirical studies on the impact family ownership has on leverage have provided mixed results. Ampenberger, Schmid, Achleitner & Kaserer (2013) conducted a study on 660 industrial companies in Germany and found that leverage levels are significantly lower in family companies. This is in line with Mishra & McConaughy's (1999) research, which found similar results in the US market. On the contrary, Setia-Atmaja, Tanewski & Skully (2009) report significantly higher debt levels in family companies. Ellul (2008) found that the differential between the indebtedness of family and non-family companies increases in countries with weak legal protection of minority shareholders. He claims that family owners are concerned with the loss of control associated with equity finance and that debt offers a solution to receive external finance without diluting the power of control over the company's equity stake. Some studies, such as the one by Anderson & Reeb (2003), found no statistical difference between family and non-family companies in terms of capital structure.

The agency theory[5] proposes an influential relationship between managers and shareholders of the company, which has the potential to affect decisions in companies that can potentially have an impact on a company's characteristics, such as leverage. A summary of the different arguments available shows that low levels of managerial ownership positively correlates with a company's debt ratio, due to the convergence of interests. When managers increase their share and become entrenched, the relation becomes negative, as managers seek to reduce their risk. Moreover, external blockholders play an active monitoring role, which leads to higher debt ratios. Blockholders are more effective at low levels of managerial ownership share, leading to a positive relation with the debt ratio. When managers become entrenched, the association between external block ownership and a company's debt level is weakened (Brailsford, Oliver & Pua, 2002). A considerable amount of studies analyzed the effect of leveraged management buyouts and found a positive short-term effect on operating profits and consequently wider economic benefits. Wright, Wilson & Robbie (1996) claim that for an understanding of the long-term impact of management buyouts, their effects need to be examined in recessionary conditions. They found that companies engaged in management buyouts are typically more indebted than average companies and that excessive gearing increases the probability of failure.

Similar to the notion put forth in the beginning of this chapter, a lot of studies analyze the effect state ownership has on the performance of a company, while a lot less research has been conducted studying the effect state ownership has on leverage. Furthermore, most of the studies focus on China and the characteristics of the Chinese corporate sector, due to China's growing economic and political power. Three different studies found different results on whether state ownership has a positive or negative effect on leverage. Dewenter & Malatesta (2011) conducted a study of 500 large companies around the world and distinguished those that are state-owned. They found that the relationship between state ownership and leverage is negative. Furhermore, their time-series analysis revealed a statistically significant decrease in leverage after privatization. Liu, Tian & Wang (2011) analyzed 8,376 observations of companies per year from the Chinese capital market for the period from 2002 to 2009. 5,854 of these observations concerned state-owned companies. Contrary to the findings of Dewenter & Malatesta, they found a positive relationship between state ownership and leverage. Their results also show a significant negative relation between the institutional environment index and the leverage ratios of state-owned

[5] Jensen & Meckling (1976) identified a principal-agent problem that results from different interests of shareholders and managers, who do not have full ownership of the company they manage. The less the manager owns, the bigger is the divergence between his interests and the interests of the company. On the one hand, indebtedness, through payment of capital rates and the interest that results from it, becomes a means of control for the managers' investment policies, as well as a disciplinary tool, which enables shareholders to obtain more information regarding the company's management. On the other hand, indebtedness can lead shareholders to give up investment projects with a positive net present value if the difference between the net present value of the project and the amount needed to be reimbursed is negative.

companies. On the contrary, no statistical significance between the institutional environment and the leverage ratios of companies that are not state-owned was found. They argue that the negative relationship between the institutional environment index and the leverage of state-owned companies is due to the financing behaviour of state-owned companies, which are greatly influenced by government intervention. Le & O'Brien (2010) draw their sample from the China Stock Market and Accounting Research database. The sample includes a total of 3,922 observations. The results show a negative correlation between state ownership and leverage. The authors argue that this is due to the local state governments, which are concerned about the consequences of default. Another interesting finding of this study is the positive correlation between state ownership and performance. These three studies reveal that a consensus on the effect of state ownership on capital structure has not yet been reached.

2.1.2 The effect of ownership concentration on capital structure

Empirical studies in corporate governance reveal a prevalence of companies with a dominant shareholder. Theory agrees that ownership concentration has an important impact on a company's capital structure, but disagrees on how it affects it. On the one hand, a large shareholder and an effective board of directors indicate governance quality. Consequently, companies with a large shareholder are granted easier access to capital markets and have lower expected agency costs of debt. On the other hand, large shareholders might want to divert money for their own use, making gains on corporate resources at the expense of other shareholders (Santos, Moreira & Vieira, 2013). A study by Santos et al. on 694 companies from Western European countries revealed a negative relationship between ownership concentration in the hands of the main blockholder and the companies' leverage. The study also found that the presence of a second or third large shareholder has a significant positive effect on a company's leverage ratio. Furthermore, studies by Short, Keasey & Duxbury (2002), Croci, Doukas & Gonenc (2011), and Schmid (2013) found a negative correlation between the control rights of the ultimate owner and debt. However, studies by Brailsford et al. (2002), King & Santor (2008), Margaritis & Psillaki (2010), and Ellul (2008) found that a higher concentration of ownership is generally associated with more debt. Bruslerie & Latrous's (2012) study found evidence to an inverted U-shape relationship between the ownership stake of the largest shareholder and leverage. At first, debt increases, as a non-dilution entrechment effect, and then decreases with the cash-flow rights of the majority shareholder. Bruslerie and Latrous claim that incentives of the controlling shareholder changes as their stake increaes, which confirms that a company's capital structure depends not only on company-specific factors, but also on the cash-flow rights of the controlling shareholder. Additionally, some studies, such as by Barucci & Matessini (2008), identify the role of banks as majority shareholders. They claim that higher debt levels are expected due to an easier access to loans and banks using their lending activity as an additional tool to discipline managers.

2.2 A historic overview of ownership transformation in Slovenia

In the following section, a closer look at the development of ownership structure in Slovenian companies in the last three decades will be given. This period was marked by Slovenia's transition from a socialist economy, which began to reform in the late 1980s, to a market economy. The country has undergone a threefold transition, not only from a socialist to a market economy, but also from a regional to a national economy, from being part of a larger country, the Socialist Federative Republic of Yugoslavia, to an independent state and later on a member of the European Union. The transition can be divided into two parts. In the first stage, policies aimed to ensure macroeconomic stability and the liberalization of the state, while in the second stage, structural and institutional reforms were driven by the process of becoming a full-fledged member of the European Union (Mrak, Rojec & Silva-Jáuregui, 2004). Slovenia's accession to the European Union in 2004, and later the European Monetary Union (in 2007), coincided with a booming world economy. High GDP growth rates and low unemployment rates characterized this period, which came to an abrupt end in 2008, when the global financial crisis hit. Slovenia was one of the countries that were hit the most and the consequences of the crisis can still be felt today

2.2.1 Ownership transformation in former Yugoslavia

The Yugoslavian economic system was known as a middle-way approach between capitalism and Soviet central planning. After the Informbiro conflict with the Soviet Union in 1948, Yugoslavia started replacing state ownership with social property, which technically meant that capital was owned by the entire society. The pre-1988 reform period can be divided into two parts. In the first period, i.e. from 1952 to 1974, central planning shifted towards the markets and in the second period, from 1974 to 1988, bureaucracy and bargaining became the primary mode of resource allocation (Estrin, 2009).

The preparations for the ownership transformation of Yugoslavian, and later Slovenian, companies began with the federal Amendments to the Constitution in November 1988 and the codes regulating economic and labor relations in 1988 and 1989. The most important was the Enterprise Law, adopted in December 1988, which abolished self-management and social property relations and replaced them with capitalist property relations (Mencinger, 1996). It replaced the Law on Associated Labor from 1976 and the "enterprise" was introduced as the basic production unit, replacing Basic Organizations of Associated Labor. Furthermore, the Law on Circulation and Disposal Capital gave the rights to the workers' councils to sell companies to private owners. Ante Marković, the Yugoslavian prime minister at the time, was aware of the need for property rights legislation and the Law on Social Property, adopted in August 1990, was set out to define those rights. Privatization was one of the core elements of the reform program, and "internal shares" enabling the employee buy-outs through the purchase of these shares at a discount were to

be the main instrument of privatization (Mencinger, 2006). Current and former workers would be able to buy shares (or shares would be given to them instead of a pay increase) at a discount proportionate to their amount of years in service. They were entitled to a 30% discount plus an additional 1% for each year of employment up to a maximum of 70% (Jeffries, 2002). Due to political turmoil, these reforms never materialized and the privatization processes shifted to the republics and later on independent states.

2.2.2 Ownership transformation after Slovenia's independence

Slovenia declared its independence on June 25, 1991. It consequently lost the market of the former Yugoslavia and the countries of the former Council for Mutual Economic Assistance in the Middle East. Companies were still endowed with social capital and controlled by the workers' councils. In principle, this meant that workers selected the management of the company, which made it very difficult to find an appropriate privatization program, as both workers and managers expected to gain control of the companies they were managing. Two concepts of the Ownership Transformation Act were in discussion in 1991. The first, the so-called Korže-Mencinger-Simoneti concept, was submitted to the legislature in June 1990 and proposed a gradual, decentralized, and commercial privatization model. It was mostly supported by companies, creditors, employees, and foreign partners. The idea of the concept was to capture the advantages of the decentralized nature of the Slovenian economy. Its most important characteristics were: a multitrack and diversified approach, with various privatization techniques; preferential terms for insiders; the possibility for partially privatized companies to raise additional private equity; and limited free distribution of property. The concept was criticized for not providing a good solution for the privatization of large businesses. The concept also gave special privileges to insiders, while free distribution of shares to citizens was not provided. In April 1991, the Sachs-Peterle-Umek concept was introduced, which supported a mass, centralized, and distributive privatization. It was based on a free distribution of shares, centrally administered by the government. All large companies would be privatized through the free distribution of shares to citizens through Privatization investment funds. This concept faced strong opposition due to the strongly decentralized nature of the Slovenian economy. The two concepts were very controversial mainly because of political and not economic reasons. The decentralized privatization model would enable control to remain in the hands of managers and hence the old economic and political elite, while the centralized model would transfer control to the emerging economic and political elite (Mrak et al., 2004; Mencinger, 2006).

After a year and a half, a compromise was met and on November 11, 1992, The Law on the Transformation of Social Ownership was passed. It included features of both concepts: decentralization and gradualism from the Korže-Mencinger-Simoneti concept, and distributive privatization by vouchers to all citizens from the Sachs-Peterle-Umek concept (Mencinger, 2006). The law required companies to allocate 20% of their shares to insiders

(workers), 20% to the Development Fund, which auctioned the shares to investment funds, 10% to the National Pension Fund,[6] and 10% to the Restitution Fund[7] (Bole et al., 2012). Companies were given the discretionary power to privatize the remaining 40% internally (internal buyout) or externally (public sale of shares) (Damijan, Gregorič & Prašnikar, 2004). The programs of ownership transformation were implemented under the supervision of the Agency for Restructuring and Privatization. Companies that were unable to submit their program proposals were transferred to the Agency and would become subject to ownership of the Development Fund. In 1993, 135 companies submitted their programs to the Agency and 31 of them were approved. In 1994, 50% of companies met the requirements. By the end of 1995, 1,446 companies submitted their programs, 1,005 were approved, and 441 were under consideration. Only 350 privatizations were completed (Mencinger, 2006). The whole process of ownership transformation lasted six years. 1,381 companies obtained approval for privatization and inscription in the Court Register, while the remaining 55 were either transferred to the Development Fund or liquidated. Only 68% of social capital was the subject of ownership transformation. 32% remained for the most part under the ownership of the state. Because 20% of the shares of each company were transferred to the National Pension Fund and the Restitution fund, and most of the companies were privatized through the free distribution of vouchers that could be exchanged for shares indirectly through Privatization Investment Funds, privately managed and state managed funds became the new majority owners of the entire Slovenian enterprise sector. The rest of the privatization shares were mostly taken up by managers, employees and former employees. Managers and employees obtained more than 50% of shares in 61.3% of companies, although these amounted to only 22.9% of total capital. In 150 companies, which amounted to nearly 45% of total capital, insiders did not require more than 20% of the shares (Mrak et al., 2004).

In their study on ownership concentration and firm performance, Damijan et al. (2004) revealed the aggregate percentages of shares held by different investor groups on a sample of 150 large and medium-sized Slovenian companies from 1998 to 2002. The data summarized in Table 6 shows that State-controlled Funds have been reducing the amount of shares, which is mostly due to the sale of shares by the Development Fund. In 1998, the aggregate ownership stake of State-controlled Funds was 20.13%. In the following four years, it fell by ten percentage points. A similar decrease can be observed in the share of insider owners. By contrast, Privatization Investment Funds held on to the share of capital amounted to them in the privatization process. Domestic companies experienced the biggest increase in their aggregate ownership stake. The share rose by 18.99 percentage points, from 7.80% in 1998 to 26.79% in 2002. There was a slight increase in foreign ownership, which more than doubled, although its role in Slovenian corporate governance remained quite limited. The share of banks, managers and minority shareholders remained

[6] Kapitalska družba, or KAD.

[7] Slovenska odškodninska družba, or SOD.

fairly similar. The data that indicates the number of companies with a given investor group as a dominant shareholder leads to a similar conclusion. When privatization concluded in 1998, domestic companies held the largest share in 11% of the companies. By the end of 2002, the share of companies they dominated rose to 31.5%. Furthermore, Privatization Investment Funds increased their dominant aggregate stake from 15% in 1998 to 24% in 2002. This can be partly explained by enterprise networks. Pahor (2003) claims that ownership ties are much more common among companies that operate in the same industry, are geographically close or share the same controlling owner. While in Western countries banks and investment funds play the central role in corporate networks, in Slovenia, this role was held by Privatization Investment Funds.

Table 6. Aggregate ownership stakes in Slovenian companies by investor groups (in %)

	1998	**1999**	**2000**	**2001**	**2002**
State-controlled Funds	20.13	18.92	14.99	12.68	10.24
PIFs	18.74	20.00	20.46	19.39	19.17
Banks	1.06	1.26	1.18	2.22	1.85
Foreigners	3.03	2.80	3.86	5.51	6.72
Domestic Companies	7.80	11.60	17.80	22.45	26.79
Inside owners	37.52	33.83	29.11	26.80	26.17
Managers	2.29	2.26	2.26	2.98	3.58
Minority shareholders	3.39	3.60	4.63	3.58	4.10
N	128	136	136	146	148

Source: J. P. Damijan et al., *Ownership Concentration and Firm Performance in Slovenia*, 2004.

In the period from 1998 to 2001, company ownership was concentrating. The data in Table 7 shows an increase in the average value of the biggest owner by 6.75 percentage points. The average value of the second biggest owner was also on the rise, while the average value of the third largest owner somewhat decreased. In 2001, the average share of the five largest owners was 64.95%.

Table 7. Mean and median stakes of the first, second, third and first five largest shareholders in Slovenian companies (in %)

	1998		**1999**		**2000**		**2001**	
	Mean	**Median**	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**Median**
1st	31.75	24.43	36.68	35.03	35.00	29.65	38.50	33.37
2nd	12.98	11.36	13.55	11.72	14.64	12.42	14.69	12.26
3rd	8.38	18.95	7.97	8.90	7.72	8.73	7.63	7.64
C5	58.56	53.19	59.03	56.64	61.86	62.39	64.95	65.02

Source: J. P. Damijan et al., *Ownership Concentration and Firm Performance in Slovenia*, 2004.

Table 8 shows that foreigners, when they were the largest owner, normally had the majority stake. No other investor group, except for workers in 1998, exceeded 50%. Especially notable is the decline of the average voting stake of the Restitution Fund. Although the number of companies with the Restitution Fund as the biggest owner increased from 3 to 7, the median voting stake decreased from 33.33% in 1998 to 15.28% in 2001.

Table 8. Number of Slovenian companies (N) with a given investor group as the largest shareholder and the average voting (ownership) stake held by the indicated investor group (Median in %)

	1998		1999		2000		2001	
	N	**Median**	**N**	**Median**	**N**	**Median**	**N**	**Median**
Capital Fund	15	18.48	20	19.64	17	19.77	13	20.02
Restitution Fund	3	33.33	5	15.28	4	24.30	7	15.28
PIFs	41	23.31	53	22.27	50	24.97	38	31.39
Foreigners	3	25.03	8	51.50	9	52.00	10	63.80
Domestic	12	34.04	21	33.04	31	49.90	43	44.61
Workers	5	52.54	5	39.10	6	46.16	8	43.16
Individuals	4	25.15	8	18.18	10	16.78	10	21.57
Banks	0	0	0	0	2	24.97	4	37.30
Total	106		149		151		151	

Source: J. P. Damijan et al., *Ownership Concentration and Firm Performance in Slovenia,* 2004.

2.2.3 Ownership transformation after Slovenia's accession to the European Union

Slovenia's accession to the European Union in 2004 coincided with the election of a new coalition government. The government announced a major reform of the country's economic system, which was to carry out the Strategy for Development, a national counterpart of the Lisbon Strategy. The reforms were presented by the end of 2005 in the Framework of Economic and Social Reforms for Increasing the Welfare in Slovenia. To achieve greater productivity and a faster growth of Slovenian companies, the Framework proposed another wave of privatization, the so-called "transparent withdrawal of the state from the economy." The subject of privatization were Slovenia's large companies, which were according to the Framework more suited for dispersed privatization and ownership on part of financial investors. Four measures were introduced. The goal of the first two measures was to change the practice of the state and to prepare a time plan for the withdrawal of the Capital Fund (hereinafter referred to as KAD[8]) and the Restitution Fund

[8] KAD was established in 1996 with the intention of generating additional resources for pension and disability insurance. SOD was established in 2000 through the change of status. It managed state-owned capital investments until 26 April 2014, when SDH was established by the Law. SDH also took over the

(hereinafter SOD) from an active ownership management of the companies. KAD and SOD were to be transformed into portfolio investors. The Framework's reason for this transformation was that KAD and SOD were, in terms of content, a kind of national finance reserve for covering deficits in the public pension fund and obligations to denationalization beneficiaries, which mainly depended on the success of the domestic economy. Furthermore, the success of their asset management depended on the domestic economy, as they only invested in the shares of domestic companies. The concentration of investments leads to an increase in risk, which would be reduced if KAD and SOD invested into a globally dispersed portfolio.

To assure transparency, companies in the portfolio of KAD and SOD were divided into three groups. The first group consisted of non-public stock companies and limited liability companies. The most important criterion for selling these companies was the maximization of revenues from the sale. KAD and SOD would therefore work together in searching for as many potential buyers as possible. The deadline for this kind of privatization was 30 months. The second group consisted of listed companies. KAD and SOD had to independently maximize the shareholder portfolio's values in compliance with the stock rules. The combined ownership of the funds was not allowed to exceed ten percent and the deadline was set to 24 months. The third group consisted of companies that were due to their size and importance to the Slovenian economy not tied to any deadlines. The sale of these companies was to coincide with the liabilities of the two funds, the situation on the market, and the sales of other state owned companies (Prašnikar et al., 2015). For the third group of companies a so-called 26XY partial privatization model was introduced. In these companies, the state would retain at least 26%, or a share that would give it the power of veto on the most important decisions in any particular case. Furthermore, strategic investors could acquire X ($0<X<74$) percent of shares and financial investors Y ($0<Y<74$) percent of shares (Mencinger, 2006).

Despite the "transparent withdrawal of the state from the economy" never fully materializing, the level of activity of KAD and SOD increased after the introduction of the reform program. Table 9 reveals the sum of annual transactions, the number of transactions, the mean transaction value, and the median transaction of equity investment sales of KAD and SOD from 2004 to 2014. From 2004 to 2007, the total sum of annual transactions increased from approximately 60 million € in 2004 to 463 million € in 2007. The number of transactions also increased in this period, as did the mean transaction value and the median of transactions. Already in 2008, these values started to drop. The low point was in 2011, when equity investment sales amounted to 240 thousand €. Although the number of transactions remained very low, SOD made a few higher valued transactions, which substantially increased the sum of annual transactions in 2012, 2013 and 2014.

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rights as a single KAD's shareholder (for more on legal changes on governing state ownership, see Prašnikar et al., 2015).

Table 9. Equity investment sales of SOD and KAD between 2004 and 2014, without the sales to the Slovenian Sovereign Fund (SDH) (formerly SOD) and the PDP (Special Company for Corporate Advisors, Inc.)[9]

	Sum of annual transactions (in €)			**Number of transactions**			**Mean transaction value (in €)**		**Median of transactions (in €)**	
YEAR	***SOD***	***KAD***	***TOTAL***	***SOD***	***KAD***	***TOTAL***	***SOD***	***KAD***	***SOD***	***KAD***
2004	1.244.583	58.427.809	59.672.392	6	57	63	207.430	1.025.049	68.176	475.467
2005	67.641.698	114.432.952	182.074.650	31	29	60	2.181.990	3.945.964	144.723	176.278
2006	174.242.211	55.751.318	229.993.529	52	54	106	3.350.812	1.032.432	119.753	98.282
2007	229.464.142	233.834.467	463.298.609	52	48	100	4.412.772	4.871.551	871.692	1.224.937
2008	168.841.711	37.411.822	206.253.534	9	11	20	18.760.190	3.401.075	220.091	99.831
2009	112.260.524	2.253.462	114.513.986	6	5	11	18.710.087	450.692	7.627	430.154
2010	210.704	551.033	761.737	4	2	6	52.676	275.516	32.897	275.516
2011	238.787	1.165	239.952	5	3	8	47.765	388	516	157
2012	51.553.447	16.527.509	68.080.956	5	4	9	10.310.689	4.131.877	36.151	1.877.290
2013	58.546.921	-	58.546.921	2	-	2	29.273.460	-	29.273.460	-
2014	159.603.975	17.607.412	177.211.387	6	2	8	26.600.663	8.803.706	10.726.148	8.803.706

Source: J. Prašnikar et al., *Skrivnost državne lastnine v Sloveniji*, 2015.

[9] The data includes all the transactions conducted by SOD and KAD between 2004 and 2014, without the sales to SDH (formerly SOD) and PDP, since they are just other state institutions. Transactions where an investment was more than once sold to the same buyer in the same year were grouped together. Such cases do not exist for SOD. The data on sales of investments of the Republic of Slovenia in 2013 and 2014 was added to SOD. Data on bankruptcies, liquidations and exchanges conducted by SOD is not included.

2.2.4 Major organizational and ownership forms in Slovenia

More than 20 years of ownership transformation has changed the organizational and ownership forms in Slovenia. It has seen the emergence of financial holdings, the arrival of foreign owners, the preservation of state-owned companies and *de novo* companies. The following subsection is devoted to the present organizational and ownership forms in Slovenia. The subsection can be looked at as a summary of the chapter and a starting point for the presentation of empirical research.

Ownership concentration in Slovenian companies was relatively fast and was connected with the increase in the share of domestic owners and foreign owners and a decline in the share of internal owners. Furthermore, after the transition from a socialist to a capitalist economy, small *de novo* companies with concentrated ownership emerged. In the boom period several of these companies engaged in "financial holding" activities. They started with practically zero capital and earned money through first transactions with the securities of privatized companies, or bank loans, and started acquiring other companies.

Financial holdings present the largest group of financial intermediaries in Slovenia. One group of financial holdings is associated with the transformation of social property. The second group is composed mostly of large nonfinancial companies, which were a subject of ownership transformation and were transformed into financial holdings. Their role in the boom period is significant, as they were actively involved, through management buyouts, in the second wave of privatization. Using state-owned banks and companies under their control, internal owners have consolidated their ownership in different industries, often by completely exhausting the companies in their group. In 2010, 23 financial holding companies were listed on the Ljubljana stock exchange and their total debt exceeded their total assets. Most of their funds were used for financial investments, as they amounted to 1.9 billion € (Mastnak, 2010). Consequently, a large number of holdings have had to declare insolvency or are in the process of debt restructuring.

The privatization process in Slovenia was relatively successful for small companies but failed to privatize large companies, which often remained in state ownership. According to the European Commission (2015), the level of state involvement in Slovenia is one of the highest in Europe. Although state owned and state controlled enterprises represent only about 1% of the total number of companies in Slovenia, they account for one third of the assets, a quarter of the value added, over 40% of the equity value. The presence of the state is strong not only in energy, public utilities, and transport, but also in sectors where state involvement in comparable countries is less pronounced, such as the chemical industry, consumer staples, manufacturing, tourism, and leisure.

3 THE THEORETICAL AND OPERATIONAL MODELS FOR THE EMPIRICAL RESEARCH

3.1 The extended Bernanke et al. (1999) theoretical model of the financial accelerator

Our research is based on the financial accelerator model by Bernanke et al. (1999), which was also used by Bole et al. (2012) and Bole et al. (2015) in their studies on debt accumulation and financial frictions. Bernanke et al. developed a dynamic general equilibrium model based on the literature on asymmetric information and agency costs in the lending relationship, which explains the role of credit market frictions in cyclical fluctuations. Three types of agents, namely households, entrepreneurs, and retailers, are identified. Households and entrepreneurs differ from each other to motivate lending and borrowing, while the addition of retailers allows for an incorporation of inertia in price setting in a trackable way. To induce the effect of the financial accelerator, entrepreneurs play the key role in the model. These entrepreneurs are assumed to be risk-neutral and have finite horizons. In each period t they acquire physical capital, while entrepreneurs who "die" in period t only consume their accumulated resources and depart from the scene. The acquired capital is used in combination with hired labor to produce output in t+1. These acquisitions are financed by entrepreneurial wealth, or "net worth," and borrowing. The net worth comes from profits, which include capital gains and are accumulated from previous capital investments as well as income from supplying labor. The net worth plays a crucial role in the dynamics of the model, because the borrower's financial position is a key factor impacting his cost of external finance. Higher levels of net worth mitigate the agency problems associated with external finance and reduce the external finance premium, which allows increased self-financing. These relationships are then embedded into the Dynamic New Keynesian model, which shows that fluctuations in a borrower's net worth can act to amplify macroeconomic variables. An unanticipated rise in asset prices raises net worth more than proportionately, which stimulates investment and, in turn, raises prices even further (the so-called financial accelerator) (Bole et al., 2012).

The model allows for the incorporation of shocks, such as unanticipated exogenous movement in the short-term interest rate and government expenditure. The financial accelerator amplifies both of these shocks. An unanticipated decline in the funds rate positively affects the demand for capital, which furthermore raises investment and the price of capital. Increased asset prices raise the net worth and the potential collateralization potential, forcing down the external finance premium, which additionally stimulates investment. A multiplier effect occurs, as a burst in investment raises asset prices and net worth, which further on increases investment. The same mechanism is applied to demand shocks, specifically to government expenditure. The financial accelerator is the perfect fit for Slovenia, where capital market imperfections prevailed in the entire period after the

secession from Yugoslavia. The nominal convergence of interest rates and a booming capital and real estate market drastically increased credit growth (Bole et al., 2012). According to Bole (2008), an overheated economy was the main factor behind the account deterioration and inflation acceleration when labor costs went up and commodity prices skyrocketed in 2007 and 2008.

The same theoretical framework of the financial accelerator is used as by Bole et al. (2015), where in the partial equilibrium costly-state verification model of optimal contract between entrepreneur and lender, the financial accelerator endogenously amplifies the effects of exogenous shocks to the expected capital return through the supply of investment finance (1) and net worth (2).

$$Q_t K_{t+1} = \Psi(s_t) N_{t+1} \qquad \Psi(1) = 1 \qquad \Psi'(.) \geq 0 \quad (1)$$

$$N_t = R_t^k Q_{t-1} K_{t-1} - (1 + \zeta(Q_{t-1} K_{t-1} / N_{t-1})) R_t B_t \quad (2)$$

In the equations above:

Q_t denotes price,

R_t^k denotes fundamental (gross) capital return,

R_t denotes the riskless rate (opportunity cost for banks lenders),

K_t denotes the volume of capital invested,

N_t denotes the net worth invested in the project,

B_t denotes borrowing at the end of period *t-1* $(Q_{t-1} K_{t-1} - N_{t-1})$,

ζ denotes the premium for external finance and

Ψ denotes the increasing function of the expected discounted return to capital,

defined by:

$$s_t = E\left(\frac{R_{t+1}^k}{R_{t+1}}\right) \quad (3)$$

If we take into account that investment projects are financed by borrowing and previously accumulated net worth, the supply function for external investment finance could be written as:

$$B_{t+1} = Q_t K_{t+1}\left(1 - \frac{1}{\Psi(s_{0t})}\right) \quad (4)$$

Economic activity and capital returns could vary significantly between industries if effects of specific macroeconomic conditions vary among industries. Idiosyncratic disturbances to a company modify its discounted capital return relative to the discounted capital return of the sector to which the company belongs. In the model (4) it is denoted by s_0. The model (4) incorporates industry specific effects of the investment on company borrowing (in a given year) in discrete multiplicative industry effects. The same logic shows that country specific effects of the investments would have to result in discrete multiplicative effects, if effects of the investment on firm borrowing are studied for different countries.

The simple model of investment finance (3) is expanded by explicitly distinguishing borrowing effects productive capital formation, investment in real estate, and financial investment, due to the fact that factors influencing discounted returns of these investments differ considerably.

Let us take that at the beginning of period t+1 an entrepreneur has a net worth of Nj_{t+1}. Let us suppose that he intends to allocate net worth to three different projects: $_1Nj_{t+1,}$ $_2Nj_{t+,}$ and $_3Nj_{t+1,}$ where $_1Nj_{t+1} + {}_2Nj_{t+1} + {}_3Nj_{t+1} \leq Nj_{t+1.}$ The first project is a productive capital formation, the second is an investment in real estate, and the third project is a financial investment. For every project, the entrepreneur also borrows funds from a bank according to the optimal finance plan provided by the model (1), taking into account that the discounted capital returns of these three projects differ.

If $\Gamma(\omega)$ is the expected gross share of profits going to the lender, then the expected profit of the entrepreneur from all three projects is equal to:

$$\begin{aligned}&(1-\Gamma(\omega_1))E({}_1R^k_{t+1})/R_{t+1}\ {}_1Q_t\ {}_1K_{t+1} + (1-\Gamma(\omega_2))E({}_2R^k_{t+1})/\\ &R_{t+1}\ {}_2Q_t\ {}_2K_{t+1} + (1-\Gamma(\omega_3))E({}_3R^k_{t+1})/R_{t+1}\ {}_3Q_t\ {}_3K_{t+1}\end{aligned} \quad (5)$$

where $\Gamma(\omega_i)$, $E({}_iRk_{t+1})$, ${}_iQ_t$, ${}_iK_{t+1}$ pertain to the project indexed by i, for $I = 1, 2, 3$. Optimal values for (default determining) cut-off values $\omega_1, \omega_2, \omega_3$ depend on different values of discounted capital returns, namely $s_i = E({}_iRk_{t+1}/R_{t+1})$ for investment *projects* $I = 1, 2, 3$. Cut-off values are determined by discounted capital returns through function $s_i = \rho(\omega_i)$ for $I = 1, 2, 3$.

A rational entrepreneur j would allocate his net worth so that his total profit would be the largest possible for a given size of the total invested net worth $Nj_{t+1.}$ Hence, he would find the optimal structure of allocated net worth $_1Nj_{t+1}$, $_2Nj_{t+1}$, and $_3Nj_{t+1}$ by solving the following optimization problem:

$$max\ ((1-\Gamma(\omega_1))s_1\Psi(s_1)\ {}_1N_{t+1}+(1-\Gamma(\omega_2))s_2\Psi(s_2)\ {}_2N_{t+1}+(1-\Gamma(\omega_3))s_3\Psi(s_3)\ {}_3N_{t+1})$$

for the following given constraints:

$s_i=\rho(\omega_i)$ for *i=1,2,3* ${}_1N_{t+1}+{}_2N_{t+1}+{}_3N_{t+1}\le N_{t+1}$ ${}_1N_{t+1}\ge 0$, ${}_2N_{t+1}\ge 0$, ${}_3N_{t+1}\ge 0$.

To solve the problem, Kuhn Tucker conditions have to be used, although the objective functions are simple and the solution straightforward. A rational entrepreneur would put net worth in those project(s) in which the discounted return to capital s_i gives the highest value of $(1-\Gamma(\omega_i))s_i\psi(s_i)$. If two projects have the same discounted return to capital s_i, a company could invest in both projects (proportions are not important) or invest in all three projects if the discounted capital returns of all three projects are equal (proportions are, once again, not important).

The final version of the supply function for external investment financing for firm j, belonging to the sector with a discounted capital return equal to s_{0t}, would be:

$$B^j_{t+1}=\sum_i {}_iQ_{t\,i}K^j_{t+1}\left(1-\frac{1}{\Psi({}_is_{0t})}\right) \quad (6)$$

The equation above (6) shows how different expected discounted capital returns affect the priority of different kinds of investments and the size of company borrowing, which depends on the company's productive capital formation, on financial and real estate investments, with multiplicative industry-specific effects. The linearized version of the model seen below (7) includes the explanatory variables listed above, which are all in deviation from the economy average. Additionally, industry-specific discounted capital returns that correspond to the industries' additive effects are included in the second sum. Finally, explanatory variables in the third sum, aggregated as a constant in a regression model, are average investment effects of the economy.

$$B^j_{t+1}=\sum_i\left({}_iQ_{t\,i}K^j_{t+1}-\overline{{}_iQ_{t\,i}K_{t+1}}\right)\left(1-\frac{1}{\overline{\Psi}({}_is_t)}\right)+\sum_i\left(\frac{1}{\overline{\Psi}({}_is_t)}-\frac{1}{\Psi({}_is_{0t})}\right)\frac{\overline{{}_iQ_{t\,i}K_{t+1}}}{\overline{\Psi}^2({}_is_t)}+\sum_i\overline{{}_iQ_{t\,i}K_{t+1}}\left(1-\frac{1}{\overline{\Psi}({}_is_t)}\right) \quad (7)$$

According to Bole et al. (2015), the model in equations (1) and (2) is an appropriate analytical framework for studying investments in bubble episodes.

3.2 The operational model of the debt accumulation process and the main hypotheses

Based on the financial accelerator relationships (2) and (3), which according to Bole et al. (2015) present the basic analytical framework of the process of investment-driven indebtedness and the literature on capital structure, the following regression model was constructed:

$$dbil\_fdebt = \alpha + \beta_1 dbil\_core + \beta_2 dbil\_reales + \beta_3 dbil\_fininv + \beta_4 bil\_cap(-1) + \beta_5 dummy\_one + \beta_6 dummy\_one\_two + \beta_7 dummy\_gov + \beta_8 dummy\_hold + \beta_9 core1 + \beta_{10} reales1 + \beta_{11} fininv1 \quad (8)$$

In the model, yearly changes of financial debt are regressed on a given company's core business variable, portfolio real estate investment variable, and financial investment variable. The latter two represent the non-core business investments variable. To test for the effect different ownership structures have on the indebtedness of Slovenian companies, dummy variables were included. Dummy_one represents companies with a single owner with a share of over 50%, while the control owner is neither the state nor a holding. Dummy_one_two represents companies where two owners have a combined share of over 50%, while individually their share does not exceed 50% and they are neither the state nor a holding. Dummy_ gov represents companies where the government has a share of over 50% and companies where two owners have a combined share of over 50%, while individually their share does not exceed 50% and at least one of them is the state. And finally, dummy_hold represent companies where a holding company has a share of over 50% and companies where two owners have a combined share of over 50%, while individually their share does not exceed 50% and at least one of them is a holding An additional dummy representing companies with dispersed ownership was created, but not added to the model and represents the base.[10] The basic idea behind these dummies was to construct variables where different types of owners with different ownership concentrations would prevail. Furthermore, three new variables were added to test for the multiplicative effect of core activities, real estate investments, and financial investments on dummy_gov. The set of explanatory variables was augmented by the variable bil_cap(-1), which stands for the equity to total balance sum in the previous year and is used as an indicator of a company's financial health. The data collection process and the variables are more thoroughly explained in the next chapter.

[10] Dummy_notone_nottwo represents companies where the combined share of the two largest owners does not exceed 50%.

The following hypotheses were constructed based on the presented literature review.

Hypothesis 1:

> **a:** The financial accelerators for core investments, real estate investments, and financial investments had a positive effect on financial debt in all three analyzed periods.

Minsky's displacement, or so-called "game changers," took place by the convergence of interest rates, a drop in the sovereign risk premium, and the decision of the government to launch a new wave of privatization, which led to the transformation in the ownership structures of Slovenian companies. Companies started accumulating debt by investing into core business, real estate, and financial investments (Prašnikar et al., 2015). Due to the financial accelerator mechanism, asset bubbles started to form. Although investments in the bust and recovery periods calmed, their effect on financial debt remained positive.

> **b:** The strength of the financial accelerator mechanism declined in the bust and recovery periods for all three analyzed debt drivers.

Due to a sudden stop of external financial inflows, the credit markets in Slovenia tightened and illiquidity arose. Bole et al. (2014b) found that the effect of core investments, real estate investments, and financial investments on financial debt decreased significantly in the post-crisis period.

Hypothesis 2: Equity had a positive effect on financial debt in all three analyzed periods.

Equity is an indicator of financial health and as such an indicator of collateral. This decreases the risk for investors and increases the value of assets in the case of bankruptcy. Boothe, Aivazian, Demirguc-Kunt & Maksimovic (2001) state: "The more tangible the firm's assets, the greater its ability to issue secured debt and the less information revealed about future profits." The effect is expected to be stronger in the bust and recover periods. Due to the liquidity squeeze, credit rationing, and the collateral coverage by banks in the bust and recovery periods in Slovenia (Bole et al., 2014b), only financially healthy companies were able to obtain additional credit. Therefore, a positive relation between equity and financial debt is predicted.

Hypothesis 3:

> **a:** Ownership concentration in the hands of one blockholder had a positive effect on financial debt in all three analyzed periods.

A large shareholder and an effective board of directors indicate governance quality. As a result, companies with a large shareholder are granted easier access to capital markets and have lower expected agency costs of debt. A positive relation between ownership concentration and leverage was found by, King & Santor (2008), Margaritis & Psillaki

(2010), and Brailsford et al. (2002), who found support for the active monitoring hypothesis, which proposes that debt ratios are likely to be an increasing function of the level of share ownership of external owners. Furthermore, Ellul (2008) states: "These results clearly reject the risk reduction hypothesis and are consistent with the control hypothesis, where a blockholder increases leverage to maintain or enhance control over the firm's decision making process."

b: The presence of a second large blockholder had a positive effect on financial debt in all three analyzed periods.

The second and third largest shareholders have a smaller share than the biggest shareholder and therefore risk tolerance between that of the first largest shareholders and the liquidity shareholders. Furthermore, these owners want to avoid expropriation behavior of the largest shareholder by accumulating more debt. And finally, if another large blockholder is present, the company may rather use leverage than engage in issuing new equity, as this would prevent an increase in the relative position of other blockholders (Santos et al., 2013).

Hypothesis 4:

a: State ownership had a negative effect on financial debt in the boom period.

In the boom period, state-owned companies were not the focus of banks, as they were not the ones privatizing other companies. Therefore a negative relation between state ownership and financial debt in the boom period is predicted.

b: State ownership had a positive effect on financial debt in the bust period.

Kornai (1986) identified a remarkable trend in contemporary economies that the budget constraints of economic units become soft. These are usually associated with the paternalistic role of the state. In terms of credit, softness does not refer to a lower interest rate. It refers to the fulfillment of debt obligations not being enforced, to unreliable debt tolerance, and postponements. It is used to assist companies in chronic financial trouble, without much hope of debt repayment. In the case of Slovenia, the government supported individual state-owned companies that found themselves in liquidity problems after the eruption of the financial crisis. Although state-owned companies increased their financial debt, it was not because of investments into core activities, real estate investments or financial investments.

Hypothesis 5

a: Holding ownership had a positive effect on financial debt in the boom period.

The role of financial holdings in the boom period is significant, as they were actively involved, through management buyouts, in the second wave of privatization. They have often acted as a special purpose vehicle for the privatization of companies with the help of

bank loans and are therefore expected to have a positive effect on financial debt in the boom period (Prašnikar et al., 2015).

b: Holding ownership had a positive effect on financial debt in the bust period.
In the bust period, financial holdings continued to exhaust companies in their group. To be operational, a financial holding needed additional loans, granted by state-owned banks.

c: Holding ownership had a negative effect on financial debt in the bust period.
Financial holdings were some of the most indebted economic subjects on the Ljubljana stock exchange in the bust period (Mastnak, 2010). Furthermore, the so-called "Lahovnik's Law" in 2009 prevented state-owned banks from further lending to "Tycoon" companies, which in a lot of cases were holding companies. As a result, intercompany debt increased, while financial debt decreased (Bole et al., 2014b).

Hypothesis 6: Core investments, real estate investments and financial investments did not affect financial debt in state-owned companies in the bust and recovery periods.

Due to increased prices in the energetics and public utilities sectors, state-owned companies started investing with their retained earnings rather than financial debt. Consequently, core investments, real estate investments, and financial investments did not have an effect on financial debt.

Table 10. Schematic presentation of the hypotheses

	Slovenia		
	Boom period	**Bust period**	**Recovery period**
	2007–2008	**2009–2010**	**2011–2014**
Core investments	$\beta_1 > 0$	$\beta_1 > 0$	$\beta_1 > 0$
Real estate investments	$\beta_2 > 0$	$\beta_2 > 0$	$\beta_2 > 0$
Financial investments	$\beta_3 > 0$	$\beta_3 > 0$	$\beta_3 > 0$
Capital	$\beta_4 > 0$	$\beta_4 > 0$	$\beta_4 > 0$
Dummy_one	$\beta_5 > 0$	$\beta_5 > 0$	$\beta_5 > 0$
Dummy_one_two	$\beta_6 > 0$	$\beta_6 > 0$	$\beta_6 > 0$
Dummy_gov	$\beta_7 < 0$	$\beta_7 > 0$	$\beta_7 > 0$
Dummy_hold	$\beta_8 > 0$	$\beta_8 \leq \geq 0$	$\beta_8 \leq \geq 0$
Core1	$\beta_9 = 0$	$\beta_9 < 0$	$\beta_9 < 0$
Real1	$\beta_{10} = 0$	$\beta_{10} < 0$	$\beta_{10} < 0$
Fin1	$\beta_{11} = 0$	$\beta_{11} < 0$	$\beta_{11} < 0$

4 DATA COLLECTION AND PREPARATION

4.1 Sample of companies

The sample used for the empirical research contains data for the period from 2006 to 2014 for 30,425 observations of 4,448 unique Slovenian companies.[11] Companies in the database follow at least one criterion from The Companies Act on micro, small, medium, and large companies – all companies in the dataset either had more than 50 employees on average during the financial year or their balance sum exceeded 2,000,000 €. The year 2008 was taken as the base year for creating the list of companies.

In the first phase of the data collection process, information on the ten biggest owners and their share in a company in the period from 2006 to 2014 was gathered. The primary sources for the ownership structure of Slovenian companies were AJPES (Agency of the Republic of Slovenia for Public Legal Records and Related Services), GVIN, and the companies' annual reports. The dataset is not fully perfected due to limited and missing data. In the second phase of the data collection process, each individual owner was assigned two dummy variables: one designating whether the owner was the state and another whether the owner was a holding company.[12] The criterion for the owner to be recognized as a state owner was that state ownership needed to be direct. Furthermore, owners that were holding companies were identified with the help of the SKD classification, as all companies with the classification 62.2 were identified as holding companies. In the third phase, data on the ownership structure of Slovenian companies was merged with their balance sheets and income statements, obtained from AJPES.

Although data was collected from very reliable sources, a preliminary inspection revealed the possibility of outlying companies. Due to the sheer size of the sample (the original sample had more than 40,000 data items), data could not be checked individually. Therefore, automatic robust filters were used to clean the data of potential outliers. For five variables used in the model (dbil_fdebt, dbil_core, dbil_reales, dbil_fininv, and bil_cap(-1)), a distribution of companies for each year was constructed. Companies from the first 0.5 centile and from the last 0.5 centile for each variable were filtered out from the final sample.

The average company in the sample, as displayed in Table 11, had relatively stable assets, which amounted to 19,800,000 € in the period from 2007 to 2014. On the other hand, income, which was still increasing in 2008, fell by 2,500 € in 2009. It took three years for the average company to reach the income level from 2008. Furthermore, profit decreased dramatically. In 2007 it amounted to 704,733 €, while in 2010 profit for the average

[11] A thorough overview of the sample can be seen in Appendix B.

[12] A list of owners that were identified as the state or as a holding can be found in Appendix C.

company in the sample was only 24,401 €. In the next year profit increased dramatically, only to decrease in the following two years. Finally, the average number of employees was decreasing in the period from 2007 to 2011 and started increasing afterwards.

Table 11. Basic information on the average company in the sample

year	assets (€)	income (€)	profit (€)	employees (N)
2007	18,900,000	14,200,000	704,733	84.94
2008	20,100,000	15,400,000	397,419	84.70
2009	20,600,000	12,900,000	143,934	79.84
2010	20,000,000	13,800,000	24,401	77.19
2011	19,900,000	14,700,000	190,182	75.52
2012	20,200,000	15,400,000	109,825	78.01
2013	19,500,000	15,400,000	37,352	78.20
2014	19,400,000	15,900,000	322,477	79.80
Total	19,800,000	14,700,000	237,024	79.73

The majority of the observations in the sample are companies from the services sector (53%), followed by industrial companies (25%), and constructions companies (9%).[13]The recoding of all variables was done entirely in Stata. Table 12 describes the variables and their calculation process.

Table 12. The list of variables and their composition

Variable		Calculation of the variable
dbil_fdebt	yearly difference of total financial debt per unit of balance sheet sum	calculated as a sum of yearly differences in total financial debt divided by total assets
dbil_core	yearly difference of core investments per unit of balance sheet sum	calculated as a sum of yearly differences in tangible noncurrent assets, yearly differences in inventories and amortization, less profit, divided by total assets
dbil_reales	yearly difference of portfolio real estate investments per unit of balance sheet sum	calculated as a sum of yearly differences of real estate investments divided by total assets

(table continues)

[13] Companies were sorted according to their SKD classification. Companies reaching from categories 10.00 to 33.20 in the SKD classification were classified as industrial companies, companies reaching from 45.00 to 64.00 or from 68.00 to 84.00 were classified as service companies, and companies with an SKD classification higher than 41.00 and lower than 44.00 were classified as construction companies.

(continued)

dbil_fininv	yearly difference of financial investments per unit of balance sheet sum	calculated as a sum of yearly differences of long term and short term financial investments divided by total assets
bil_cap(-1)	equity to balance sheet sum in the previous year	calculated as equity divided by total assets from the previous year
dummy_one	dummy variable	defined as one if a single owner has a share above 50% and is neither the state nor a holding
dummy_one_two	dummy variable	defined as one if two owners combined have a share above 50%, while individually their share does not exceed 50% and they are neither a state nor a holding
dummy_gov	dummy variable	defined as one if the state has a share above 50% or if two owners have a combined share of over 50%, while individually their share does not exceed 50% and at least one of them is the state
dummy_hold	dummy variable	defined as one if a holding company has a share above 50% or if two owners have a combined share of over 50%, while individually their share does not exceed 50% and at least one of them is a holding
core1	interactive variable	calculated as the product of dbil_core and dummy_gov
real1	interactive variable	calculated as the product of dbil_reales and dummy_gov
fininv1	interactive variable	calculated as the product of dbil_fininv and dummy_gov

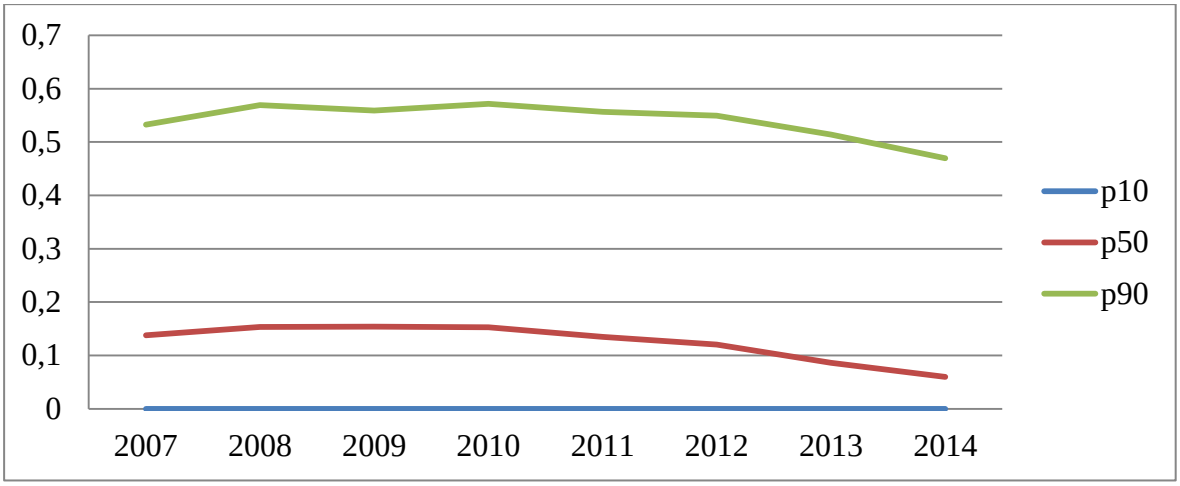
4.2 Descriptive statistics

The big sample of companies, which extends from 3,537 companies in 2014 to 4,025 companies in 2009, allows for a thorough examination of Slovenia's corporate sector in the period from 2007 to 2014. Although data gathering encompassed the period from 2006 to 2014, most of the variables are increments, which constrains the data to the period from 2007 to 2014. In the following section, summary statistics for the entire sample will be presented. A detailed look on the variables used in the regression model and the ownership structure of companies will be provided. Furthermore, a part will be devoted to the effect

ownership concentration has on the indebtedness of these companies and the effect different ownership types have on the debt dynamic. Finally, a comparison of industrial, service, and construction companies will be made.

In the entire period from 2007 to 2014 companies increased their indebtedness by only 0.16% on average, as seen in Table 13. Interestingly, if we divide companies into three groups according to how many people they employ, either from 50 to 99 people, from 100 to 199 people, or more than 200 people, we observe that while the debt buildup process was fairly similar in all three groups, the biggest companies were deleveraging from 2012 on at a faster pace on average than their smaller counterparts. Figure 5 reveals the trajectory of the indebtedness of the analyzed sample for the first, fifth, and ninth decile. The graph shows that companies in the fifth and last decile had a very similar trajectory, while companies in the first decile were a lot more conservative and did not use debt to finance their activities. In the observed period, companies in the last decile increased their indebtedness from 54.24% of total balance sum in 2007 to 56.93% of total balance sum in 2008. In the following four years, indebtedness never increased or decreased by more than 2 percentage points. The biggest drop in the indebtedness of companies in the last decile happened in 2013 and 2014, when it amounted to 51.41% and 46.96% of total balance sum, respectively. Companies in the fifth decile acted fairly similarly to their last decile counterparts. In the studied period from 2007 to 2014 they decreased their indebtedness by 7.81 percentage points.

Figure 5. Financial debt per unit of total balance sheet sum for p10, p50 and p90



The spread of the increment of financial debt for the first and last decile decreased a lot. Figure 6 reveals that in 2007 the difference between the decrease in financial debt of the first decile and the increase in financial debt of the last decile amounted to around 23.5 percentage points, while in 2014 the spread amounted to only 10.5 percentage points.

Figure 6. Increment of financial debt per unit of total balance sheet sum for p10, p50 and p90

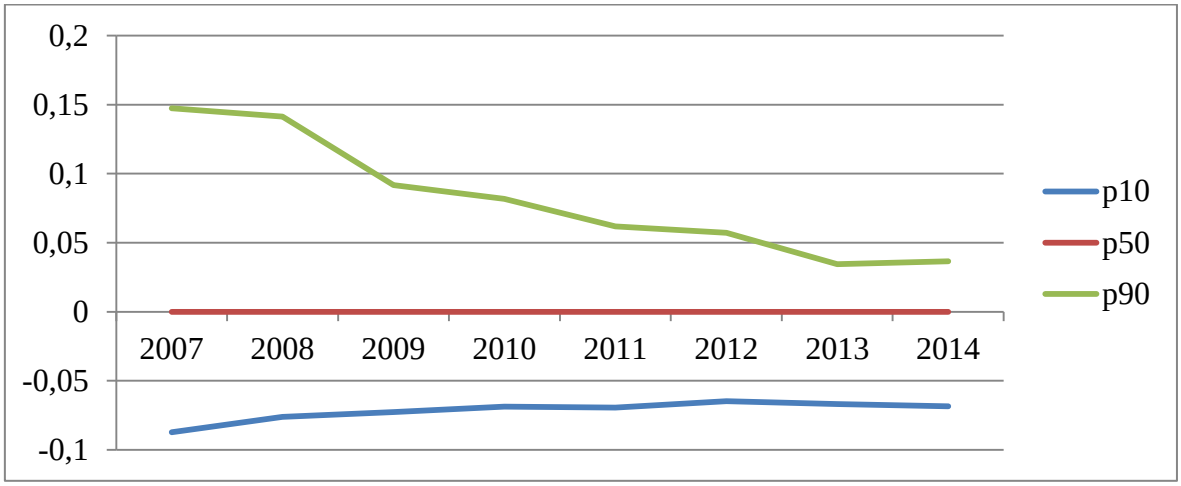


Figure 7, Figure 8, and Figure 9 illustrate the dynamics of three potential debt drivers: core activities, real estate investments, and financial investments. All three are increments per unit of total balance sheet sum and the trajectory for the first, fifth and ninth decile is presented. Changes in core activities are shown in Figure 7. The graph reveals that impulses of core activities were a lot stronger in the first two years and much weaker in the years after. Furthermore, differences between companies in the lowest and highest decile were considerable, especially in the booming years 2007 and 2008. While companies in the first decile were decreasing their core activities in the entire period from 2007 to 2014, companies in the last decile increased their core activities by 30.06% of the total balance sheet sum in 2007 and by 28.81% of the total balance sheet sum in 2008. With the full eruption of the crisis in 2009 the increase in core activities in the last decile fell by 11.56 percentage points and continued increasing at a decreasing rate until 2014. Companies in the fifth decile were increasing their core activities the entire period.

Figure 7. Increment of core activities per unit of total balance sheet sum for p10, p50 and p90

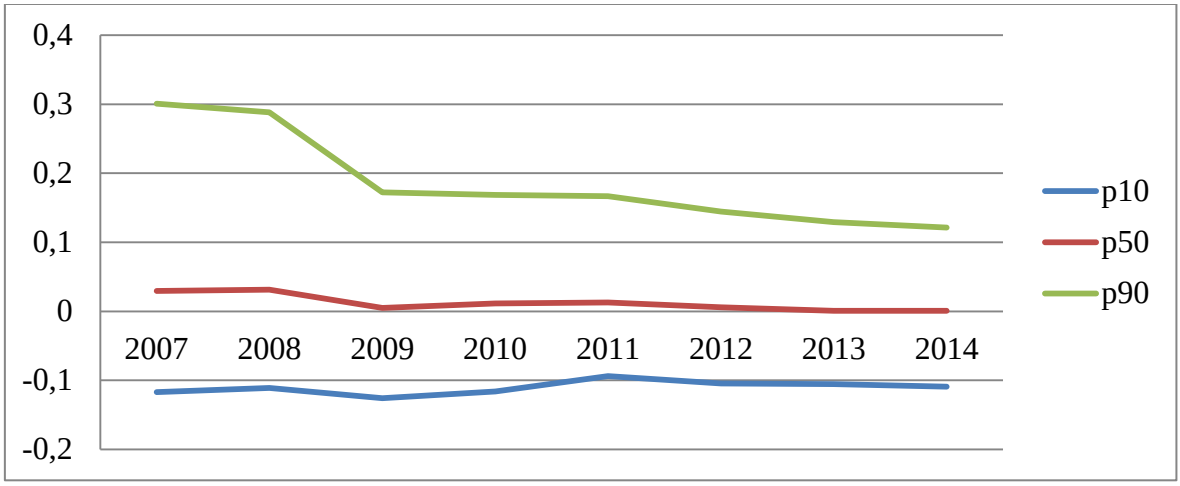


Figure 8 and Figure 9 show increments of real estate investments and financial investments. Compared to changes in core activities, increments of portfolio real estate investments were practically negligible and only important for the first decile, where real estate investments were falling for the entire observed period, although at a very slow pace. Financial investments of companies near the median were negligible for the entire observed period. On the other hand, companies in the first decile were decreasing financial investments for the entire period, while companies in the last decile were increasing financial investments for the entire analyzed period. Companies in the first decile were decreasing financial investments at a very stable rate of 0.057% of total balance sheet sum for the period from 2007 to 2014. The increase of financial investments in the last decile was the biggest in 2007, when it peaked at 13.97% of the total balance sheet sum. In the following two years, the increase in financial investments decreased significantly, by more than 7.005 percentage points. In the period from 2010 to 2014, increments of financial investments in the last decile stabilized at approximately 5%.

Figure 8. Increment of real estate investments per unit of total balance sheet sum for p10, p50 and p90

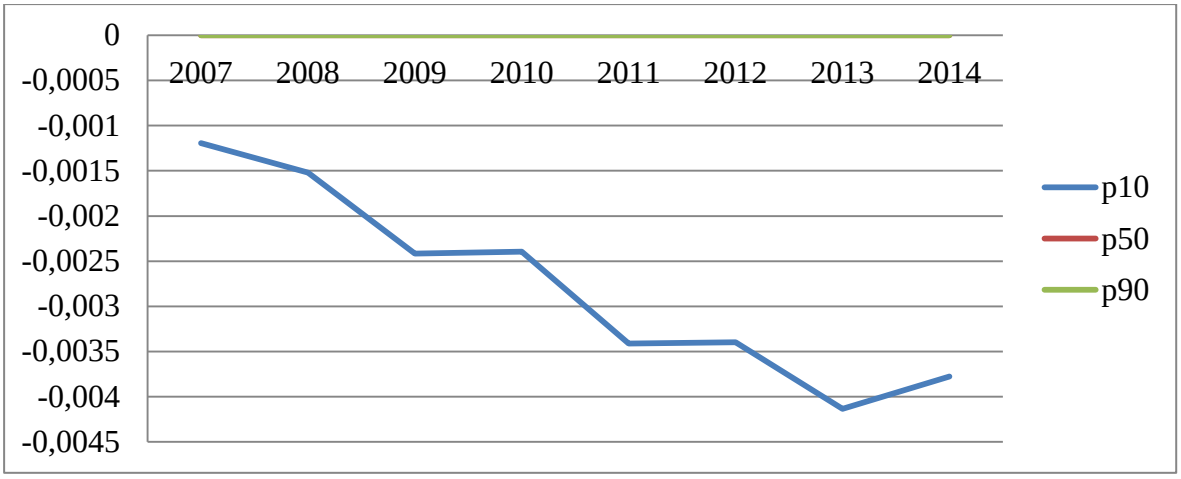


Figure 9. Increment of financial investments per unit of total balance sheet sum for p10, p50 and p90

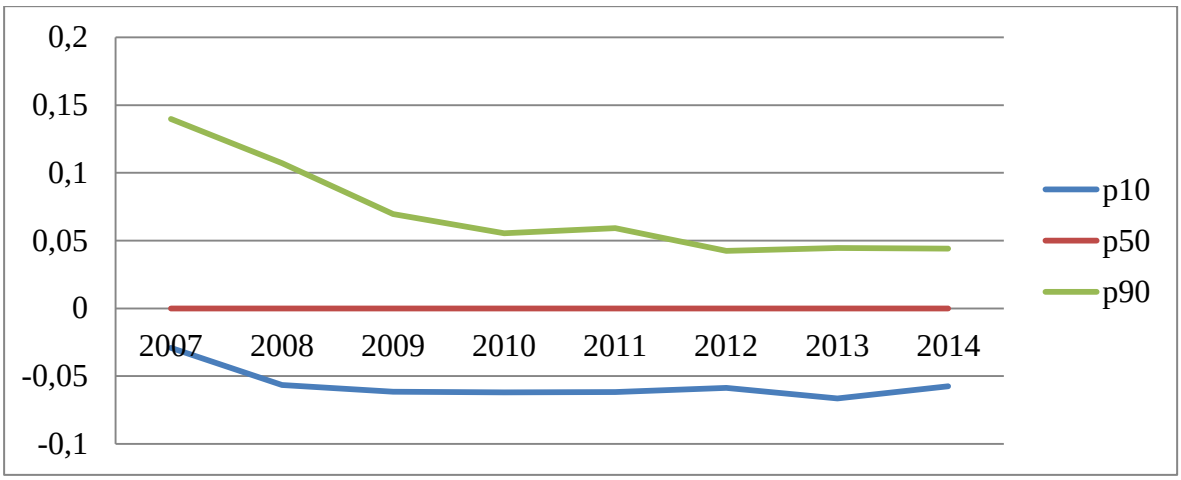


Figure 10 shows the equity to total balance sheet sum in the previous year, which is an indicator of financial health. The trajectories of the median and last decile are fairly similar, as financial health was decreasing until 2009 and started increasing afterwards. In 2014 financial health of both already exceeded their financial health in 2007. On the contrary, financial health of companies in the first decile was decreasing practically the entire period from 2007 to 2013 and started increasing only in 2014.

Figure 10. Equity to total balance sheet sum from the previous year for p10, p50 and p90

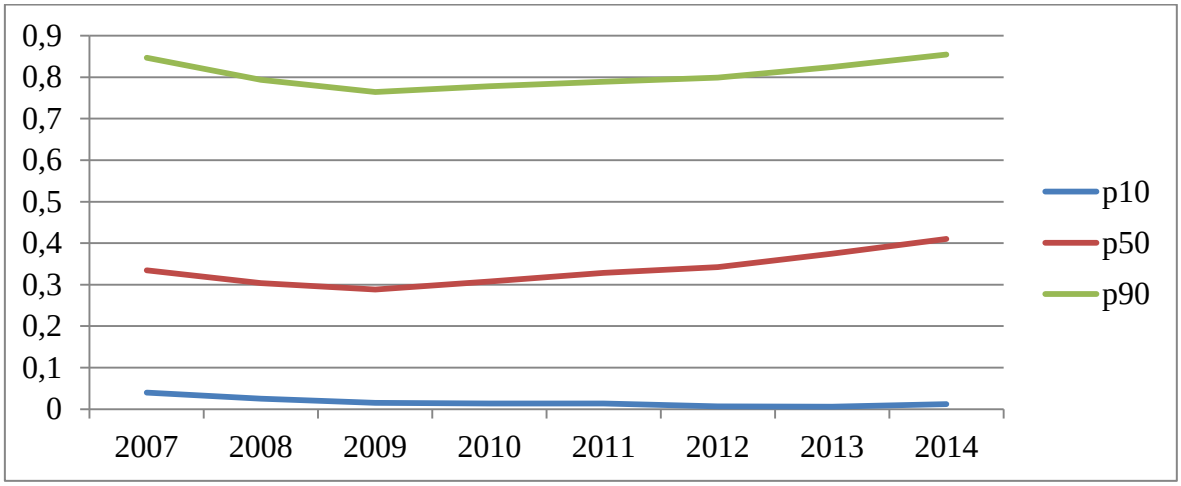


Table 13. Descriptive statistics for the variables used in the regression model by year

year	stat	bil_fdebt	dbil_fdebt	dbil_core	dbil_reales	dbil_fininv	bil_cap(-1)
2007	N	3643	3643	3643	3643	3643	3643
	sd	0.227096	0.135212	0.196405	0.042345	0.123971	0.863141
	median	0.137744	0	0.029663	0	3.12E-08	0.33454
	mean	0.205613	0.017413	0.06124	0.005044	0.034352	0.442981
2008	N	3845	3845	3845	3845	3845	3845
	sd	0.238861	0.119709	0.188052	0.044655	0.141639	0.540483
	median	0.153071	0	0.031158	0	0	0.30335
	mean	0.22236	0.016606	0.059979	0.00451	0.014677	0.384413
2009	N	4025	4025	4025	4025	4025	4025
	sd	0.239202	0.093206	0.170512	0.028891	0.127315	0.29104
	median	0.153671	0	0.005018	0	0	0.288243
	mean	0.222155	0.003389	0.011919	0.000774	-0.00614	0.335955

(table continues)

(continued)

2010	N	3970	3970	3970	3970	3970	3970
	sd	0.248444	0.103973	0.407339	0.028684	0.123605	0.308586
	median	0.152596	0	0.011444	0	0	0.307751
	mean	0.224394	6.59E-05	-0.01725	-0.00031	-0.0077	0.342437
2011	N	3897	3897	3897	3897	3897	3897
	sd	0.245015	0.08307	0.15505	0.02154	0.105715	0.313462
	median	0.134746	0	0.012813	0	0	0.328444
	mean	0.213475	-0.00333	0.025776	-0.00088	-0.00557	0.355373
2012	N	3831	3831	3831	3831	3831	3831
	sd	0.249376	0.081099	0.167675	0.021632	0.117544	0.340652
	median	0.120626	0	0.005855	0	0	0.342385
	mean	0.204895	-0.00411	0.014238	-0.00033	-0.0129	0.353387
2013	N	3677	3677	3677	3677	3677	3677
	sd	0.253066	0.07473	0.16885	0.023892	0.131994	0.367053
	median	0.086053	0	0.00087	0	0	0.374919
	mean	0.18781	-0.00735	0.012457	-0.00246	-0.01578	0.368007
2014	N	3537	3537	3537	3537	3537	3537
	sd	0.260247	0.084011	0.16583	0.027592	0.123589	0.424305
	median	0.059797	0	0.000887	0	0	0.41031
	mean	0.169555	-0.01006	0.008496	-0.00262	-0.01286	0.391349
Total	N	30425	30425	30425	30425	30425	30425
	sd	0.245849	0.099282	0.220134	0.0311	0.125759	0.463837
	median	0.124565	0	0.009807	0	0	0.335097
	mean	0.206941	0.001638	0.021826	0.000481	-0.00159	0.370735

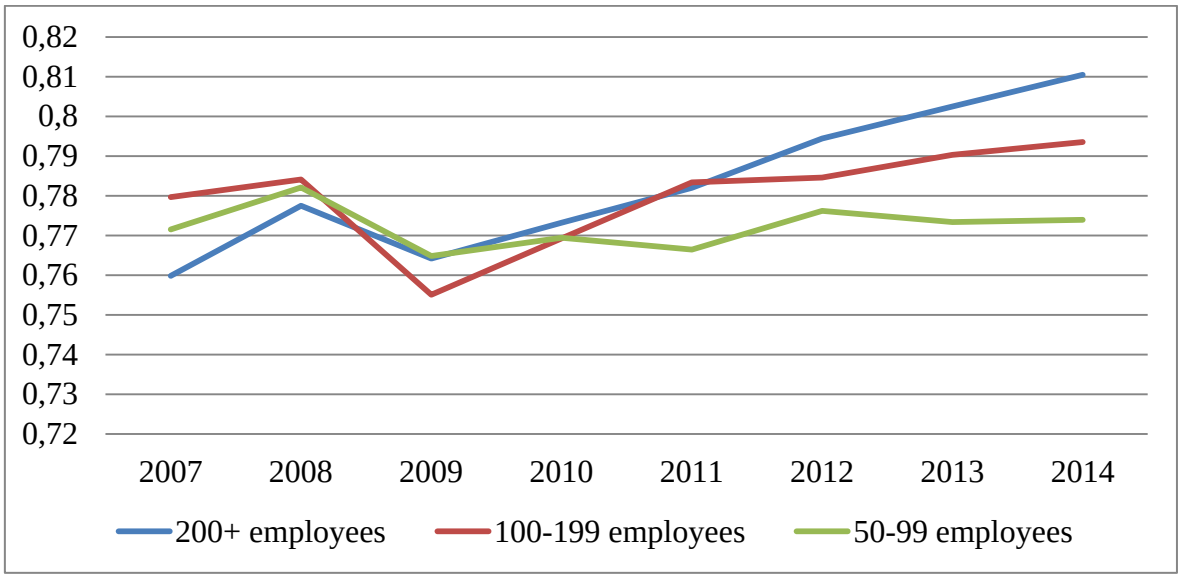
Summary statistics on the ownership structure of Slovenian companies are displayed in Table 14. They show that on average the share of the ten biggest owners remained quite stable for the entire observed period. The biggest owner increased its share from 76.84% in 2007 to 77.94% in 2014. The other nine owners decreased their average share in the observed period, which indicates slight ownership concentration. In the analyzed period, the second biggest owner had an average share of approximately 25%, the third biggest owner 14%, the fourth biggest owner 8%, the fifth biggest owner 5%, the sixth biggest owner 4%, the seventh biggest owner 3%, the eight biggest owner 2%, the ninth biggest owner 2%, and the tenth biggest owner 1%. The median value for the biggest owner exceeds the average value by around 14 percentage points, which indicates that the majority of companies in the sample have only one owner, or that the ownership is

concentrated in the hands of the biggest owner. The standard deviation is by far the biggest with the first owner and remains relatively stable in the entire observed period. The share of each additional owner has a smaller standard deviation, until the last owner, where the standard deviation exceeds the ones of the eighth and ninth biggest owners.

Obviously, all companies in the sample have at least one owner. The number of companies with at least two owners is a lot smaller and amounts to 55% of all the companies in the sample. The number continues to deteriorate with each additional owner. 30% of the companies in the sample had at least three owners, 19% four owners, 14% five owners, 10% six owners, 9% seven owners, 8% eight owners, 7% nine owners, and 6% at least ten owners.

Data on the entire sample shows only slight ownership concentration. A more thorough examination, on the other hand, reveals a somewhat different story, illustrated in Figure 11. The ownership share of the biggest owner in companies with 50 to 99 employees remained relatively stable at around 77%, as did the share of the biggest owner in companies with 100 to 199 employees at around 78%. In companies with more than 200 employees, the share of the biggest owner increased by more than five percentage points, from 75.98% in 2007 to 81.05% in 2014. In 2007, the ownership share of the first owner in the biggest companies was the lowest compared to companies in the other two groups. In 2009, all three groups experienced a decline in the share of the first owner. The decline was the smallest in companies with more than 200 employees, and in 2012 the share of the first owner in companies with more than 200 employees for the first time exceeded the share of the first owner in the two other groups. The data clearly shows that in Slovenia's biggest companies ownership was concentrating, while in smaller companies this was not the case.

Figure 11. Average share of the first largest owner[14]



[14] Due to a better representation of the data, the y axis does not begin with 0.

Table 14. Summary statistics for the ten biggest owners by year

year	stat	own1_p	own2_p	own3_p	own4_p	own5_p	own6_p	own7_p	own8_p	ownt9_p	own10_p
2007	N	3643	2045	1089	635	432	304	239	187	160	136
	sd	0.261336	0.1541	0.095936	0.065557	0.04552	0.033872	0.028132	0.023238	0.016666	0.030597
	median	0.9	0.25	0.13	0.0733	0.0426	0.0302	0.0224	0.017982	0.0141	0.01215
	mean	0.768445	0.262895	0.140637	0.085727	0.055241	0.039909	0.030254	0.023327	0.018186	0.017497
2008	N	3845	2111	1113	665	445	307	245	193	168	149
	sd	0.259767	0.153548	0.094798	0.064736	0.046291	0.034671	0.027654	0.023142	0.016028	0.029443
	median	0.92	0.25	0.13	0.075	0.0431	0.031	0.02	0.0175	0.01425	0.0116
	mean	0.774535	0.262171	0.141582	0.0856	0.05515	0.040422	0.029034	0.02356	0.018196	0.016714
2009	N	4025	2241	1253	792	564	440	383	334	304	277
	sd	0.265671	0.15408	0.093437	0.063587	0.043456	0.031902	0.025378	0.019848	0.014927	0.023317
	median	0.9008	0.25	0.1169	0.06705	0.04	0.02615	0.0178	0.01535	0.01155	0.008958
	mean	0.767082	0.255566	0.132534	0.079411	0.050799	0.035255	0.026057	0.020563	0.015803	0.01414
2010	N	3970	2189	1221	777	562	432	382	333	300	277
	sd	0.265449	0.152582	0.096397	0.063961	0.043988	0.03351	0.025248	0.017424	0.013732	0.022812
	median	0.91905	0.2499	0.1217	0.07	0.0408	0.0273	0.01715	0.014	0.0103	0.009
	mean	0.770361	0.253083	0.134923	0.080645	0.051371	0.036146	0.025797	0.019477	0.015017	0.013934

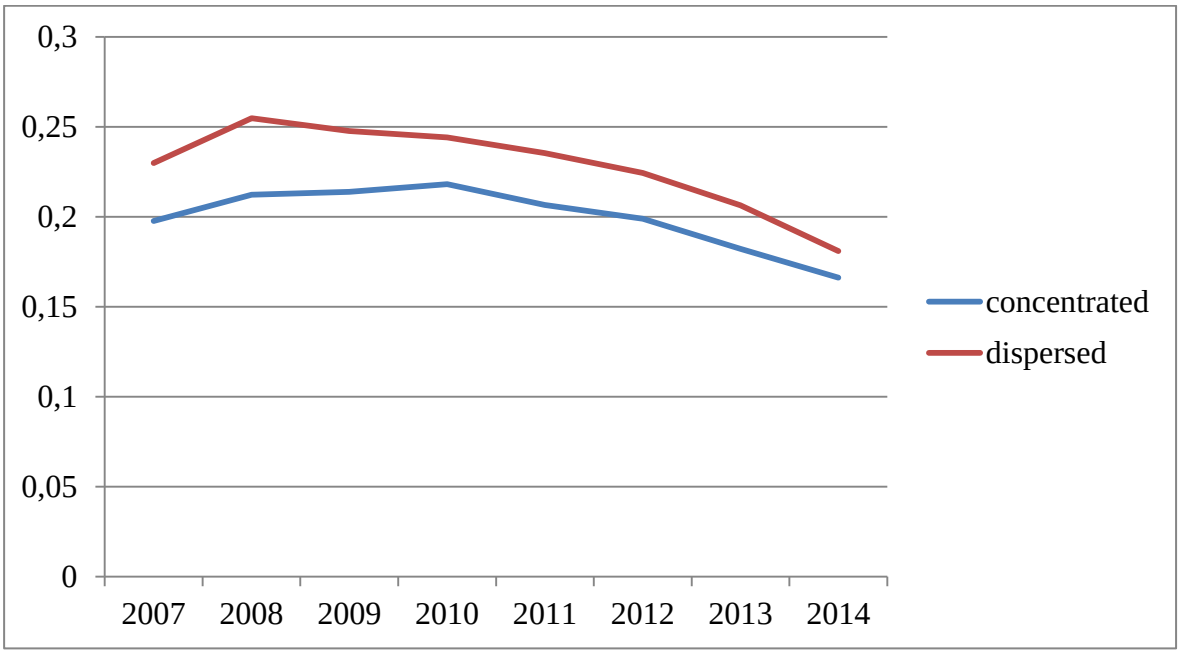
(table continues)

(continued)

2011	N	3897	2168	1207	775	559	437	386	332	296	276
	sd	0.264639	0.152012	0.095682	0.062722	0.044636	0.030773	0.024788	0.017636	0.013966	0.022915
	median	0.91	0.249	0.12	0.0672	0.0405	0.026	0.0175	0.0141	0.01045	0.00985
	mean	0.769671	0.252064	0.133614	0.079248	0.051197	0.034252	0.025568	0.019407	0.015101	0.01409
2012	N	3831	2146	1181	748	545	425	363	317	285	264
	sd	0.263019	0.151822	0.096095	0.062124	0.044263	0.031088	0.025607	0.018116	0.013989	0.023085
	median	0.917	0.24115	0.1189	0.06965	0.0404	0.0266	0.019	0.0152	0.0115	0.01
	mean	0.773159	0.2469	0.132951	0.0791	0.051475	0.034925	0.026622	0.020135	0.015568	0.014358
2013	N	3677	2047	1132	723	530	409	350	307	280	255
	sd	0.263194	0.15152	0.096656	0.062218	0.04419	0.031216	0.025865	0.018924	0.013893	0.023448
	median	0.9186	0.2404	0.11955	0.0702	0.04075	0.0271	0.0198	0.0154	0.01135	0.01
	mean	0.774483	0.246315	0.132546	0.07942	0.051508	0.035444	0.02707	0.020073	0.015343	0.014517
2014	N	3537	1943	1081	698	513	411	352	310	285	255
	sd	0.261879	0.150955	0.096865	0.062218	0.043921	0.030676	0.02576	0.016996	0.013184	0.023634
	median	0.94	0.24	0.12	0.06525	0.04	0.0251	0.0177	0.01345	0.0107	0.0091
	mean	0.779356	0.245573	0.132515	0.077065	0.050324	0.033587	0.02566	0.018305	0.014109	0.013754
Total	N	30425	16890	9277	5813	4150	3165	2700	2313	2078	1889
	sd	0.263174	0.152703	0.095738	0.063382	0.044466	0.032136	0.025896	0.019132	0.014394	0.02432
	median	0.9146	0.25	0.1218	0.07	0.0407	0.0271	0.0187	0.0152	0.0117	0.0099
	mean	0.772033	0.253136	0.135078	0.080632	0.051979	0.03595	0.026748	0.020288	0.01564	0.014577

Literature has not yet reached a consensus on the effect ownership concentration has on the indebtedness of companies. The majority believes that ownership concentration is negatively correlated with corporate debt, although many studies have made a strong argument against this motion. In the studied sample, companies were divided into two groups. The first group, called "concentrated," consists of companies where one owner has the majority stake, while the second group, called "dispersed," consists of the rest of the companies. Figure 12 shows that, on average, companies with a dispersed ownership had more financial debt per unit of total balance sheet sum. The difference exceeded more than four percentage points in the year 2008 and started falling in the following years. In 2014, the difference in indebtedness was already below 1.5 percentage points. Increments of core activities, real estate investments, and financial investments were on average very similar for both groups.

Figure 12. Average financial debt per unit of total balance sheet sum for companies with concentrated and dispersed ownership



To identify the effect a specific type of ownership has on the indebtedness of a company, dummies for different types of majority owners were created, including a dummy representing companies with two strong owners and a dummy representing dispersed ownership. In the following six figures, companies with different types of majority shareholders are compared. Dummy_one represents companies where the majority owner is neither the state nor a holding, dummy_one_two represents companies where two private owners combined have a majority share, while individually their share does not exceed 50%. Dummy_ gov represents companies where the majority owner is the state and companies where two owners have a combined share of over 50%, while individually their share does not exceed 50% and at least one of them is the state. Dummy_hold represents companies where the majority owner a holding and companies where two owners have a

combined share of over 50%, while individually their share does not exceed 50% and at least one of them is a holding. Dummy_notone_nottwo represents companies where the combined share of the two biggest owners does not exceed 50%. In the remainder of the chapter, these companies will be referred to as companies with one blockholder, two blockholders, state-owned companies, holding-owned companies and dispersed companies.

Figure 13 reveals that state-owned companies were on average less indebted than other companies in the entire analyzed period. In 2007, the financial debt per unit of total balance sheet sum for these companies amounted to 9.06%, which is more than ten percentage points less than in each other group of companies. Interestingly, the trajectories of the debt dynamics for state-owned companies differed a lot, compared to other companies. State-owned companies were the least indebted in 2007, but increased their debt in the observed period significantly. Their debt increased to 14.06% of the total balance sheet sum in 2010 and started decreasing afterwards, until it reached 11.39% of the total balance sheet sum in 2014. All other groups of companies were in comparison relatively similarly indebted in 2007. Companies with one blockholder, companies with two blockholders and holding-owned companies were increasing their indebtedness in the following two years, while dispersed companies already started decreasing their financial debt in 2009. Interestingly, companies with two blockholders were the most indebted group of companies in the period from 2007 to 2011 and were in 2012 replaced by holding-owned companies, as the group of companies that carry the most financial debt. From 2013 on all groups of companies were deleveraging. Figure 14 illustrates the increments of financial debt for all five groups of companies. Especially noticeable are the jumps in the indebtedness of state-owned and holding-owned companies in 2010 and 2012.

Figure 13. Average financial debt per unit of total balance sheet sum for dummy_one, dummy_one_two, dummy_gov, dummy_hold and dummy_notone_nottwo

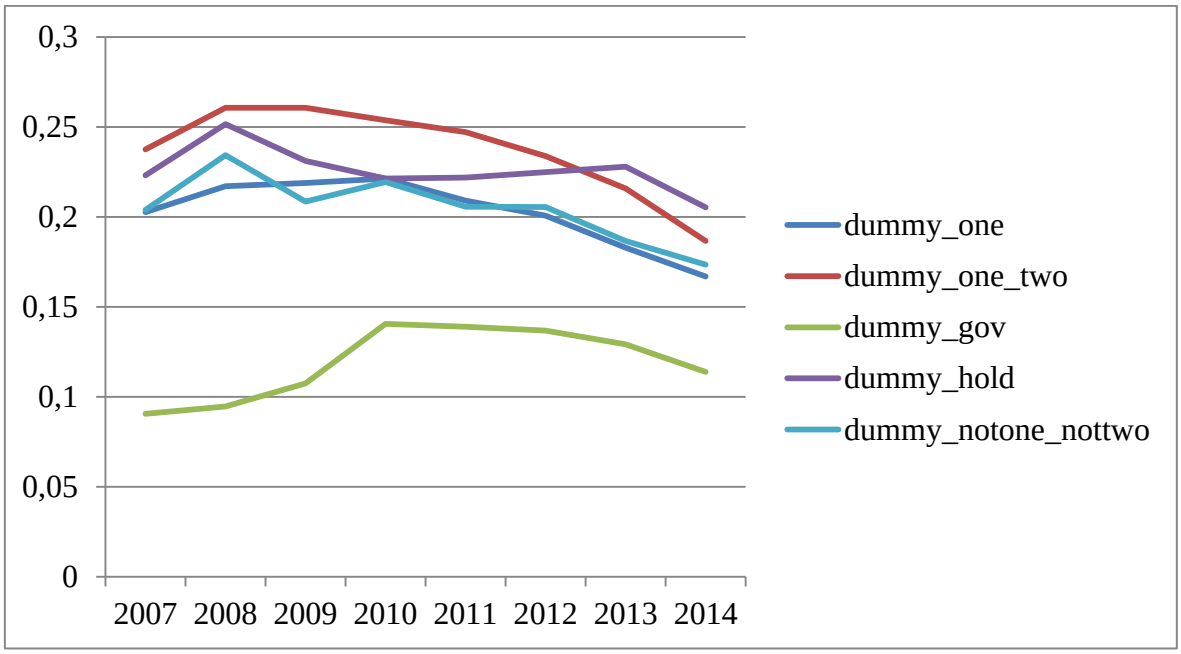


Figure 14. Average increment of financial debt per unit of total balance sheet sum for dummy_one, dummy_one_two, dummy_gov, dummy_hold and dummy_notone_nottwo

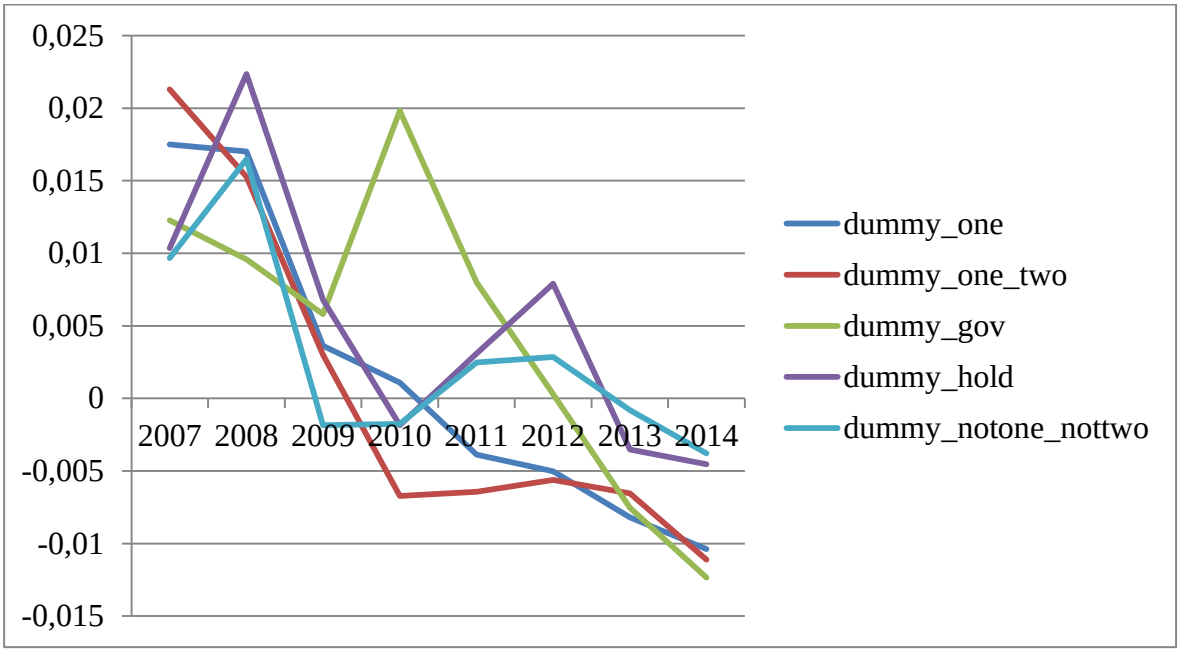
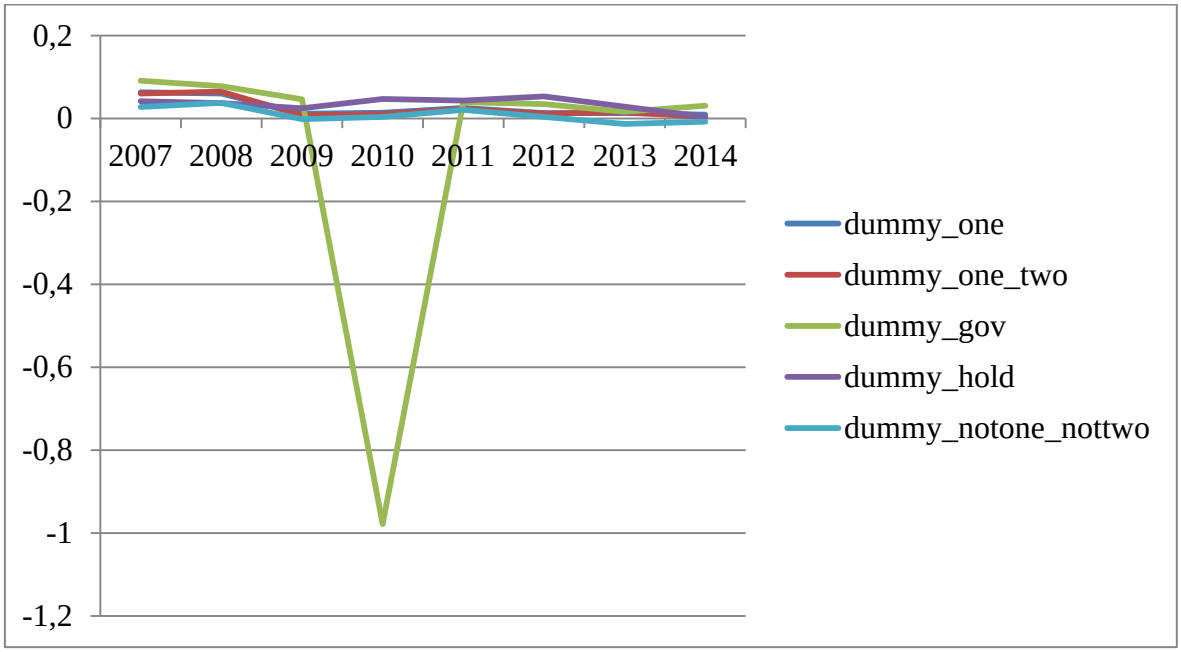


Figure 15 shows average changes in core activities for all types of companies. The first thing that catches the eye is the incredibly steep decrease in core activities for state-owned companies in 2010, when core activities decreased by around 98%. This is furthermore interesting because core activities in the entire sample decreased only by 1.7%. Moreover, the sample of government companies in 2010 consists of 144 companies, which eliminates the possibility of an individual or a couple of companies having such a strong effect on the increment of core activities. This occurrence distorts the graph to a certain extent. With the exception of state-owned companies in 2010 and dispersed companies in 2013 and 2014, all other groups of companies were increasing their core activities for the entire analyzed period. In 2007, 2008, and 2009, state-owned companies were increasing core activities the most, followed by companies with one and companies with two blockholders, and furthermore followed by holding-owned and dispersed companies. In 2010 holding-owned companies became the ones which increased core investments the most. The increase in core activities of other groups, with the exception of state-owned and holding-owned, was converging until 2011. Dispersed companies were the only group of companies that experienced negative growth rates of core investments after 2011. Furthermore, holding-owned companies remained the group that increases core investments the most until 2014, when they were overtaken by state-owned companies. On average, in the period from 2007 to 2014, companies with one blockholder increased core investments by 2.6%, companies with two blockholders increased core investments by 2.5%, state-owned companies decreased core investments by 6.9%, holding-owned companies increased core investments by 3.5% and companies with dispersed ownership increased their core investments by 0.8%.

Figure 15. Average increment of core activities per unit of total balance sheet sum for dummy_one, dummy_one_two, dummy_gov, dummy_hold and dummy_notone_nottwo



In the following three figures increments of real estate investments, increments of financial investments and equity by previous year's balance sum are presented. Increments of real estate investments for all three groups of companies are practically negligible, as seen in Figure 16. On average they are increasing in the boom and bust period and decreasing in the recovery period. More interesting are average increments of financial investments displayed in Figure 17. In 2007 dispersed and holding-owned companies increased their financial investments by 5.9% and 4.5% respectively. They were followed by companies with one blockholder and companies with two blockholders. State-owned companies increased their financial investments in 2007 the least (0.3%). Already the following year, holding-owned companies started decreasing their financial investments. The decrease reached its peak in 2013, when it amounted to 5.0% of total balance sheet sum. All other groups of companies were a lot more stable in the entire observed period. From 2012 on, all companies were decreasing their financial investments.

Figure 18 shows the "financial health", denoted as equity divided by total assets of the previous year, for all five groups of companies. Interestingly, state-owned companies had the lowest value of financial health in 2007, while dispersed companies had the highest. Moreover, dispersed companies remained the most financially sound group. On the contrary, holding-owned companies were decreasing their financial health until 2013, when they became the second least financially healthy group of companies, only before companies with one blockholder. State-owned companies increased their financial health significantly in 2011, when they became the second most financially healthy group of companies, which they remained in the entire period until 2014.

Figure 16. Average increment of real estate investments per unit of total balance sheet sum for dummy_one, dummy_one_two, dummy_gov, dummy_hold and dummy_notone_nottwo

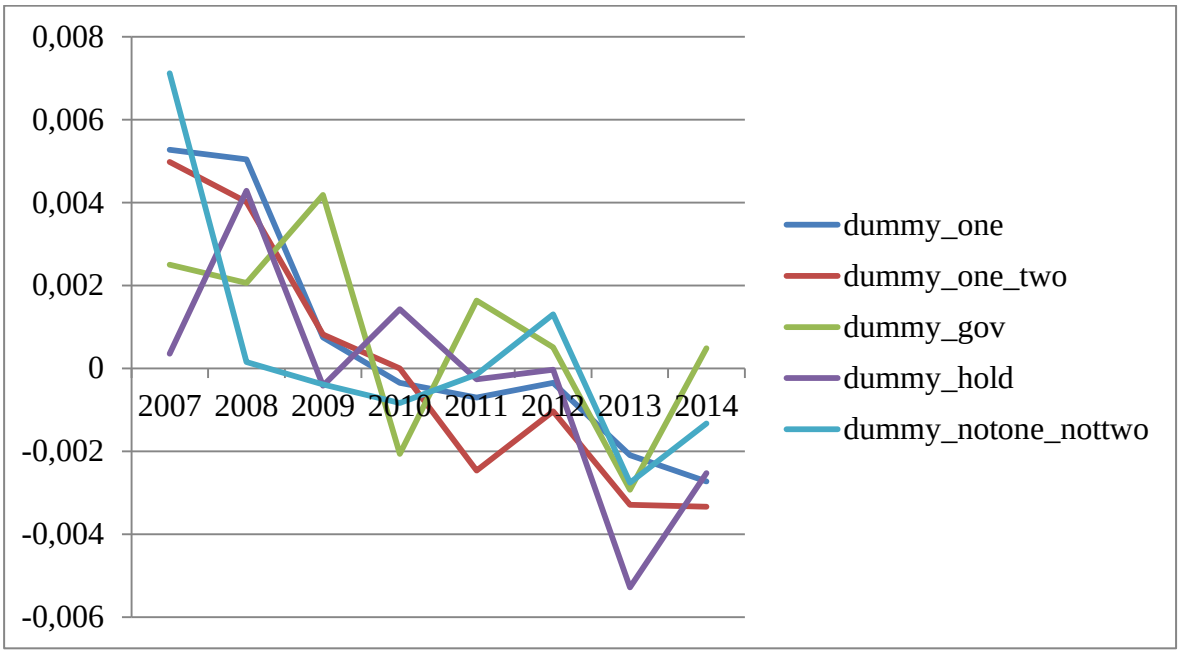


Figure 17. Average increment of financial investments per unit of total balance sheet sum for dummy_one, dummy_one_two, dummy_gov, dummy_hold and dummy_notone_nottwo

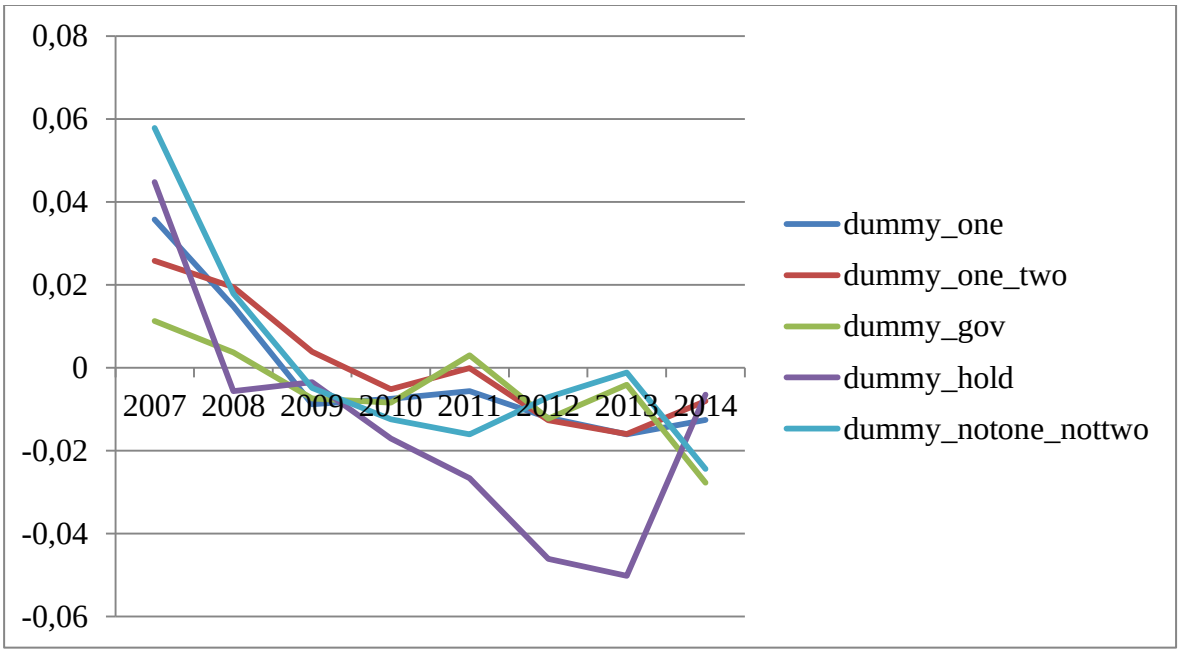
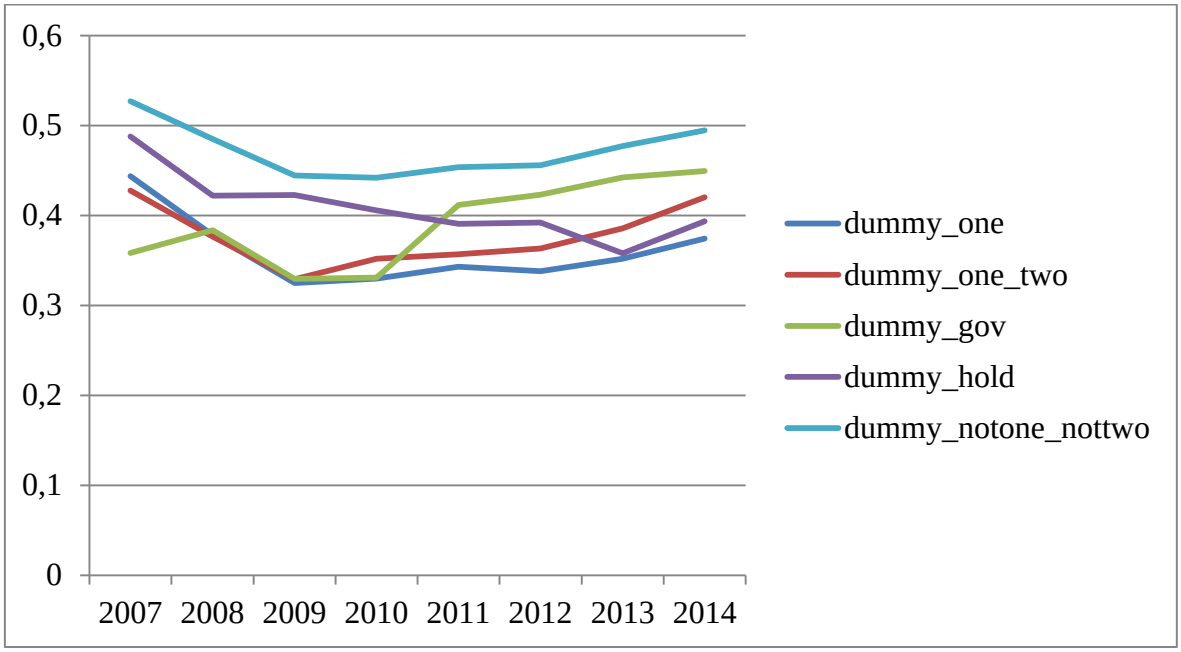


Figure 18. Average equity to total balance sheet sum from the previous year for dummy_one, dummy_one_two, dummy_gov, dummy_hold and dummy_notone_nottwo



To compare the indebtedness and debt drivers of industrial, service and construction companies, they were grouped according to the SKD classification. Companies reaching from categories 10.00 to 33.20 in the SKD classification were classified as industrial companies, companies reaching from 45.00 to 64.00 or from 68.00 to 84.00 were classified as service companies, and companies with an SKD classification higher than 41.00 and lower than 44.00 were classified as construction companies.

Figure 19 shows the trajectory of the average financial debt per unit of balance sheet sum for all three types of companies. Industrial and service companies were practically identically indebted in 2007. A small gap started showing in 2009, when the financial debt per unit of total balance sheet sum of industrial companies amounted to 23.05%, which is 2.1 percentage points more than the indebtedness of service companies in the same year. Companies in the construction sector were the most indebted for the entire observed period. In 2007, the financial debt of construction companies was 22.45%. Their financial debt increased by 4.5 percentage points the following year and peaked in 2010, when it amounted to 27.40% of total balance sheet sum. In the next three years, construction companies decreased their financial debt to 21.83% of total balance sheet sum. Figure 20 clearly shows that construction companies were in the boom period accumulating financial debt at a much faster pace than industrial and service companies. In 2007 the increase in financial debt for construction companies was twice the size of the increase in financial debt for industrial and service companies. In 2008 the growth rate of financial debt for construction companies fell considerably, but stabilized in the following three years. On the contrary, financial debt in industrial and service companies was declining in the entire period after 2011.

Figure 19. Average financial debt per unit of total balance sheet sum for industrial, service and construction companies

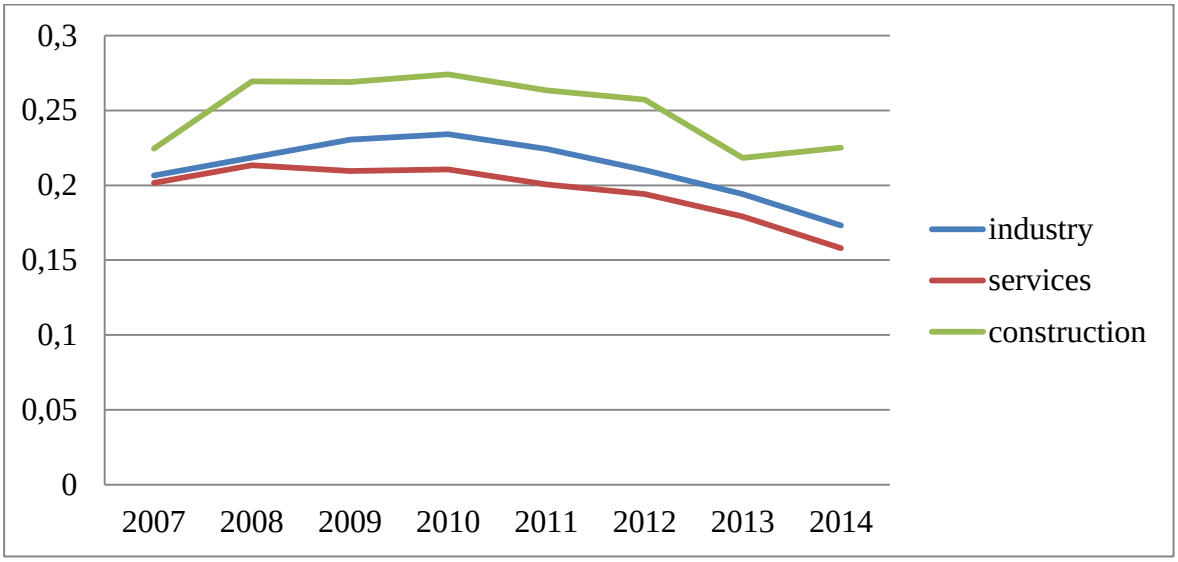
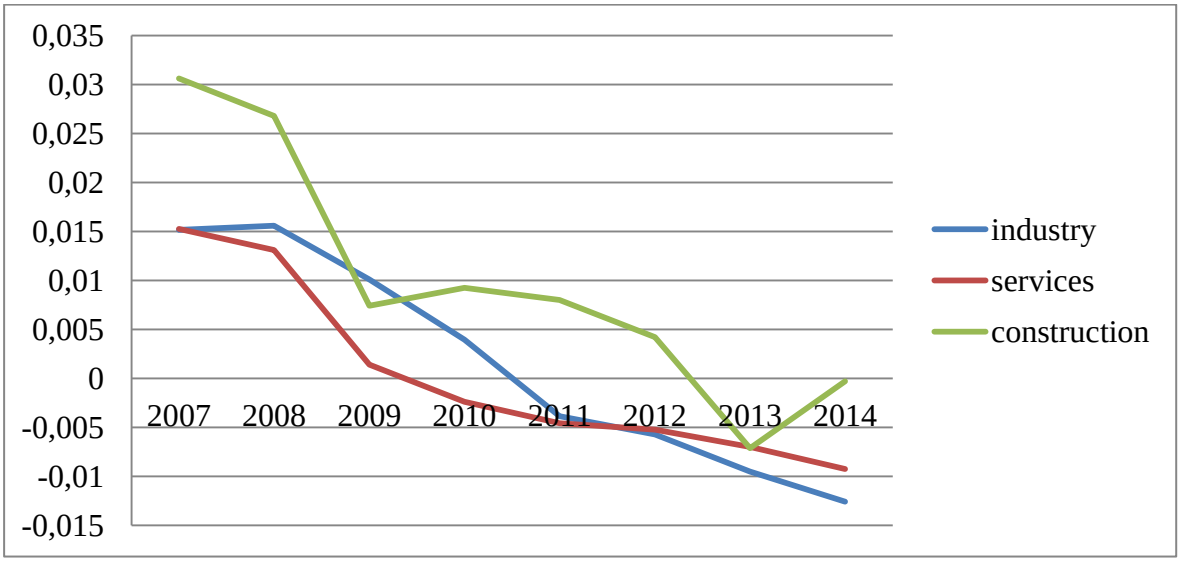
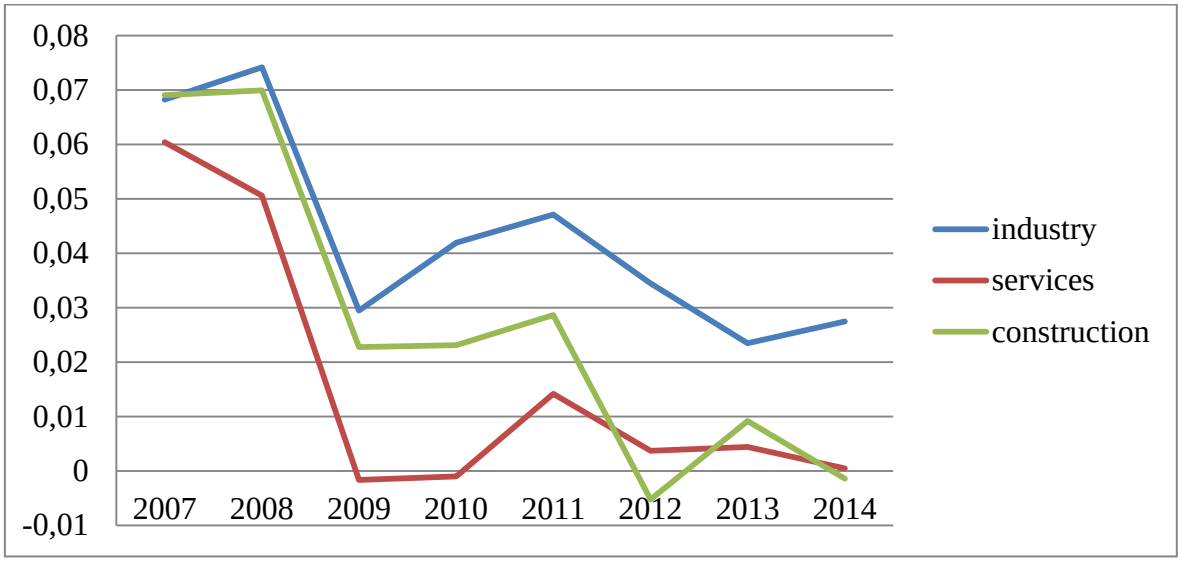


Figure 20. Average increment of financial debt per unit of total balance sheet sum for industrial, service and construction companies



Increments of core activities for industrial, service, and construction companies differed significantly, as presented in Figure 21. Construction and industrial companies increased their core activities by around 7%, while service companies increased their core activities by around 6% in 2007. All three groups of companies experienced a big decrease in the growth rate of core activities in 2009. Service companies even kept decreasing their core activities in 2009 and in 2010, while construction companies decreased their core activities in 2012 and 2014. On the other hand, core activities of industrial companies grew by more than 4.7% in 2011 and continued to grow in the following two years.

Figure 21. Average increment of core activities per unit of total balance sheet sum for industrial, service and construction companies



Although increments of real estate investments were very small and never exceeded 0.8% for any type of company, an interesting observation can be made from Figure 22. Construction and service companies increased their real estate investments to a significantly higher degree than their industrial counterparts in 2007. Furthermore, construction and service companies decreased their real estate investments considerably in comparison to industrial companies in 2013 and 2014. Increments of financial investments were a lot stronger for all three types of companies and are presented in Figure 23. Similar to real estate investments, construction and service companies increased their financial investments by more than 3.5%, while industrial companies increased their financial investments by only 15.36% in 2007.

Figure 22. Average increment of real estate investments per unit of total balance sheet sum for industrial, service and construction companies

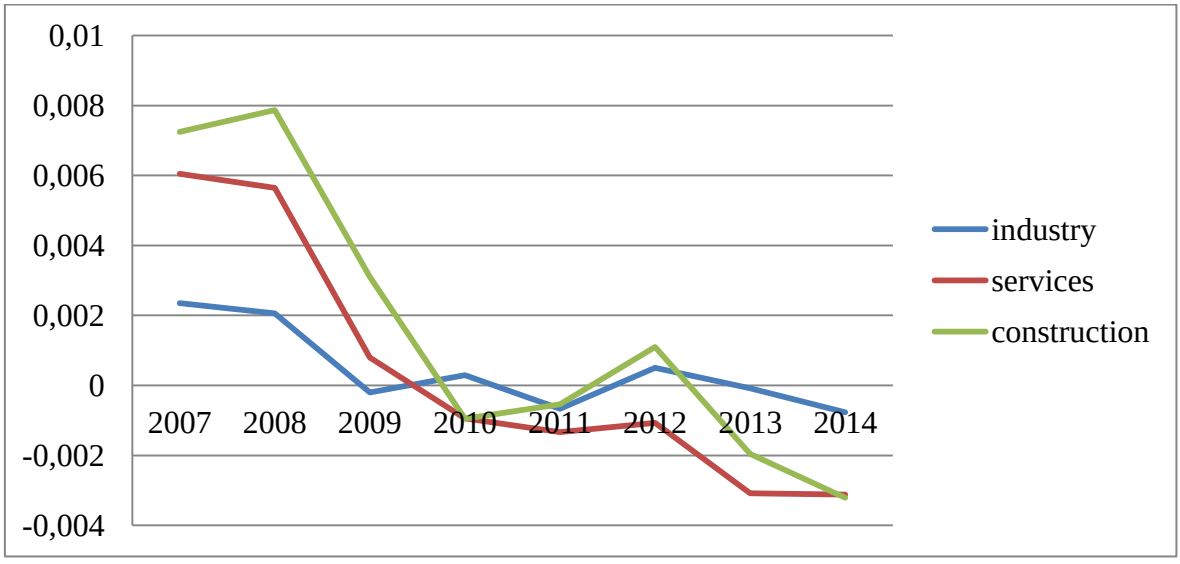
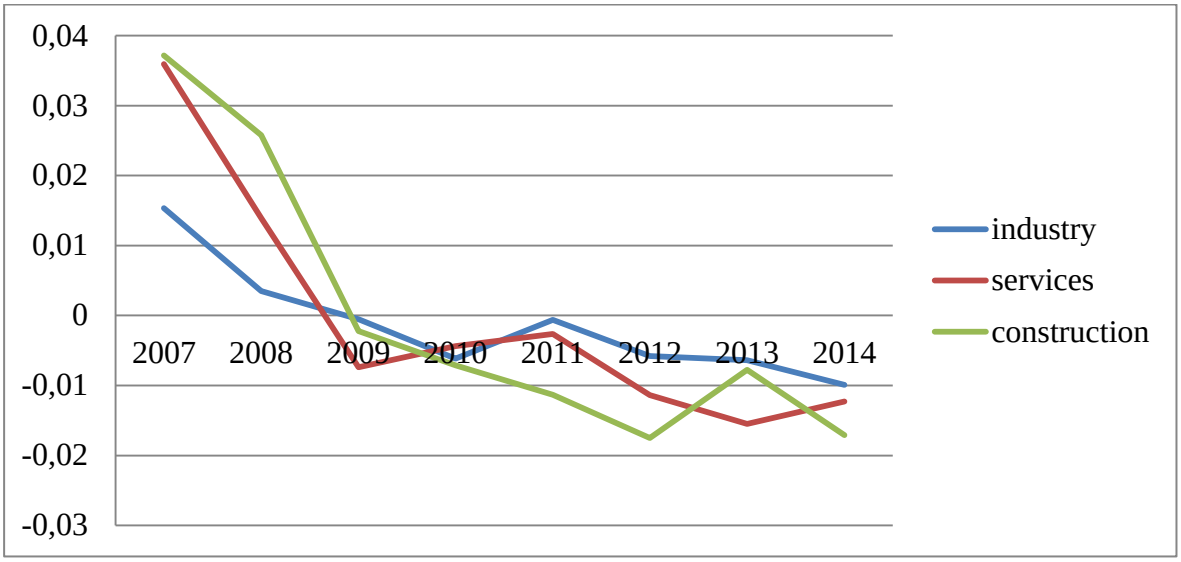
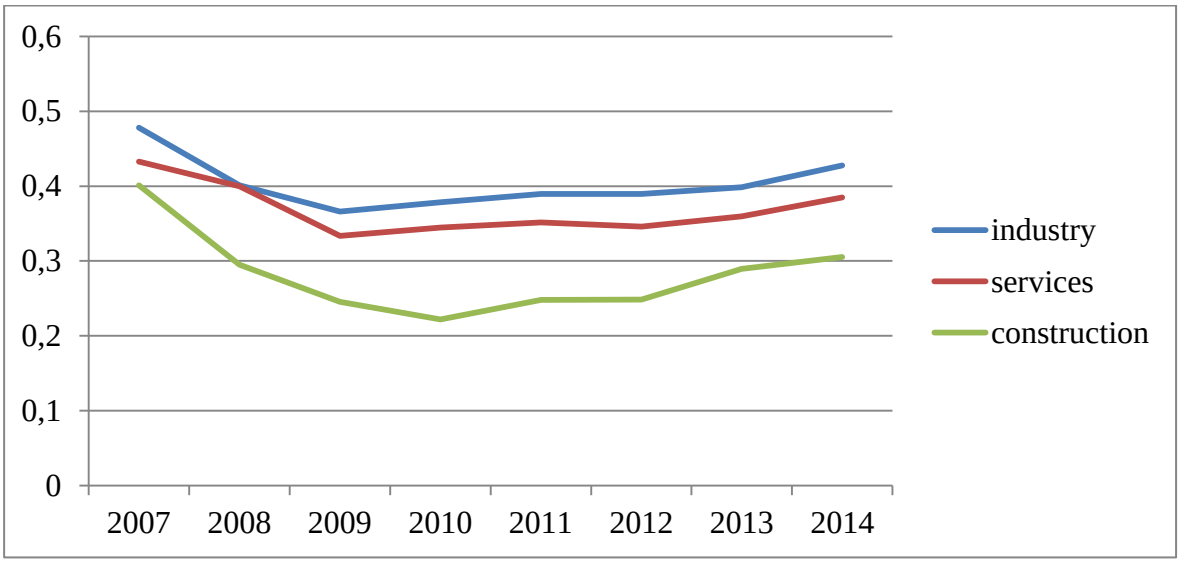


Figure 23. Average increment of financial investments per unit of total balance sheet sum for industrial, service and construction companies



The trajectories of financial health are fairly similar for all three types of companies, although construction companies started improving their financial health with a one year delay compared to industry and service companies. Industrial companies were the most financially sound, followed by service and construction companies, as seen in Figure 24.

Figure 24. Average equity to total balance sheet sum from the previous year for industrial, service and construction companies



The trajectories of the indebtedness and the three debt drivers of industrial, service, and construction companies indicate that industrial companies are more conservative and would rather invest in their core activities. Especially in the pre-crisis years, service and construction companies were actively investing in financial investments, which were brought to an abrupt stop with the eruption of the global financial crisis.

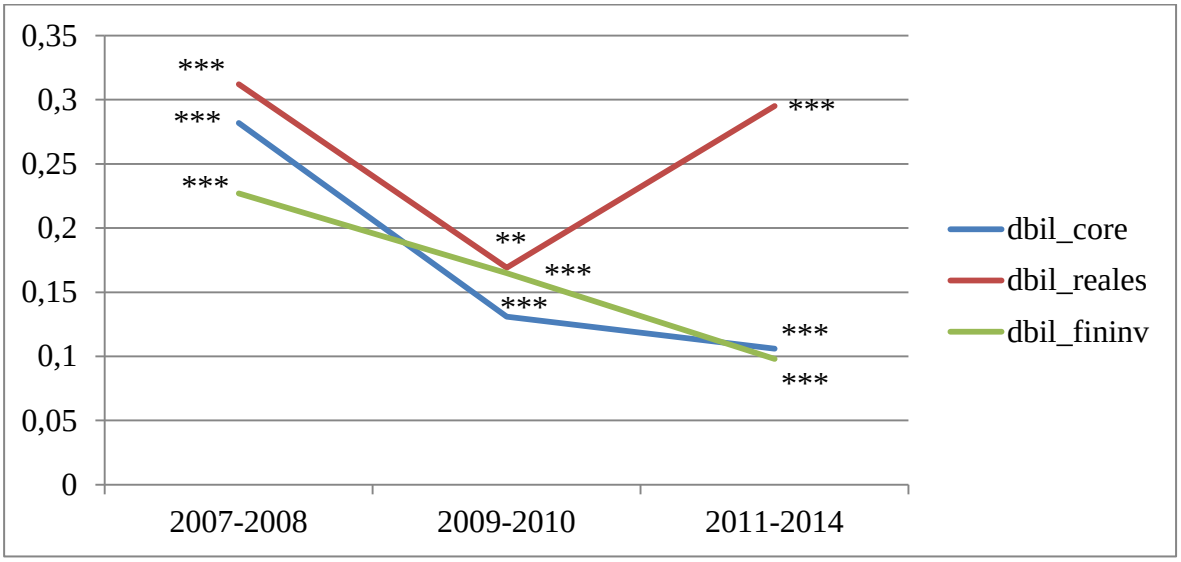
5 EMPIRICAL RESULTS

In the following section, the empirical results are presented. Equation (8) was regressed using the generalized least squares method, due to the expected correlations between explanatory variables, while the random effects model was also applied. Furthermore, the vce(cluster) option was used, which specifies that standard errors allow for intragroup correlation. Companies were clustered according to their classification, based on the first two numbers of their SKD classification.

The results of the GLS regression analysis are displayed in Table 15. The table shows that the increments of core activities, real estate investments, and financial investments of all three potential debt drivers were statistically significant for all the studied periods; i.e. the boom, bust, and recovery periods. Increments of core activities were statistically significant at $p<0.01$ for all three periods. The effect on financial debt was positive in all three periods, although the effect decreased significantly in the bust period and remained very similar in the recovery period. Increments of real estate investments were statistically significant at $p<0.01$ in the boom and recovery periods, and statistically significant at $p<0.1$ in the bust period. The effect of increments of real estate investments on financial debt was the strongest in the boom period and decreased significantly in the bust period. In the recovery period, the effect on financial debt returned to the levels reached in the boom period. Increments of financial investments were statistically significant at $p<0.01$ in all the studied periods. The positive effect on financial debt was the strongest in the boom period and declined in the following two periods. A comparison of all three debt drivers, as seen in Figure 25, reveals that the dynamics and the strength of the effect on financial debt differed significantly. In the boom period, increments of real estate investments had the biggest positive effect on financial debt, followed by core investments and financial investments. In the bust period, the coefficient for all three variables declined, especially for core investments. In the bust period, increments of real estate investments and financial investments had a similar effect on financial debt, which exceeded the positive effect of core activities. In the recovery period, the coefficient for real estate investments increased significantly and exceeded the values of core activities and financial investments. Furthermore, due to a decline in the coefficient of financial investments, the positive effect of core activities on financial debt exceeded the positive effect of financial investments.

The results clarify the boom-bust-recovery periods – the Minsky cycle for Slovenia is especially evident – and support hypothesis 1.a, which states that financial accelerators for core investments, real estate investments, and financial investments were positive in the entire observed period, even in the bust and recovery periods, since the financial accelerator reversed due to the deleveraging process. Furthermore, the results support hypothesis 1.b, which claims that the strength of the financial accelerator mechanism declined in the bust and recovery periods for all three analyzed debt drivers.

Figure 25. Statistically significant regression coefficients for dbil_core, dbil_reales, and dbil_fininv



The variable bil_cap(-1) was calculated dividing equity by a company's assets from the previous year. As such, the variable is an indicator of financial health. The coefficients in Table 15 show that the relation between financial health and financial debt was not statistically significant in the boom period. In the bust and recovery periods, the coefficients are statistically significant at $p<0.01$, which indicates a positive relation between financial health and financial debt. The results support hypothesis 2 only partly, as equity did not have a statistically significant effect on financial debt in all three periods, but only in the bust and recovery periods.

To test for the effect ownership concentration and different types of ownerships had on financial debt, four dummies, representing companies with one private blockholder, two private blockholders, state-owned companies, and holding-owned companies, were constructed and added to the model. The coefficients show that majority private ownership, as well as the presence of a second large blockholder, did not statistically significantly affect financial debt, which prevents us from supporting hypotheses 3.a and 3.b. Furthermore, hypotheses 5.a – 5.c, concerning the effect of holding ownership on financial debt, are not supported by the regression results. On the contrary, the regression analysis supports hypothesis 4.a, which claims that state ownership had a negative effect on financial debt in the boom period. A plausible explanation for state-owned companies being less indebted in the boom period is that they were not in the focus of banks, due to the privatization processes in this period. Moreover, the results support hypothesis 4.b, which states that state ownership had a positive effect on financial debt in the bust period. During the financial crisis, the indebtedness of state companies increased. This was not due to investments into the aforementioned debt drivers, but because of liquidity provisions granted by the state.

Interaction variables were added to the model to test whether the effect of increments of core investments, real estate investments, and financial investments on financial debt differed if the majority owner was the state. The coefficients show that all three debt drivers had a statistically significant smaller effect on financial debt in the bust period and that financial investments had a significantly smaller effect on financial debt in the recovery period. Hypothesis 6 is supported only partly, as all three debt drivers did not affect financial debt only in the bust period, while in the recovery period only financial investments did not affect financial debt.

Table 15. GLS regression coefficients based on equation (8)

VARIABLES	2007-2008 dbil_fdebt	2009-2010 dbil_fdebt	2011-2014 dbil_fdebt
dbil_core	0.282***	0.131***	0.106***
	(0.0209)	(0.0276)	(0.0142)
dbil_reales	0.312***	0.169**	0.295***
	(0.0719)	(0.0834)	(0.0343)
dbil_fininv	0.227***	0.165***	0.0980***
	(0.0272)	(0.0281)	(0.0120)
bil_kap_t1	-0.00321	0.0229***	0.0238***
	(0.00353)	(0.00661)	(0.00235)
dummy_one	0.00222	0.00752	-0.00186
	(0.00660)	(0.00707)	(0.00326)
dummy_one_two	0.00716	0.00290	-0.00210
	(0.00838)	(0.00762)	(0.00329)
dummy_gov	-0.0183*	0.0182**	0.00404
	(0.0102)	(0.00811)	(0.00481)
dummy_hold	-0.00468	-5.58e-05	-0.001000
	(0.00805)	(0.0100)	(0.00454)
core2	-0.0704	-0.127***	-0.0775
	(0.0788)	(0.0278)	(0.0479)
real2	-0.170	-0.183**	0.240
	(0.156)	(0.0804)	(0.292)
fin2	-0.0447	-0.158***	-0.0736**
	(0.107)	(0.0279)	(0.0295)
Constant	0.0196***	-0.0194**	-0.0248***
	(0.00655)	(0.00868)	(0.00252)
Observations	7,488	7,995	14,942
Number of companies	3,947	4,177	4,148

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

CONCLUSION

What is the reason for such a turning point in the understanding of the financial structure (financial debt) of Slovenian companies and what role did the accelerated privatization play in the increase of the indebtedness of Slovenian companies? These were the two questions we asked at the beginning of the thesis. To conduct our research, we created a database of 4,448 Slovenian companies. We tested several hypotheses and provided suitable answers to the questions above.

A large part of the Slovenian corporate sector is currently still engaged in the deleveraging process, which is a direct result of the investment euphoria in the boom period, triggered by a falling sovereign risk premium and the convergence of interest rates. The period was also marked by the announcement of the government that it will engage in a new privatization wave, which stimulated the activities of KAD and SOD and gave a positive impulse to agents, who increased their financial debt by investing into purchases of the equity shares of companies. Empirical results support the presence of the financial accelerator mechanism that endogenously drove the amplification and propagation of the process of a company's debt accumulation, as all three debt drivers, i.e. core investments, real estate investments, and financial investments, had a positive effect on financial debt.

To test for the effect ownership concentration and different ownership types had on the indebtedness of Slovenian companies, five groups of companies were identified; companies with one private blockholder, two private blockholders, state-owned companies, holding-owned companies and companies with dispersed ownership. The analysis does not provide us with the answer to which owners are concerned with the management of the ownership function and which owners are more concerned with their own personal interest. However, the empirical results indicate herd behavior for the majority of the Slovenian corporate sector. Exceptions were state-owned companies, which had a negative effect on financial debt in the boom period and a positive effect on financial debt in the bust period. The most important conclusion of the thesis is that it was not micro effects (privatization) but macro effects (the financial accelerator) that caused the disproportionate increase of financial debt in Slovenian companies.

The thesis has its limits. These are related to missing data for the entire boom period, as well as to the problem of endogeneity. The solution of these problems would provide even more insight on the financial accelerator mechanism in Slovenia and the effect of ownership structure on financial debt. Still, the thesis provides answers to important questions as Slovenia engages in another privatization process.

REFERENCE LIST

1. Ajpes - Agency of the Republic of Slovenia for Public Legal Records and Related Services. (n.d.). In *Ajpes uradne objave*. Retrieved June 16, 2015, from http://www.ajpes.si/uradne_objave/eobjave_v_postopkih_zaradi_insolventnosti/stevilo_postopkov
2. Ampenberger, M., Schmid, T., Achleitner, A. K., & Kaserer, C. (2013). Capital structure decisions in family firms: empirical evidence from a bank-based economy. *Review of Managerial Science, 7*(3), 247-275.
3. Anderson, R. C., Mansi, S. A., & Reeb, D. M. (2003). Founding family ownership and the agency cost of debt. *Journal of Financial economics*, *68*(2), 263-285.
4. Baker, H. K., & Martin, G. S. (2011). Capital structure and corporate financing decisions: theory, evidence, and practice (vol. 15). New Jersey: John Wiley & Sons.
5. Bank of Slovenia. (2001). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
6. Bank of Slovenia. (2004). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
7. Bank of Slovenia. (2005). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
8. Bank of Slovenia. (2006). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
9. Bank of Slovenia. (2007). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
10. Bank of Slovenia. (2008). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
11. Bank of Slovenia. (2009). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
12. Bank of Slovenia. (2010). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
13. Bank of Slovenia. (2011). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
14. Bank of Slovenia. (2012). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
15. Bank of Slovenia. (2013). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
16. Bank of Slovenia. (2014). *Annual report of the Bank of Slovenia.* Ljubljana: Bank of Slovenia.
17. Barucci, E., & Mattesini, F. (2008). Bank shareholding and lending: Complementarity or substitution? Some evidence from a panel of large Italian firms. *Journal of Banking & Finance, 32*(10), 2237-2247.

18. Berk, A. (2006). Determinants of leverage in Slovenian blue-chip firms and stock performance following substantial debt increases. *Post-communist economies*, *18*(4), 479-494.
19. Bernanke, B. S., Gertler, M., & Gilchrist, S. (1999). The financial accelerator in a quantitative business cycle framework. *Handbook of macroeconomics*, *1*, 1341-1393.
20. Bernanke, B., Gertler, M., & Gilchrist, S. (1996). The financial accelerator and the flight to quality. *The Review of Economics and Statistics*, *78*(1), 1-15.
21. Bole, V. (2008). The First Year of the Euro: A Review of Slovenia's Economic Performance. *Kroon and Economy*, *2*, 16-53.
22. Bole, V., Oblak, A., Prašnikar, J., & Trobec, D. (2014a). *Financial frictions and indebtedness of firms: Balkan countries vs. Mediterranean and Central European countries.* Presented at the IEA World Congress, Dead Sea, Jordan, 6. June 2014.
23. Bole, V., Oblak, A., Prašnikar, J., & Trobec, D. (2015). *Financial frictions and indebtedness of firms: Balkan countries vs. Mediterranean and Central European countries.* Working Paper.
24. Bole, V., Prašnikar, J., & Trobec, D. (2012). Debt Accumulation, Dynamics Structure and Mechanism. Ljubljana: Faculty of Economics.
25. Bole, V., Prašnikar, J., & Trobec, D. (2014b). Policy measures in the deleveraging process: A macroprudential evaluation. *Journal of Policy Modeling*, *36*(2), 410-432.
26. Bonin, J. P. (2004). Banking in the Balkans: the structure of banking sectors in Southeast Europe. *Economic systems*, *28*(2), 141-153.
27. Booth, L., Aivazian, V., Demirguc-Kunt, A., & Maksimovic, V. (2001). Capital structures in developing countries. *The Journal of Finance*, *56*(1), 87-130.
28. Brailsford, T. J., Oliver, B. R., & Pua, S. L. (2002). On the relation between ownership structure and capital structure. *Accounting & Finance*, *42*(1), 1-26.
29. Bruslerie, H., & Latrous, I. (2012). Ownership structure and debt leverage: Empirical test of a trade-off hypothesis on French firms. *Journal of Multinational Financial Management*, *22*(4), 111-130.
30. Chamley, C., & Gale, D. (1994). Information revelation and strategic delay in a model of investment. *Econometrica: Journal of the Econometric Society*, *62*(5), 1065-1085.
31. Croci, E., Doukas, J. A., & Gonenc, H. (2011). Family control and financing decisions. *European Financial Management*, *17*(5), 860-897.
32. Damijan, J. P. (2013, February 14). Bančna luknja: Niso hoteli, da se ples konča. *Damijan blog.* Retrieved July 7, 2015, from http://damijan.org/2013/02/14/bancna-luknja-niso-hoteli-da-se-ples-konca/
33. Damijan, J. P., Gregorič, A., Prašnikar, J. (2004). Ownership Concentration and Firm Performance in Slovenia. *LICOS Discussion Papers 142.* Leuven: Katholieke Universiteit Leuven.
34. Dewenter, K. L., & Malatesta, P. H. (2001). State-owned and privately owned firms: An empirical analysis of profitability, leverage, and labor intensity. *American Economic Review*, *91*(1), 320-334.

35. Ellul, A. (2008, January). *Control motivations and capital structure decision.* SSRN Workin PaperSeries. Retrieved June 11, 2015, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1094997
36. Estrin, S., Hanousek, J., Kočenda, E., & Svejnar, J. (2009). The effects of privatization and ownership in transition economies. *Journal of Economic Literature*, *47*(3), 699-728.
37. European Commission (2015, February, 26). *Country report Slovenia 2015.* Brussels: European Commission
38. Eurostat. (n.d.). In *Eurostat Data.* Retrieved June 16, 2015, from http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tec00115&plugin=1
39. Jeffries, I. (2002). *Socialist economies and the transition to the market: a guide*. London: Routledge.
40. Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of financial economics*, *3*(4), 305-360.
41. King, M. R., & Santor, E. (2008). Family values: Ownership structure, performance and capital structure of Canadian firms. *Journal of Banking & Finance*, *32*(11), 2423-2432.
42. Kiyotaka, N., & Moore, J. (1997). Credit cycles. *Journal of Political economy*, *105*(2), 211-248.
43. Koo, R. (2011). The world in balance sheet recession: causes, cure, and politics. *Real-world economics review*, *58*(12), 19-37.
44. Kornai, J. (1986). The soft budget constraint. *Kyklos*, *39*(1), 3-30.
45. Košak, M. (2007) *Stanje in razvojne možnosti bančnega sektorja v Sloveniji.* Ljubljana: Vlada Republike Slovenije
46. Košak, M., Prašnikar, J., Belavčič, G., Kržišnik, Š., Mehle, T., Mijatović, V., Šimnovec, N. & Jurčič, D. (2007). Razvojne strategije bank v Sloveniji in vloga informatike. In Prašnikar, J. & Cirman, A. (Eds.), *Priložnosti finančnega sektorja v tranzicijskih državah* (pp. 111-131). Ljubjana: Newspaper Finance.
47. Krishnamurthy, A. (2010). Amplification mechanisms in liquidity crisis. *American Economic Journal: Macroeconomics*, *2*(3), 1-30
48. Le, T. V., & O'Brien, J. P. (2010). Can two wrongs make a right? State ownership and debt in a transition economy. *Journal of Management Studies*, *47*(7), 1297-1316.
49. Liu, Q., Tian, G., & Wang, X. (2011). The effect of ownership structure on leverage decision: new evidence from Chinese listed firms. *Journal of the Asia Pacific Economy*, *16*(2), 254-276.
50. Margaritis, D., & Psillaki, M. (2010). Capital structure, equity ownership and firm performance. *Journal of Banking & Finance*, *34*(3), 621-632.

51. Mastnak, S. (2010). Gospodarsko-finančna kriza in možnosti za financiranje gospodarskih družb preko trga kapitala. In Simoneti, M. (Eds.), *Razvojne priložnosti trga kapitala v Sloveniji po finančni krizi* (pp. 82-91). Ljubljana: IER.
52. Mencinger, J. (1996). Privatization experiences in Slovenia. *Annals of Public and Cooperative Economics*, *67*(3), 415-428.
53. Mencinger, J. (2006). Privatization in Slovenia. *Slovenian L. Rev.*, *3*, 65.
54. Miller, M., & Stiglitz, J. (2010). Leverage and Asset Bubbles: Averting Armageddon with Chapter 11?*. *The Economic Journal*, *120*(544), 500-518.
55. Minsky, H. P. (1992). The financial instability hypothesis. *The Jerome Levy Economics Institute Working Paper*, (74).
56. Mishra, C. S., & McConaughy, D. L. (1999). Founding family control and capital structure: The risk of loss of control and the aversion to debt. *Entrepreneurship theory and practice*, *23*, 53-64.
57. Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American economic review*, *48*(3), 261-297.
58. Mrak, M., Rojec, M., & Silva-Jáuregui, C. (Eds.). (2004). *Slovenia: From Yugoslavia to the European Union*. Washington: The World Bank.
59. Myers, S. C. (1984). The capital structure puzzle. *The journal of finance*, *39*(3), 574-592.
60. Pahor, M. (2003). *Causes and Consequences of Companies' Activity in an Ownership Network* (Ph. D. dissertation). Ljubljana: Faculty of Economics.
61. Prašnikar, J., Domadenik, P., & Koman, M. (2015). *Skrivnost državne lastnine v Sloveniji*. Ljubljana: Faculty of Economics.
62. Santos, M. S., Moreira, A. C., & Vieira, E. S. (2014). Ownership concentration, contestability, family firms, and capital structure. *Journal of Management & Governance*, *18*(4), 1063-1107.
63. Schmid, T. (2013). Control considerations, creditor monitoring, and the capital structure of family firms. *Journal of Banking & Finance*, *37*(2), 257-272.
64. Setia-Atmaja, L., Tanewski, G. A., & Skully, M. (2009). The role of dividends, debt and board structure in the governance of family controlled firms. *Journal of Business Finance & Accounting*, *36*(7-8), 863-898.
65. Short, H., Keasey, K., & Duxbury, D. (2002). Capital structure, management ownership and large external shareholders: a UK analysis. *International Journal of the economics of Business*, *9*(3), 375-399.
66. Štiblar, F. (2010). *Bančništvo kot hrbtenica samostojne Slovenije*. Ljubljana: Založba ZRC.
67. Šušteršič, J., Damijan, J. P., Zajec, Z. H. (2006). *Framework of Economic and Social Reforms for Increasing the Welfare in Slovenia*. Ljubljana: Government Office for Growth

68. The World Bank. (n.d.). In *The World Bank Data*. Retrieved June 16, 2015, from http://data.worldbank.org/indicator/FB.AST.NPER.ZS
69. The World Bank. (n.d.). In *The World Bank Data*. Retrieved June 16, 2015, from http://data.worldbank.org/indicator/FR.INR.LEND
70. Wright, M., Wilson, N., & Robbie, K. (1996). The longer-term effects of management-led buy-outs. *The Journal of Entrepreneurial Finance*, *5*(3), 213-234.

APPENDIXES

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Appendix A: Povzetek

Od kod tolikšen preobrat v pojmovanju finančne strukture (finančnega dolga) slovenskih podjetij? Berk (2006) dokazuje, da so, gledano primerjalno, slovenska podjetja premalo zadolžena in da v njihovi finančni strukturi prevladuje trajni kapital. Bole et al. (2012) prikazujejo, da se je zadolžitev slovenskih nefinančnih podjetij v kratkem času (2004–2008) nesorazmerno povečala. Koliko je k temu prispevala privatizacija slovenskih podjetij, ki je bila prav v tem obdobju v velikem razmahu?

V magistrskem delu poskušamo odgovoriti na ta vprašanja. Običajen pristop ekonomske teorije pri iskanju optimalne finančne strukture v podjetjih je mikroekonomski. Išče se struktura kapitala, pri kateri agenti maksimirajo svoje koristi. Časovno obdobje, v katerem so slovenska podjetja povečala svojo zadolženost, je prekratko, da bi ga lahko označili za eksperimentiranje podjetij pri iskanju optimalne finančne strukture. Razlog za nenaden pojav povečanja zadolženosti slovenskih podjetij je zato treba iskati drugje. Zanj je odgovorna finančna kriza. Pri tem je odločanje o finančnem zadolževanju še vedno na strani podjetij. Toda v okolju se zgodi nekaj, kar pripelje do povečanih donosov podjetij in jim omogoča porast zadolževanja v bankah. Ker banke v presoji kreditne zmožnosti upoštevajo bilanco podjetja, mu na osnovi dejanskih donosov, ki so večji od pričakovanih, in ugodnih bilančnih podatkov odobrijo kredit. Ta zaradi naraščajočega optimizma še povečuje donose, ki so vir novega zadolževanja Ker se vsa podjetja obnašajo podobno, nekaj, kar je v osnovi zelo malenkostno (mikroekonomsko), pripelje preko t.i. finančnega multiplikatorja (Bernanke et al., 1999) in sproščenega zunanjega zadolževanja bank (Miller & Stiglitz, 2010) do usodnih makroekonomskih rezultatov (finančna kriza).

Kakšna je vloga lastniške transformacije (privatizacije) v tem scenariju? Z njo se je v Sloveniji pričelo že na začetku devetdesetih let. Toda če lahko t. i. primarno privatizacijo slovenskih podjetij v devetdesetih letih ocenimo kot razmeroma uspešno, ko gre za privatizacijo majhnih in srednjih podjetij, to nikakor ne drži za večja podjetja, ki so v strukturi trajnega kapitala ohranila velik delež državnega in paradržavnega lastništva. Pospešen izhod države iz lastništva podjetij (2005) je bil signal agentom, da je država naklonjena tem procesom in jih je, zlasti preko državnih bank, celo pripravljena financirati. Pomenil je »sprožilec« (»Minskyjev moment«, Minsky, 1986) za povečan optimizem agentov in pospešeno zadolževanje, tudi na račun naložb v nakupe lastniških deležev podjetij. Posledično se je menjala lastniška in organizacijska struktura slovenskih podjetij. Finančni holdingi, na primer, so pogosto delovali kot školjka (»special purpose vehicle«) za privatizacijo podjetij ob pomoči bančnih kreditov. S koncentracijo lastništva se je kopičila moč enega ali koalicije (dveh, treh ali več) lastnikov. V nekaterih podjetjih se je ohranila državna lastnina, v drugih pa razpršeno lastništvo.

V nalogi želimo ugotoviti, kakšna je bila vloga posameznih vrst lastnikov v kopičenju dolga slovenskih podjetij v obdobju pred izbruhom finančne krize (»boom«), na vrhuncu

krize (»bust«) in v obdobju izhoda iz recesije (»deleveraging«). V ta namen smo oblikovali unikatno bazo podatkov 4.448 slovenskih podjetij za obdobje od leta 2006 do leta 2014. To so podjetja, ki zaposlujejo več kot 50 zaposlenih ali imajo najmanj 2 milijona evrov bilančne vsote. Podatkovna baza vsebuje tudi podatke o desetih največjih lastnikih teh podjetij v proučevanem obdobju, zato nam omogoča testiranje hipotez, ki se nanašajo na podana raziskovalna vprašanja in ki smo jih izpeljali na podlagi poznavanja ekonomske teorije ter dogajanja v Sloveniji v predkiznem in pokriznem obdobju. Na osnovi analize smo na raziskovalna vprašanja lahko podali ustrezne odgovore. Struktura magistrskega dela sledi prikazanemu raziskovalnemu okviru.

Razvoj poslovnega okolja v Sloveniji, ki je pripeljalo do krize

Slovenski bančni sektor

Pred vstopom Slovenije v Evropsko unijo je bil slovenski bančni sektor v primerjavi z bančnimi sistemi nekaterih drugih držav, ki so se pripravljale za vstop v Evropsko unijo, sorazmerno zaprt. Tako je bil leta 2000 delež tujih bank v Sloveniji le 15 %, kar je manj kot na Slovaškem (76 %), Češkem (67 %), v Bolgariji (62 %) in na Poljskem (49 %) ter več kot v Rusiji (7 %) in Ukrajini (6 %).

Po vstopu Slovenije v Evropsko Unijo so se razvojne strategije slovenskih bank še zmeraj osredotočale na domači trg. To obdobje je zaznamovalo padanje nominalnih obrestnih mer, padanje državnih premij za tveganje in stabilni devizni tečaji. Prav tako so imele banke prost dostop do tujih sredstev posojilodajalskih skladov, konkurenca med bankami, ki so vstopale na trg, in njihova želja po pridobitvi čim večjega tržnega deleža sta še dodatno spodbudili povečanje kreditne ponudbe. V letu 2004 se je kreditiranje nebančnega sektorja povečalo za 21,4 %, v letu 2007 pa kar za 37,8 %. Z izbruhom finančne krize se je rast kreditiranja ustavila in od leta 2011 beleži negativne stopnje rasti. Slabe terjatve so se začele kopičiti v bankah in so v letu 2012 znašale 15,2 % bruto kreditov. Da bi ublažila težave s slabimi krediti, je slovenska vlada ustanovila “slabo banko” oziroma Družbo za upravljanje terjatev bank, na katero so bile prenešene slabe terjatve. V letu 2013 so bili izvedeni stresni testi in država je dokapitalizirala pet bank.

Slovenski nefinančni sektor

Berk (2006) ugotavlja, da so bila slovenska podjetja relativno malo zadolžena pred vstopom Slovenije v Evropsko unijo. Ugotovil je, da so bila najbolj zadolžena podjetja v nepremičninskem sektorju, sledila pa so mu trgovinska in industrijska podjetja ter podjetja, ki se ukvarjajo s transportom in komunikacijo. V primerjavi s povprečjem Evropske unije so bila slovenska podjetja za več kot polovico manj zadolžena. Prav posebej izstopa sektor transporta in komunikacij, kjer so bila slovenska podjetja skoraj desetkrat manj zadolžena, kot je znašalo povprečje Evropske unije.

Bolj dostopen evropski trg je povečal ambicije slovenskih podjetij, ki so se v obdobju od leta 2004 do leta 2008 zadolžila za 13 milijard evrov (Bole et al., 2012). Investirala so v osnovno dejavnost, nakupe delnic in nepremičnine. Zaradi podpore politike in poceni denarja se je v tem obdobju povečalo število managerskih prevzemov velikih podjetij. Na te prevzeme je mogoče gledati kot na investicije s strateško zamudo, kjer investitorji želijo izkoristiti informacije drugih investitorjev. V primeru Slovenije je bil tok informacij hiter, kar je vodilo do velikega števila prevzemov v razmeroma kratkem času. Zaradi črednega obnašanja podjetij je prišlo do napihovanja premoženjskih balonov. Mehanizem finančnega multiplikatorja je endogeno pospešil proces akumulacije dolgov v slovenskih podjetjih. Glavni dejavniki njegove moči so bili diskontirani kapitalski donosi, ki so zaradi napihnjenega borznega in nepremičninskega trga naraščali in s tem dodatno povečevali količino dostopnih kreditov (Bole et al., 2014b). Endogeni procesi so bili prekinjeni ob izbruhu finančne krize. Naraščajoča negotovost je sprožila krč na veleprodajnem kreditnem trgu, kar je vodilo do zmanjšane ponudbe kreditov na domačem trgu. Prociklične intervencije bančnega regulatorja so kreditni krč le še podaljšale.

Razmerje med lastniško in kapitalsko strukturo

Prašnikar et al. (2015) so identificirali odločitev vlade, da sproži nov privatizacijski val, kot enega izmed t.i. »Minskyjevih sprememb pravil«, ki so sprožila pretiran optimizem in s tem investicije podjetij v osnovno dejavnost, nepremičnine in delnice. Medtem ko se veliko raziskav ukvarja s povezavo med lastniško strukturo in uspešnostjo podjetja, je raziskav, ki bi preučevale povezavo med lastniško strukturo in kapitalsko strukturo, manj.

Študije, ki se ukvarjajo z vplivom družinskega lastništva na finančni dolg, so povečini našle argumente, ki podpirajo negativno korelacijo. Kot glavni razlog za ta pojav navajajo, da so lastniki družinskih podjetij ponavadi dolgoročni investitorji, ki želijo podjetje ohraniti v družinski lasti in se zato izogibajo višjim stopnjam dolga. Nekatere raziskave kot protiargument navajajo, da lastniki družinskih podjetij ne želijo izgubiti svojega statusa in zato raje financirajo svoje investicije z dolgom, kot da bi izdale nov lastniški kapital. Povzetek različnih argumentov, ki se ukvarjajo z vplivom managerskega lastništva na finančni dolg, pokaže pozitivno korelacijo med managerskim lastništvom in finančnim dolgom pri nizkih stopnjah managerskega lastništva. Korelacija postane pozitivna pri višjih stopnjah managerskega lastništva, saj želijo managerji zmanjševati tveganje (Brailsford et al., 2002). Glede vpliva državnega lastništva na finančni dolg so študije precej neenotne.

Podobno kot pri raziskavah, ki se ukvarjajo z vplivom državnega lastništva na finančni dolg, imajo tudi raziskave, ki proučujejo vpliv lastniške koncentracije na finančni dolg, različne poglede na to, ali je ta vpliv pozitiven ali negativen. Santos et al. (2013) so ugotavljali vpliv lastniške koncentracije na 694 podjetjih iz zahodne Evrope. Njihovi rezultati so razkrili negativno korelacijo med velikostjo največjega lastnika in finančnim

dolgom ter pokazali, da ima prisotnost drugega ali tretjega velikega lastnika pozitiven vpliv na zadolženost podjetij.

Zgodovinski pregled lastniške transformacije v Sloveniji

Slovensko gospodarstvo je doživelo številne lastniške transformacije, njeni začetki pa segajo že v čas pred slovensko samostojnostjo. Privatizacijski zakon iz leta 1992 je dodelil 20 % delnic notranjim deležnikom, 20 % razvojnemu skladu, 10 % državnemu pokojninskemu skladu in 10 % odškodninskemu skladu. Preostalih 40 % je bilo dodeljenih v prodajo notranjim ali zunanjim ponudnikom (Prašnikar et al., 2015). Zaradi načina privatizacije je večina lastništva pristala v rokah zasebnih in državnih skladov, medtem ko so preostanek privatizacijskih delnic večinoma pridobili managerji, zaposleni in bivši zaposleni (Mrak et al., 2004).

V obdobju po prvem privatizacijskem valu se je delež državnih skladov v lastništvu slovenskih podjetij začel zmanjševati, medtem ko se je pospešeno začel povečevati delež domačih podjetij. Povečevati se je začel tudi delež tujih lastnikov, medtem ko je delež notranjih lastnikov začel padati. Prav tako se je v tem obdobju začela lastništva koncentracija v slovenskih podjetjih. V obdobju od leta 1998 do leta 2001 se je povprečni delež največjega lastnika povečal za 6,75 odstotne točke, prav tako pa se je povečal tudi povprečni delež drugega največjega lastnika (Damijan, 2004).

V letu 2005 je vlada predstavila Okvir ekonomskih in socialnih reform za dvig blaginje v Sloveniji. Pomemben del tega programa je bil t. i. načrt »transparentnega umika države iz gospodarstva.« Ta bi bil dosežen preko preoblikovanja KAD in SOD v portfeljske investitorje ter kasneje še preko privatizacije večjih podjetij v lasti države. Kljub temu da se ta načrt ni nikoli v popolnosti uresničil, se je aktivnost KAD in SOD v tem obdobju povečala. Tako se je v obdobju med letoma 2004 in 2007 skupna vsota letnih transakcij KAD in SOD povečala iz 60 milijonov evrov v letu 2004 na 463 milijonov evrov v letu 2007. Prav tako se je povečalo število transakcij, kot tudi povprečna in medianska vrednost. Že v letu 2008 je število transakcij začelo padati. Skupna vsota letnih transakcij je doživela najnižjo točko v letu 2011, ko je znašala 240 tisoč evrov. Kljub temu da je število transakcij v letih 2012, 2013 in 2014 ostalo nizko, so transakcije dosegale višje vrednosti, saj so se prodajala večja slovenska podjetja, kot je na primer Aerodrom Ljubljana (Prašnikar et al., 2015).

Teoretični in operativni modeli za empirično raziskavo

Naša raziskava temelji na modelu finančnega multiplikatorja, ki so ga razvili Bernanke et al. (1999), v svoji študiji pa so ga uporabili tudi Bole et al. (2012) in Bole et al. (2015). Model temelji na literaturi o asimetričnih informacijah in agencijskih stroških v posojilnem razmerju, ki pojasnjujejo vlogo trenj na kreditnem trgu v cikličnih nihanjih. V modelu

delnega ravnotežja finančni multiplikator endogeno povečuje učinke eksogenih šokov na pričakovano kapitalsko donosnost s ponudbo naložbenih financ (1) in neto vrednostjo (2).

$$Q_t K_{t+1} = \Psi(s_t) N_{t+1} \qquad \Psi(1) = 1 \qquad \Psi'(.) \geq 0 \quad (1)$$

$$N_t = R_t^k Q_{t-1} K_{t-1} - (1 + \zeta(Q_{t-1} K_{t-1} / N_{t-1})) R_t B_t \quad (2)$$

Zgoraj navedeni razmerji predstavljata osnovni analitični okvir procesa z investicijami zagnanega zadolževanja, na podlagi katerega smo zgradili sledeči regresijski model:

$$dbil\_fdebt = \alpha + \beta_1 dbil\_core + \beta_2 dbil\_reales + \beta_3 dbil\_fininv + \beta_4 bil\_cap(-1) + \beta_5 dummy\_one + \beta_6 dummy\_one\_two + \beta_7 dummy\_gov + \beta_8 dummy\_hold + \beta_9 core1 + \beta_{10} reales1 + \beta_{11} fininv1 \quad (3)$$

V zgornji enačbi dbil_fdebt predstavlja letno spremembo v finančnem dolgu, dbil_core spremembo investicij v osnovno dejavnost, dbil_reales spremembo investicij v nepremičnine in dbil_fininv spremembo finančnih investicij. Spremenljivka bil_cap(-1) je bila izračunana tako, da smo vrednost lastniškega kapitala delili s celotno bilanco iz preteklega leta. Kot taka ta spremenljivka določa »finančno zdravje« podjetja. Da bi testirali vpliv različnih lastniških struktur, smo v enačbo dodali umetne spremenljivke (dummy spremenljivke). Dummy_one predstavlja podjetja, kjer ima prvi lastnik večinski delež. Dummy_one_two predstavlja podjetja, kjer imata prvi in drugi lastnik skupaj večinski delež, medtem ko njun individualni delež ne presega 50 %. Dummy_gov predstavlja podjetja, kjer ima država večinski delež, in podjetja, kjer imata prvi in drugi lastnik skupaj večinski delež, medtem ko njun individualni delež ne presega 50 % ter je vsaj eden od teh dveh lastnikov država. Dummy_hold predstavlja podjetja, kjer ima holding večinski delež, in podjetja, kjer imata prvi in drugi lastnik skupaj večinski delež, medtem ko njun individualni delež ne presega 50% ter je vsaj eden od teh dveh lastnikov holding. Prav tako smo ustvarili spremenljivko dummy_notone_nottwo, ki predstavlja podjetja, pri katerih skupniq delež dveh največjih lastnikov ne presega 50 %. V model so bile dodane tudi tri interaktivne spremenljivke, t. j. core1, real1 in fin1, ki testirajo vpliv investicij v osnovno dejavnost, vpliv investicij v nepremičnine in vpliv finančnih investicij na finančni dolg pri podjetjih z državnim lastništvom (dummy_gov).

Raziskovalne hipoteze

Z zgoraj predstavljenim regresijskim modelom smo testirali sledeče hipoteze, ki smo jih postavili na podlagi temeljitega pregleda literature.

Hipoteza 1:

a: Finančni multiplikatorji investicij v osnovno dejavnost, investicij v nepremičnine in finančnih investicij so imeli pozitiven učinek na finančni dolg v vseh treh analiziranih obdobjih.

V času konjunkture so podjetja začela kopičiti dolg z investicijami v osnovno dejavnost, v nepremičnine in v finančne investicije. Zaradi mehanizma finančnega multiplikatorja je prišlo do nastanka premoženjskih balonov (Prašnikar et al., 2015).

b: Moč finančnega multiplikatorja se je zmanjšala v obdobjih recesije in okrevanja pri vseh treh analiziranih gonilnikih finančnega dolga.

Zaradi nenadne zaustavitve tujih finančnih prilivov so se zaostrili pogoji na domačem posojilnem trgu. Bole et al. (2014b) so ugotovili, da je bil učinek finančnega multiplikatorja bistveno manjši v obdobju po izbruhu finančne krize.

Hipoteza 2: Lastniški kapital je imel pozitiven učinek na finančni dolg v vseh treh analiziranih obdobjih.

Lastniški kapital je pokazatelj finančnega zdravja. Zaradi zmanjšane kreditne ponudbe in povečane kolateralizacije so bila le finančno zdrava podjetja sposobna pridobiti nove dolžniške vire financiranja.

Hipoteza 3:

a: Lastniška koncentracija v rokah največjega lastnika je imela pozitiven učinek na finančni dolg v vseh treh analiziranih obdobjih.

Prisotnost velikega lastnika in učinkovita uprava kažeta na kakovost upravljanja. Kot rezultat imajo takšna podjetja lažji dostop do kapitalskih trgov in imajo nižje pričakovane agencijske stroške dolga.

b: Prisotnost drugega močnega lastnika je imelo pozitiven učinek na finančni dog v vseh treh analiziranih obdobjih.

Drugi in tretji največji lastnik držita manjše deleže lastništva kot največji lastnik in imata zaradi tega višjo toleranco do tveganja. Prav tako si ne želita relativnega povečanja moči drugih lastnikov, do katere bi lahko prišlo ob financiranju z lastniškim kapitalom.

Hipoteza 4:

a: Državno lastništvo je imelo negativen učinek na finančni dolg v obdobju konjunkture.

V obdobju konjunkture se banke niso osredotočale na podjetja v državnem lastništvu, saj le-ta niso privatizirala drugih podjetij. Zaradi tega je pričakovati negativno korelacijo med podjetji v državnem lastništvu in finančnim dolgom v obdobju konjunkture.

b: Državno lastništvo je imelo pozitiven učinek na finančni dolg v obdobju recesije.

Kornai (1986) je identificiral trend mehkih proračunskih omejitev, ki so običajno povezane z očetovsko vlogo države. Krediti se uporabljajo za pomoč podjetjem, ki so v kroničnih finančnih težavah in ni verjetno, da bi ta kredit vrnila. V primeru Slovenije je država podpirala podjetja, ki so se znašla v likvidnostnih težavah.

Hipoteza 5:

a: Holdinško lastništvo je imelo pozitiven učinek na finančni dolg v obdobju konjunkture.

V obdobju pred krizo so finančni holdingi velikokrat nastopali kot šoljke oziroma SPV-ji (»special purpose vehicles«) pri privatizaciji podjetij s pomočjo bančnih kreditov, kar je imelo pozitiven učinek na finančni dolg.

b: Holdinško lastništvo je imelo pozitiven učinek na finančni dolg v obdobju recesije.

V obdobju recesije so finančni holdingi nadaljevali z izčrpavanjem podjetij v svoji skupini. Da bi ostali operativno sposobni, so potrebovali dodatne vire financiranja, ki so jih pridobili s pomočjo kreditov bank v državnem lastništvu.

c: Holdinško lastništvo je imelo negativen učinek na finančni dolg v obdobju recesije.

Tako imenovani "Lahovnikov zakon" iz leta 2009 je bankam v državni lasti preprečil kreditiranje "tajkunskih" podjetij. Kot rezultat tega ukrepa se je povečalo medpodjetniško kreditiranje, medtem ko je finančni dolg padel.

Hipoteza 6: Investicije v osnovno dejavnost, investicije v nepremičnine in finančne investicije niso imele učinka na finančni dolg pri podjetjih v državnem lastništvu v obdobjih recesije in okrevanja.

Zaradi povečanih cen v sektorjih energetike in komunalnih storitev so državna podjetja začela svoje investicije financirati z zadržanimi dobički. Zaradi tega ukrepa investicije v osnovno dejavnost, nepremičnine in finančne investicije niso vplivale na finančni dolg.

Opisna statistika

Vzorec, ki smo ga uporabili za empirično raziskavo, vsebuje podatke o 4.448 slovenskih podjetjih za obdobje od leta 2006 do leta 2014. Vsa podjetja imajo ali več kot 50 zaposlenih ali vrednost bilance višje od 2.000.000 evrov.

Podatki o lastniški strukturi podjetij so pokazali, da je delež desetih največjih lastnikov ostal podoben v celotnem analiziranem obdobju. Največji lastnik je svoj povprečni delež povečal iz 76,84 % v letu 2007 na 77,94 % v letu 2014. Vseh ostalih devet lastnikov je v tem obdobju svoj povprečni delež zmanjšalo. 55 % podjetij v vzorcu ima vsaj dva lastnika. Z vsakim dodatnim lastnikom se ta številka bistveno zmanjša. Samo 6 % podjetij v vzorcu ima deset lastnikov. Podatki na celotnem vzorcu ne kažejo na to, da bi se v tem obdobju lastništvo koncentriralo. Bolj temeljita analiza pokaže, da se je v obdobju od leta 2007 do leta 2014 povprečni delež največjega lastnika v podjetjih z več kot 200 zaposlenimi povečal za več kot pet odstotnih točk. V podjetjih, ki imajo manj kot 200 zaposlenih, je delež največjega lastnika ostal relativno podobno velik. V povprečju so bila podjetja z enim večinskim lastnikom v obdobju od 2007 do 2014 manj zadolžena kot podjetja z razpršenim lastništvom.

Raziskava je pokazala, da so bila podjetja v državni lasti v povprečju najmanj zadolžena skupina podjetij v celotnem preučevanem obdobju. Tudi dinamika dolga je bila pri podjetjih v državni lasti drugačna, prav tako pa so ta podjetja v letu 2010, za razliko od vseh drugih skupin podjetij, drastično znižala investicije v osnovno dejavnost, in sicer za kar 98 %. Podjetja v državni lasti so bila tudi bolj konservativna pri investiranju v finančne investicije, prav tako pa se je bistveno dvignilo njihovo finančno zdravje, definirano kot lastniški kapital, deljen s celotno bilanco preteklega leta. Najbolj zadolžena podjetja v analiziranem obdobju so bila podjetja z dvema lastnikoma in podjetja v holdinški lasti, za najbolj finančno zdrava pa so se izkazala podjetja z razpršenim lastništvom.

Primerjava industrijskih in storitvenih podjetij ter podjetij iz gradbenega sektorja je pokazala, da so bila gradbena podjetja v povprečju najbolj zadolžena v celotnem analiziranem obdobju. Sledila so jim industrijska in storitvena podjetja. Pred izbruhom finančne krize so tako industrijska kot tudi gradbena podjetja povečala investicije v osnovno dejavnost za približno 7 %. Po izbruhu finančne krize se je rast investicij v osnovno dejavnost pri podjetjih iz industrijskega sektorja nadaljevala, medtem ko so bile stopnje rasti storitvenih in gradbenih podjetij bistveno nižje. V času konjunkture so storitvena in gradbena podjetja bolj intenzivno investirala tako v nepremičnine kot tudi v finančne investicije. V obeh primerih so podjetja iz sektorja industrije v času konjunkture povečevala investicije v neosnovno dejavnost po nižji stopnji, v času recesije pa so zmanjševala investicije v neosnovno dejavnost po nižji stopnji. V celotnem preučevanem obdobju so bila gradbena podjetja najmanj finančno zdrava.

Rezultati raziskave

Rezultati regresijske analize so pokazali, da so investicije v osnovno dejavnost, nepremičnine in finančne investicije imele statistično pozitiven učinek na finančni dolg v vseh treh analiziranih obdobjih, t. j. v konjunkturi, recesiji in v obdobju okrevanja. Investicije v osnovno dejavnost, kot tudi investicije v nepremičnine in finančne investicije, so imele najmočnejši učinek na finančni dolg v obdobju konjunkture. Ta učinek se je v primeru investicij v osnovno dejavnost in finančnih investicij zmanjšal v naslednjih dveh opazovanih obdobjih, medtem ko je učinek investicij v nepremičnine v obdobju okrevanja znova narasel. Ti rezultati prikazujejo pojav Minskyjevega cikla v Sloveniji in s tem potrjujejo hipotezo 1.a, prav tako pa potrjujejo tudi hipotezo 1.b. Spremenljivka bil_cap(-1) je indikator finančnega zdravja podjetja. Regresijski koeficienti so pokazali, da v obdobju konjunkture finančno zdravje ni statistično značilno vplivalo na finančni dolg. Do spremembe je prišlo v naslednjih dveh obdobjih, ko je finančno zdravje statistično značilno pozitivno vplivalo na finančni dolg. Ti rezultati le delno potrjujejo 2. hipotezo, da je finančno zdravje podjetja pozitivno vplivalo na finančni dolg v vseh opazovanih obdobjih.

Umetne spremenljivke so bile dodane v model, da bi testirali za vpliv različnega tipa lastništva na finančni dolg. Rezultati so pokazali, da lastništvo enega lastnika z več kot 50 % deležem, dveh lastnikov, ki imata skupaj več kot 50% delež, medtem ko individualno njun delež ne presega 50 %, in holdinško lastništvo ni imelo statistično značilnega vpliva na finančni dolg v vseh treh opazovanih obdobjih. Nasprotno je imelo državno lastništvo statistično značilno negativen vpliv na finančni dolg v času konjunkture in statistično pozitiven vliv na finančni dolg v času recesije. Prav tako v primeru državnega lastništva investicije v osnovno dejavnost, nepremičnine in finančne investicije praktično niso imele učinka na finančni dolg v času recesije. Na podlagi teh rezultatov ni mogoče potrditi hipotez 3.a, 3.b, 5.a, 5.b in 5.c, mogoče pa je potrditi hipotezi 4.a in 4.b ter delno tudi hipotezo 6.

Sklep

Veliko slovenskih podjetij se še zmeraj sooča s procesom razdolževanja, kar je posledica investicijske evforije pred finančno krizo. Empirični rezultati so pokazali prisotnost mehanizma finančnega multiplikatorja. Prav tako so rezultati pokazali, da so se podjetja, ne glede na lastništvo, obnašala čredno. Za nesorazmerno povečanje finančnega dolga slovenskih podjetij je odgovoren predvsem mehanizem finančnega multiplikatorja in ne lastniška transformacija. Magistrsko delo ima svoje omejitve, ki so povezane predvsem z manjkajočimi podatki za celotno obdobje konjunkture in problemom endogenosti. Rešitev teh težav bi zagotovila še boljši vpogled v delovanje mehanizma finančnega multiplikatorja in vpliva različnih vrst lastništev na finančni dolg. Kljub temu naloga ponuja pomembne odgovore na vprašanja mnogih, medtem ko se Slovenija podaja v nov privatizacijski val.

Appendix B: Descriptive statistics for different ownership types

Table 16. Descriptive statistics for dummy_one by year

year	stat	bil_fdebt	dbil_fdebt	dbil_core	dbil_reales	dbil_fininv	bil_cap(-1)
2007	N	2558	2558	2558	2558	2558	2558
	sd	0.228137	0.136201	0.197142	0.044072	0.128319	0.920341
	median	0.12968	0	0.028977	0	0	0.331463
	mean	0.202696	0.017509	0.063092	0.005272	0.035776	0.443806
2008	N	2720	2720	2720	2720	2720	2720
	sd	0.240009	0.122022	0.192755	0.046717	0.146417	0.560647
	median	0.142113	0	0.027543	0	0	0.300497
	mean	0.217173	0.017024	0.060412	0.005044	0.014845	0.378256
2009	N	2817	2817	2817	2817	2817	2817
	sd	0.241953	0.098338	0.174188	0.028473	0.135586	0.293369
	median	0.143235	0	0.00435	0	0	0.277884
	mean	0.218799	0.00362	0.011738	0.000748	-0.00881	0.324859
2010	N	2802	2802	2802	2802	2802	2802
	sd	0.253585	0.109348	0.251944	0.029541	0.129781	0.313516
	median	0.140858	0	0.012967	0	0	0.293286
	mean	0.221358	0.001097	0.014116	-0.00035	-0.00751	0.32992
2011	N	2746	2746	2746	2746	2746	2746
	sd	0.247138	0.085636	0.158444	0.021064	0.107928	0.317241
	median	0.11846	0	0.011396	0	0	0.315732
	mean	0.209147	-0.00388	0.025376	-0.0007	-0.0056	0.342926
2012	N	2725	2725	2725	2725	2725	2725
	sd	0.252704	0.083718	0.176768	0.022672	0.113289	0.349747
	median	0.109277	0	0.005778	0	0	0.334732
	mean	0.200746	-0.00503	0.012919	-0.00034	-0.01203	0.337945
2013	N	2610	2610	2610	2610	2610	2610
	sd	0.25317	0.076542	0.179124	0.023706	0.131005	0.37157
	median	0.072153	0	4.41E-05	0	0	0.363049
	mean	0.182855	-0.00819	0.012829	-0.00209	-0.01603	0.351867

(table continues)

(continued)

2014	N	2542	2542	2542	2542	2542	2542
	sd	0.268664	0.085364	0.172578	0.027699	0.126002	0.441639
	median	0.047007	0	0.000702	0	0	0.394239
	mean	0.166979	-0.01038	0.009668	-0.00272	-0.01259	0.374257
Total	N	21520	21520	21520	21520	21520	21520
	sd	0.248943	0.101979	0.191162	0.031849	0.128827	0.48353
	median	0.113814	0	0.008956	0	0	0.324642
	mean	0.203014	0.001499	0.026082	0.000608	-0.00167	0.359479

Table 17. Descriptive statistics for dummy_one_two by year

year	stat	bil_fdebt	dbil_fdebt	dbil_core	dbil_reales	dbil_fininv	bil_cap(-1)
2007	N	665	665	665	665	665	665
	sd	0.230273	0.14365	0.209556	0.039528	0.112677	0.804087
	median	0.174629	0	0.029687	0	0	0.321206
	mean	0.237524	0.021284	0.059957	0.004983	0.025789	0.427883
2008	N	680	680	680	680	680	680
	sd	0.243346	0.125128	0.187639	0.044647	0.121787	0.431822
	median	0.213982	0	0.033561	0	0	0.293155
	mean	0.260614	0.015277	0.064561	0.004014	0.019448	0.376502
2009	N	703	703	703	703	703	703
	sd	0.243709	0.087149	0.162994	0.034457	0.086833	0.261702
	median	0.208554	0	0.005242	0	0	0.279674
	mean	0.260764	0.003011	0.007626	0.000821	0.003867	0.329254
2010	N	695	695	695	695	695	695
	sd	0.246772	0.096794	0.195701	0.029902	0.100268	0.285461
	median	0.19764	0	0.006767	0	0	0.316538
	mean	0.253829	-6.71E-03	1.06E-02	6.75E-07	-0.00518	0.351792
2011	N	676	676	676	676	676	676
	sd	0.25111	0.078561	0.140654	0.025041	0.098698	0.296537
	median	0.18438	0	0.014046	0	0	0.322518
	mean	0.247144	-0.00643	0.022898	-0.00246	-5.7E-05	0.356978

(table continues)

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2012	N	641	641	641	641	641	641
	sd	0.248027	0.080252	0.142907	0.017064	0.116229	0.30762
	median	0.165104	0	0.004096	0	0	0.339539
	mean	0.233773	-0.00561	0.011389	-0.00103	-0.01262	0.363413
2013	N	614	614	614	614	614	614
	sd	0.259056	0.072762	0.145481	0.020882	0.152846	0.360284
	median	0.124812	-0.00254	0.002064	0	0	0.389048
	mean	0.215844	-0.00655	0.01519	-0.00329	-0.01595	0.385836
2014	N	569	569	569	569	569	569
	sd	0.236818	0.078754	0.140826	0.030876	0.101811	0.403424
	median	0.100544	-0.0013	0.000709	0	0	0.435204
	mean	0.186647	-0.01111	0.00389	-0.00333	-0.00799	0.420387
Total	N	5243	5243	5243	5243	5243	5243
	sd	0.245935	0.099467	0.170074	0.031824	0.113236	0.427441
	median	0.172922	0	0.009751	0	0	0.334392
	mean	0.238518	0.000707	0.024952	7.24E-05	0.001341	0.375146

Table 18. Descriptive statistics for dummy_gov by year

year	stat	bil_fdebt	dbil_fdebt	dbil_core	dbil_reales	dbil_fininv	bil_cap(-1)
2007	N	135	135	135	135	135	135
	sd	0.166328	0.078698	0.196938	0.022925	0.067935	0.356894
	median	0.008927	0	0.07209	0	0	0.22506
	mean	0.090595	0.012269	0.090854	0.002503	0.011288	0.358303
2008	N	140	140	140	140	140	140
	sd	0.159319	0.048589	0.162128	0.017017	0.08505	0.573091
	median	0.011957	0	0.056752	0	0	0.216556
	mean	0.094685	0.009586	0.077861	0.002064	0.003705	0.38368
2009	N	138	138	138	138	138	138
	sd	0.166126	0.032799	0.156692	0.033506	0.119134	0.320502
	median	0.015095	0	0.049191	0	0	0.215969
	mean	0.10742	0.005803	0.046184	0.004188	-0.00736	0.329621

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2010	N	125	125	125	125	125	125
	sd	0.181453	0.061088	1.621535	0.028902	0.084806	0.300636
	median	0.056608	0	-0.01358	0	0	0.268215
	mean	0.140617	0.019809	-0.97845	-0.00206	-0.00838	0.330996
2011	N	138	138	138	138	138	138
	sd	0.199143	0.049707	0.174621	0.016845	0.066059	0.27927
	median	0.048969	0	0.030005	0	0	0.411379
	mean	0.139014	0.007991	0.03914	0.001635	0.003028	0.411885
2012	N	142	142	142	142	142	142
	sd	0.193122	0.039557	0.113425	0.009417	0.127853	0.304399
	median	0.043899	0	0.01971	0	0	0.442419
	mean	0.136843	0.000299	0.035123	0.000514	-0.01223	0.423249
2013	N	145	145	145	145	145	145
	sd	0.192714	0.038018	0.089056	0.026617	0.057529	0.310618
	median	0.030863	0	0.018139	0	0	0.46109
	mean	0.129188	-0.00753	0.016346	-0.00292	-0.00406	0.442186
2014	N	139	139	139	139	139	139
	sd	0.176187	0.051346	0.203534	0.009776	0.177284	0.276004
	median	1.76E-02	0.00E+00	0.01245	0	0	0.450335
	mean	0.113919	-0.01234	0.030585	0.00049	-0.02766	0.449589
Total	N	1102	1102	1102	1102	1102	1102
	sd	0.180347	0.052244	0.65224	0.022146	0.105752	0.354472
	median	0.021904	0	0.029208	0	0	0.355444
	mean	0.118938	0.004186	-0.06875	0.000809	-0.00524	0.392468

Table 19. Descriptive statistics for dummy_hold by year

year	stat	bil_fdebt	dbil_fdebt	dbil_core	dbil_reales	dbil_fininv	bil_cap(-1)
2007	N	117	117	117	117	117	117
	sd	0.236632	0.138614	0.13966	0.02285	0.126652	0.308629
	median	0.182867	0	0.026295	0	0.005806	0.510359
	mean	0.223231	0.01036	0.042121	0.000357	0.044818	0.48796

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2008	N	134	134	134	134	134	134
	sd	0.230643	0.102648	0.143146	0.043625	0.179453	0.323894
	median	0.204966	0.007407	0.028882	0	0	0.37933
	mean	0.251676	0.02235	0.037325	0.004287	-0.00558	0.422102
2009	N	139	139	139	139	139	139
	sd	0.228994	0.079903	0.160397	0.015034	0.162761	0.301299
	median	0.18123	0	0.004979	0	0	0.426768
	mean	0.231137	0.006798	0.025166	-0.00042	-0.00342	0.422926
2010	N	129	129	129	129	129	129
	sd	0.218814	0.075313	0.177082	0.019953	0.136052	0.319957
	median	0.172506	0	0.02743	0	0	0.410113
	mean	0.22128	-0.00185	0.046878	0.001431	-0.01703	0.405849
2011	N	124	124	124	124	124	124
	sd	0.226047	0.069364	0.161208	0.012279	0.128359	0.316053
	median	0.182179	0	0.029399	0	-0.00058	0.375406
	mean	0.221869	0.003088	0.043299	-0.00026	-0.02659	0.390709
2012	N	116	116	116	116	116	116
	sd	0.236936	0.075544	0.191362	0.023086	0.205325	0.303464
	median	0.179127	0	0.013361	0	0	0.370266
	mean	0.224878	0.007901	0.053286	-2.8E-05	-0.04607	0.392299
2013	N	111	111	111	111	111	111
	sd	0.254788	0.078206	0.184078	0.038267	0.165964	0.351934
	median	0.176717	0	0.015007	0	-0.00122	0.350399
	mean	0.227872	-0.00351	0.028822	-0.00528	-0.05016	0.358069
2014	N	107	107	107	107	107	107
	sd	0.248454	0.114029	0.15161	0.030164	0.102347	0.336167
	median	0.120726	0	0.013185	0	0	0.391394
	mean	0.205354	-0.00453	0.004015	-0.00252	-0.00646	0.393674
Total	N	977	977	977	977	977	977
	sd	0.234137	0.0939	0.164204	0.02753	0.156501	0.32054
	median	0.178553	0	0.020546	0	0	0.404815
	mean	0.226592	0.005464	0.03547	-0.00015	-0.01338	0.410049

Table 20. Descriptive statistics for dummy_notone_nottwo by year

year	stat	bil_fdebt	dbil_fdebt	dbil_core	dbil_reales	dbil_fininv	bil_cap(-1)
2007	N	168	168	168	168	168	168
	sd	0.201956	0.118863	0.157318	0.048403	0.127867	0.723891
	median	0.173285	0	0.006969	0	0.003739	0.441664
	mean	0.203863	0.009663	0.027637	0.007122	0.057808	0.526888
2008	N	171	171	171	171	171	171
	sd	0.222151	0.114456	0.161205	0.021577	0.140974	0.685925
	median	0.182602	0	0.023063	0	0	0.408989
	mean	0.234306	0.016489	0.03799	0.000154	0.017899	0.484875
2009	N	228	228	228	228	228	228
	sd	0.207036	0.077328	0.159147	0.015604	0.104347	0.294494
	median	0.169656	0	-0.00194	0	0	0.386078
	mean	0.208549	-0.00184	-0.00142	-0.00039	-0.00486	0.444531
2010	N	219	219	219	219	219	219
	sd	0.22339	0.086714	0.147009	0.01442	0.1212	0.291781
	median	0.177681	0	0.002524	0	0	0.412333
	mean	0.219476	-0.00175	0.003877	-0.00083	-0.01238	0.442076
2011	N	213	213	213	213	213	213
	sd	0.220882	0.087438	0.136489	0.022393	0.103178	0.315847
	median	0.15038	0	0.006483	0	0	0.426376
	mean	0.205756	0.002471	0.021203	-0.00015	-0.01604	0.453566
2012	N	207	207	207	207	207	207
	sd	0.239922	0.071944	0.124602	0.025209	0.099064	0.336057
	median	0.121955	0	-0.00018	0	0	0.419744
	mean	0.205565	0.002847	0.00423	0.001306	-0.00708	0.455883
2013	N	197	197	197	197	197	197
	sd	0.260935	0.075072	0.125448	0.022598	0.079773	0.349381
	median	0.085913	0	-0.00063	0	0	0.46354
	mean	0.186664	-0.0008	-0.01306	-0.00275	-0.00113	0.477263

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2014	N	180	180	180	180	180	180
	sd	0.265764	0.080629	0.105929	0.022337	0.112369	0.354118
	median	0.072915	0	-0.0029	0	0	0.506001
	mean	0.173577	-0.00378	-0.00789	-0.00133	-0.02437	0.494577
Total	N	1583	1583	1583	1583	1583	1583
	sd	0.23103	0.089237	0.141483	0.025247	0.113546	0.433756
	median	0.138607	0	0.000847	0	0	0.426376
	mean	0.204879	0.002475	0.008253	0.000259	-0.00034	0.469754

Table 21. Summary statistics for the ten biggest owners for dummy_one by year

year	stat	own1_p	own2_p	own3_p	own4_p	own5_p	own6_p	own7_p	own8_p	ownt9_p	own10_p
2007	N	2558	1057	405	202	115	71	55	43	34	29
	sd	0.164345	0.145493	0.067697	0.033745	0.022443	0.015411	0.015685	0.015097	0.014809	0.005554
	median	1	0.2	0.07	0.0324	0.0183	0.0128	0.01	0.0085	0.00515	0.0027
	mean	0.890591	0.208897	0.086955	0.040443	0.023445	0.016464	0.013974	0.012655	0.010417	0.005439
2008	N	2720	1103	424	210	126	73	62	48	40	34
	sd	0.163219	0.144143	0.065642	0.035221	0.023394	0.013819	0.014407	0.013353	0.013971	0.005729
	median	1	0.2	0.0729	0.0329	0.01765	0.0139	0.01	0.0089	0.0056	0.00375
	mean	0.89296	0.207514	0.087987	0.041994	0.023042	0.014928	0.013232	0.011972	0.010921	0.006027
2009	N	2817	1146	477	254	166	124	113	94	84	74
	sd	0.164248	0.145166	0.064595	0.034776	0.021348	0.013716	0.014734	0.010747	0.010727	0.005272
	median	1	0.1998	0.063	0.0268	0.01485	0.01	0.0077	0.00535	0.0047	0.00375
	mean	0.892515	0.20429	0.08003	0.037206	0.020924	0.013936	0.011321	0.0089	0.007777	0.005169
2010	N	2802	1132	453	248	164	119	111	93	80	71
	sd	0.162043	0.144175	0.078031	0.036386	0.023673	0.014841	0.012203	0.010946	0.0094	0.005606
	median	1	0.194115	0.0626	0.02585	0.0146	0.01	0.0073	0.0053	0.00405	0.0031
	mean	0.895029	0.202227	0.081395	0.037131	0.022237	0.014229	0.010554	0.008972	0.007343	0.005176

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2011	N	2746	1130	458	254	171	128	119	101	81	74
	sd	0.16284	0.142934	0.076861	0.036409	0.02124	0.013985	0.011956	0.010549	0.009198	0.005508
	median	1	0.19285	0.0657	0.0263	0.01467	0.0101	0.0073	0.0058	0.0038	0.0029
	mean	0.893209	0.201347	0.081526	0.037686	0.020771	0.013786	0.010448	0.008665	0.006856	0.005108
2012	N	2725	1154	458	244	173	128	112	97	80	73
	sd	0.162773	0.142491	0.078577	0.036828	0.021209	0.01455	0.012445	0.010706	0.009108	0.005361
	median	1	0.19175	0.0631	0.026	0.0155	0.01115	0.00785	0.0051	0.00335	0.0026
	mean	0.892696	0.197611	0.082726	0.037398	0.021132	0.014486	0.01104	0.008845	0.006873	0.005006
2013	N	2610	1094	428	227	161	121	106	92	80	71
	sd	0.161295	0.142551	0.078011	0.037188	0.020834	0.015239	0.012516	0.010716	0.008848	0.005371
	median	1	0.19215	0.06475	0.0262	0.0148	0.0107	0.0073	0.00485	0.00355	0.0029
	mean	0.894565	0.197673	0.081358	0.038149	0.020737	0.014689	0.011254	0.008612	0.006914	0.005269
2014	N	2542	1060	422	231	162	129	113	96	86	73
	sd	0.161743	0.143451	0.077659	0.037282	0.02201	0.014986	0.011371	0.009295	0.008655	0.009747
	median	1	0.1929	0.0631	0.0246	0.014435	0.01	0.0054	0.0043	0.0032	0.0026
	mean	0.894754	0.19891	0.081184	0.036824	0.021031	0.013767	0.009835	0.007683	0.006392	0.005878
Total	N	21520	8876	3525	1870	1238	893	791	664	565	499
	sd	0.162804	0.143795	0.073615	0.03601	0.021932	0.01453	0.012957	0.0111	0.01016	0.006237
	median	1	0.1968	0.0655	0.027497	0.0153	0.0106	0.0077	0.0054	0.0039	0.003
	mean	0.893295	0.202275	0.082802	0.038241	0.021545	0.014392	0.011155	0.009116	0.007504	0.005329

Table 22. Summary statistics for the ten biggest owners for dummy_one_two by year

year	stat	own1_p	own2_p	own3_p	own4_p	own5_p	own6_p	own7_p	own8_p	ownt9_p	own10_p
2007	N	665	665	406	184	109	64	44	35	31	23
	sd	0.075146	0.11393	0.091955	0.058818	0.037546	0.024652	0.019135	0.032127	0.013081	0.00605
	median	0.48	0.38	0.2	0.09985	0.0566	0.0262	0.01825	0.0157	0.0124	0.012
	mean	0.436585	0.380774	0.199269	0.1038	0.061321	0.034678	0.024382	0.021032	0.014901	0.011847
2008	N	680	680	409	201	111	70	44	32	29	25
	sd	0.074549	0.112797	0.088895	0.054529	0.036867	0.027352	0.017388	0.03305	0.011537	0.005758
	median	0.48	0.3825	0.2	0.1	0.058	0.0326	0.0167	0.016899	0.0135	0.01
	mean	0.437106	0.381534	0.200409	0.100975	0.06363	0.038384	0.022279	0.022128	0.015014	0.010726
2009	N	703	703	428	218	126	84	61	53	47	43
	sd	0.073631	0.11315	0.090196	0.054411	0.036226	0.024516	0.014701	0.024357	0.012276	0.013136
	median	0.48	0.3787	0.2	0.09655	0.05	0.0261	0.0178	0.0157	0.0122	0.01
	mean	0.437493	0.379272	0.196144	0.095476	0.057779	0.032752	0.020188	0.018793	0.01472	0.012321
2010	N	695	695	446	231	138	93	70	57	49	48
	sd	0.073645	0.113879	0.086758	0.056162	0.035188	0.024719	0.017486	0.009797	0.007705	0.013202
	median	0.4674	0.3587	0.2	0.0999	0.05155	0.027	0.0167	0.014	0.0108	0.0099
	mean	0.434982	0.372413	0.194122	0.099704	0.056629	0.033676	0.021382	0.015308	0.011711	0.011892

(table continues)

(continued)

2011	N	676	676	430	227	132	89	70	52	48	45
	sd	0.073816	0.113546	0.087168	0.054929	0.038408	0.026102	0.019087	0.01136	0.009424	0.013685
	median	0.46845	0.35935	0.2	0.0963	0.05145	0.0242	0.0173	0.0151	0.01125	0.0099
	mean	0.435274	0.373487	0.193751	0.098008	0.058432	0.032612	0.022587	0.016389	0.012455	0.011796
2012	N	641	641	414	223	128	89	69	56	52	48
	sd	0.072936	0.114034	0.087816	0.054946	0.038836	0.022394	0.017493	0.010643	0.008124	0.012853
	median	0.4731	0.35	0.2	0.095	0.05	0.0238	0.017	0.0127	0.01	0.0086
	mean	0.436803	0.371241	0.193175	0.096798	0.056679	0.028983	0.020796	0.014531	0.010582	0.010265
2013	N	614	614	404	221	130	87	67	55	51	47
	sd	0.073114	0.114048	0.089418	0.056191	0.038412	0.022921	0.017662	0.018818	0.008018	0.012904
	median	0.47	0.35	0.1989	0.09	0.04885	0.0246	0.015	0.0136	0.01	0.0085
	mean	0.435434	0.370022	0.192121	0.094939	0.05442	0.030094	0.019591	0.016599	0.010425	0.010056
2014	N	569	569	383	211	126	89	68	59	56	51
	sd	0.073202	0.112831	0.088547	0.058023	0.036511	0.022903	0.017832	0.011309	0.008296	0.013746
	median	0.462	0.35	0.2	0.0875	0.04745	0.0246	0.0145	0.0115	0.01	0.0069
	mean	0.43353	0.368554	0.194085	0.092905	0.052617	0.029271	0.019473	0.013998	0.010349	0.010381
Total	N	5243	5243	3320	1716	1000	665	493	399	363	330
	sd	0.07374	0.113554	0.088779	0.055942	0.037268	0.024446	0.017561	0.019229	0.009754	0.012377
	median	0.473444	0.3623	0.2	0.0967	0.05	0.0254	0.017	0.014	0.0108	0.0094
	mean	0.435953	0.374872	0.195373	0.097703	0.057514	0.032323	0.021164	0.016836	0.012183	0.011112

Table 23. Summary statistics for the ten biggest owners for dummy_gov by year

year	stat	own1_p	own2_p	own3_p	own4_p	own5_p	own6_p	own7_p	own8_p	ownt9_p	own10_p
2007	N	135	85	69	56	47	35	23	17	14	12
	sd	0.24602	0.125906	0.064822	0.043165	0.028808	0.023436	0.013651	0.014329	0.012591	0.011701
	median	0.795	0.2	0.0734	0.0544	0.0323	0.0192	0.0123	0.0085	0.0071	0.0058
	mean	0.743401	0.215057	0.096924	0.063895	0.03985	0.027489	0.016376	0.01454	0.010627	0.009657
2008	N	140	84	68	55	44	32	24	18	15	12
	sd	0.24227	0.123827	0.059792	0.043247	0.027094	0.023606	0.013465	0.013305	0.012244	0.011839
	median	0.8104	0.1976	0.0757	0.0538	0.03557	0.02575	0.01245	0.0084	0.0067	0.00465
	mean	0.7632	0.207649	0.092469	0.063392	0.041316	0.030519	0.016698	0.013108	0.010095	0.009347
2009	N	138	87	73	58	45	34	31	23	21	18
	sd	0.232887	0.12384	0.05807	0.044795	0.025839	0.016251	0.012876	0.013148	0.010553	0.010025
	median	0.795	0.1749	0.073	0.0483	0.0267	0.0191	0.0118	0.0101	0.0072	0.0058
	mean	0.75713	0.197185	0.086877	0.059882	0.03757	0.02472	0.016876	0.016465	0.009882	0.009325
2010	N	125	76	63	50	42	31	29	23	23	18
	sd	0.236874	0.129932	0.060259	0.044977	0.024856	0.016206	0.014196	0.013962	0.012004	0.012009
	median	0.795	0.18415	0.0707	0.0431	0.0258	0.0169	0.0118	0.0085	0.0072	0.00595
	mean	0.764395	0.199337	0.085051	0.057685	0.034751	0.022919	0.017554	0.015847	0.010688	0.010531

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(continued)

2011	N	138	87	70	55	47	37	30	25	23	19
	sd	0.230393	0.124294	0.059501	0.046934	0.026335	0.01393	0.012754	0.011986	0.008632	0.00857
	median	0.7947	0.1963	0.0736	0.05	0.0267	0.019	0.01235	0.0101	0.0072	0.006
	mean	0.76108	0.197022	0.088376	0.06069	0.036735	0.023519	0.017612	0.015807	0.009853	0.009055
2012	N	142	86	68	54	46	36	29	24	21	17
	sd	0.230961	0.121622	0.058183	0.047737	0.026454	0.014061	0.013032	0.012927	0.009577	0.009674
	median	0.7975	0.18415	0.0771	0.04755	0.0295	0.0191	0.0138	0.0102	0.009	0.0072
	mean	0.773722	0.191837	0.089058	0.060883	0.036709	0.023816	0.01816	0.016449	0.010963	0.01045
2013	N	145	91	73	59	50	40	33	28	25	19
	sd	0.233589	0.119924	0.061998	0.049934	0.025774	0.014377	0.012517	0.011925	0.009131	0.009166
	median	0.795	0.185	0.0752	0.0451	0.03275	0.0191	0.014	0.0098	0.008	0.0071
	mean	0.763949	0.190259	0.091598	0.060832	0.037251	0.024597	0.017647	0.015042	0.010569	0.010255
2014	N	139	87	68	57	50	42	35	28	24	20
	sd	0.227505	0.119905	0.058421	0.047159	0.025662	0.014852	0.012389	0.011262	0.010145	0.008444
	median	0.795	0.1963	0.0752	0.0451	0.0286	0.0181	0.0101	0.0084	0.0068	0.00595
	mean	0.773609	0.189972	0.087125	0.057836	0.034389	0.021766	0.014656	0.012285	0.010376	0.008493
Total	N	1102	683	552	444	371	287	234	186	166	135
	sd	0.234491	0.123209	0.059895	0.045764	0.026222	0.017285	0.012916	0.012595	0.010276	0.009835
	median	0.795	0.1857	0.0734	0.05	0.0323	0.019	0.01245	0.0089	0.0075	0.0061
	mean	0.762652	0.1984	0.089727	0.060661	0.0373	0.024792	0.016923	0.014954	0.010383	0.009629

Table 24. Summary statistics for the ten biggest owners for dummy_hold by year

year	stat	own1_p	own2_p	own3_p	own4_p	own5_p	own6_p	own7_p	own8_p	ownt9_p	own10_p
2007	N	117	72	43	31	26	21	18	13	11	9
	sd	0.236514	0.15995	0.076676	0.047938	0.018596	0.021992	0.00972	0.005427	0.004298	0.002254
	median	0.9052	0.2018	0.091	0.0366	0.0157	0.00838	0.00675	0.0036	0.003	0.0025
	mean	0.789729	0.223088	0.100531	0.053635	0.021605	0.017504	0.010747	0.005402	0.004643	0.00305
2008	N	134	76	45	33	27	20	19	11	10	9
	sd	0.235594	0.155774	0.079073	0.049771	0.02048	0.02187	0.012124	0.003143	0.002841	0.002093
	median	0.90005	0.242	0.09052	0.0384	0.0101	0.011353	0.0069	0.0047	0.0039	0.003
	mean	0.79397	0.237516	0.10815	0.053064	0.01998	0.018932	0.01056	0.00517	0.004295	0.003364
2009	N	139	80	51	39	34	29	25	23	22	20
	sd	0.226479	0.15551	0.0693	0.046719	0.022958	0.013335	0.010308	0.009626	0.009574	0.009811
	median	0.9	0.2018	0.0867	0.0357	0.0171	0.0107	0.0077	0.0051	0.0031	0.0023
	mean	0.797087	0.218674	0.092843	0.045301	0.022612	0.01397	0.009556	0.006873	0.005371	0.004519
2010	N	129	71	45	35	31	26	25	22	21	18
	sd	0.229431	0.151618	0.083834	0.048771	0.022506	0.013461	0.007976	0.004388	0.003914	0.002053
	median	0.96	0.2008	0.0887	0.0298	0.016421	0.00765	0.0069	0.00405	0.003	0.0014
	mean	0.805003	0.219101	0.101281	0.046376	0.021895	0.012823	0.007984	0.004649	0.003183	0.001932

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2011	N	124	66	42	32	26	23	22	19	16	14
	sd	0.228534	0.15052	0.087774	0.051465	0.019371	0.01402	0.011004	0.004319	0.001632	0.001177
	median	0.96205	0.2048	0.0935	0.0299	0.0164	0.0089	0.00545	0.0036	0.0022	0.001
	mean	0.808302	0.226395	0.108674	0.04697	0.02032	0.013317	0.008918	0.004316	0.00195	0.001286
2012	N	116	63	41	27	20	18	16	13	11	10
	sd	0.22433	0.15152	0.09045	0.046503	0.0248	0.015219	0.012037	0.006816	0.004685	0.003975
	median	0.96485	0.2	0.091	0.0298	0.017	0.01005	0.00645	0.004	0.0018	0.001
	mean	0.811323	0.222073	0.108258	0.043364	0.023987	0.013721	0.010194	0.006477	0.0032	0.00242
2013	N	111	56	37	26	20	19	17	13	12	11
	sd	0.216074	0.147966	0.088781	0.040334	0.024714	0.013003	0.022046	0.007541	0.012272	0.010024
	median	0.9787	0.1892	0.0905	0.0235	0.01555	0.0086	0.009	0.0036	0.00165	0.0006
	mean	0.827537	0.216742	0.096013	0.040654	0.024057	0.011753	0.014929	0.006354	0.007283	0.005064
2014	N	107	49	33	23	17	16	14	11	11	9
	sd	0.215557	0.145989	0.088096	0.040483	0.02628	0.017705	0.023212	0.007734	0.017512	0.01335
	median	1	0.1904	0.096	0.025	0.018	0.0108	0.0106	0.005	0.0036	0.0027
	mean	0.837471	0.217447	0.1084	0.041973	0.028165	0.01695	0.018229	0.007173	0.010355	0.007122
Total	N	977	533	337	246	201	172	156	125	114	100
	sd	0.226744	0.152068	0.08199	0.046588	0.022003	0.016261	0.013728	0.006478	0.008471	0.007006
	median	0.96	0.2008	0.0905	0.03415	0.0166	0.0101	0.007	0.004	0.003	0.0017
	mean	0.80782	0.223056	0.102715	0.046748	0.022472	0.014724	0.010903	0.005721	0.004796	0.003449

Table 25. Summary statistics for the ten biggest owners for dummy_notone_nottwo by year

year	stat	own1_p	own2_p	own3_p	own4_p	own5_p	own6_p	own7_p	own8_p	ownt9_p	own10_p
2007	N	168	166	166	162	135	113	99	79	70	63
	sd	0.061408	0.05727	0.092043	0.068681	0.048833	0.034459	0.030744	0.019876	0.016522	0.041685
	median	0.24285	0.18875	0.1493	0.121	0.0834	0.0604	0.0416	0.031	0.02485	0.0209
	mean	0.227531	0.176265	0.156769	0.135352	0.089253	0.065614	0.04868	0.034993	0.027055	0.028668
2008	N	171	168	167	166	137	112	96	84	74	69
	sd	0.063076	0.060009	0.095384	0.070426	0.050922	0.036569	0.030424	0.020107	0.015903	0.040268
	median	0.2431	0.190988	0.15	0.126969	0.0799	0.05985	0.0433	0.03325	0.02435	0.0196
	mean	0.226681	0.176297	0.162591	0.135972	0.089183	0.06498	0.049077	0.035376	0.026897	0.027173
2009	N	228	225	224	223	193	169	153	141	130	122
	sd	0.065999	0.061522	0.086366	0.068971	0.046969	0.034461	0.027719	0.018508	0.015077	0.031534
	median	0.24	0.1743	0.13945	0.1004	0.074	0.0522	0.0388	0.0302	0.02125	0.0169
	mean	0.221287	0.165909	0.146716	0.122822	0.079987	0.057913	0.043837	0.031904	0.024102	0.022511
2010	N	219	215	214	213	187	163	147	138	127	122
	sd	0.070277	0.060105	0.086748	0.067393	0.04813	0.036928	0.02771	0.017959	0.013947	0.030709
	median	0.2399	0.166	0.1363	0.1	0.0747	0.0529	0.04	0.03	0.0219	0.01815
	mean	0.222629	0.165324	0.14661	0.121661	0.08166	0.059793	0.044066	0.031248	0.023867	0.022108

(table continues)

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2011	N	213	209	207	207	183	160	145	135	128	124
	sd	0.067205	0.059016	0.086204	0.066781	0.048109	0.03227	0.026923	0.018381	0.014245	0.030558
	median	0.2372	0.165	0.132	0.1	0.0733	0.05235	0.0399	0.03	0.021	0.0183
	mean	0.22137	0.164561	0.144299	0.119595	0.08251	0.057029	0.043589	0.031396	0.023897	0.022499
2012	N	207	202	200	200	178	154	137	127	121	116
	sd	0.067944	0.057462	0.086861	0.064396	0.046091	0.032199	0.027792	0.018499	0.013686	0.030932
	median	0.23	0.1642	0.132	0.1	0.07685	0.0545	0.0416	0.0305	0.0241	0.01965
	mean	0.21933	0.165097	0.143289	0.119987	0.084128	0.060423	0.046004	0.033322	0.025383	0.02354
2013	N	197	192	190	190	169	142	127	119	112	107
	sd	0.070554	0.057884	0.087065	0.06352	0.045555	0.031338	0.02684	0.018181	0.013721	0.032037
	median	0.221	0.16315	0.132	0.10385	0.0783	0.0569	0.0437	0.0304	0.0237	0.0197
	mean	0.218143	0.163061	0.144021	0.121755	0.086049	0.062633	0.048289	0.033222	0.025533	0.024342
2014	N	180	178	175	176	158	135	122	116	108	102
	sd	0.069406	0.058244	0.088965	0.062504	0.046425	0.031496	0.02717	0.017246	0.012978	0.03279
	median	0.2212	0.16855	0.134	0.1059	0.07905	0.0569	0.04425	0.03	0.0203	0.0181
	mean	0.212764	0.165253	0.143729	0.121706	0.085959	0.06102	0.047777	0.031794	0.023416	0.022693
Total	N	1583	1555	1543	1537	1340	1148	1026	939	870	825
	sd	0.067208	0.059095	0.088507	0.066741	0.047522	0.033749	0.028002	0.018468	0.014375	0.03301
	median	0.2321	0.1743	0.14	0.104	0.0769	0.0545	0.0408	0.0303	0.02253	0.0188
	mean	0.221113	0.167342	0.148062	0.124339	0.084457	0.06079	0.046101	0.03265	0.02479	0.023714

Appendix C: Owners identified as the state or as a holding

Table 26. Owners identified as the state

NAME
D.S.U., DRUŽBA ZA SVETOVANJE IN UPRAVLJANJE, D.O.O.
DRI UPRAVLJANJE INVESTICIJ, D.O.O.
DUTB, D.D.
INSTITUT JOŽEF STEFAN
JAVNI MEDOBČINSKI STANOVANJSKI SKLAD MARIBOR
KAPITALSKA DRUŽBA, D.D.
KEMIJSKI INŠTITUT
KRAJEVNE SKUPNOSTI
MINISTRSTVA
NACIONALNI INŠTITUT ZA BIOLOGIJO
OBČINE
PDP, D.D.
REPUBLIKA SLOVENIJA
SLOVENSKI DRŽAVNI HOLDING, D.D.
SKLAD REPUBLIKE SLOVENIJE ZA RAZVOJ LJUBLJANE
SKLAD ZA FINANCIRANJE RAZGRADNJE NUKLEARNE ELEKTRARNE
SLOVENSKI REGIONALNI RAZVOJNI SKLAD
SLOVENSKA ODŠKODNINSKA DRUŽBA, D.D.
STANOVANJSKI SKLAD REPUBLIKE SLOVENIJE
UNIVERZA V MARIBORU
UNIVERZA V NOVI GORICI
UPRAVNE ENOTE

Table 27. Owners identified as holding companies

NAME
4U, TELEKOMUNIKACIJE Z DODANO VREDNOSTJO, D.O.O.
6 M HOLDING, D.O.O.
A1, INVESTICIJSKO UPRAVLJANJE, D.D.
A2A HOLDINŠKA DRUŽBA, D.O.O.
A2A POSLOVNO SVETOVANJE, D.O.O.
AB HOLDING POSLOVNO SVETOVANJE, D.O.O.
ABC POSVET, DRUŽBA ZA POSLOVNO SVETOVANJE, D.O.O.
ACH, DRUŽBA ZA GOSPODARJENJE Z NALOŽBAMI, D.D., LJUBLJANA
ACTIUM, UPRAVLJANJE NALOŽB, D.O.O.
ADRIA CAPITAL KOPER, FINANČNI INŽENIRING, D.D.
ADRIACOMMERCE, FINANCIRANJE, USTANAVLJANJE IN UPRAVLJANJE PODJETIJ, D.D.
ADVENA DRUŽBA ZA UPRAVLJANJE, D.O.O.
AG, DRUŽBA ZA INVESTICIJE, D.D.
AKTIVA NALOŽBE, INVESTIRANJE IN UPRAVLJANJE NALOŽB, D.D.
ALISIO HOLDING, D.O.O.
ALOK INVEST, DRUŽBA ZA INVESTIRANJE, D.O.O.
ALPE ADRIA INTERNATIONAL, MEDNARODNI REZERVACIJSKI SISTEM, TURIZEM IN TRGOVINA, D.O.O.
ALTA SKUPINA, UPRAVLJANJE DRUŽB, D.D.
APR INVESTIRANJE, DRUŽBA ZA INVESTIRANJE, D.O.O.
AUTOCOMMERCE, DRUŽBA ZA GOSPODARJENJE Z NALOŽBAMI, D.D., LJUBLJANA
BERTRO HOLDING, DRUŽBA ZA INVESTIRANJE, ZASTOPSTVO IN SVETOVANJE, D.O.O.
C.J.I. KOMERCIALNA SKUPINA PODJETJE ZA OPRAVLJANJE KOMERCIALNIH IN SKUPNIH OPRAVIL, D.O.O.
CA IB CORPORATE FINANCE, FINAN?NO SVETOVANJE, D.O.O.
CENTER NALOŽBE, FINANČNA DRUŽBA D.D.
CERTA PODJETJE ZA UPRAVLJANJE IN INVESTIRANJE, D.D.
CG INVEST, INVESTIRANJE IN UPRAVLJANJE NALOŽB, D.D.
COLLIS PLUS, UPRAVLJANJE NALOŽB, D.O.O.
CVS, DRUŽBA ZA UPRAVLJANJE, SVETOVANJE IN STORITVE, D.O.O.
D.P. STEKLARNA HRASTNIK DRUŽBA POOBLAŠČENKA, D.D.
DMK IN SINOVI, DRUŽBA ZA NALOŽBE, D.O.O.
DOMEL HOLDING DRUŽBA POOBLAŠČENKA, D.D.
DOMEL HOLDING, D.D.

(table continues)

(continued)

ELAN SKUPINA, HOLDINŠKA DRUŽBA, D.O.O.
ELAN, PROIZVODNJA ŠPORTNIH IZDELKOV, D.O.O.
EMONA - FARMA IHAN DRUŽBA POOBLAŠČENKA, D.D.
ENERGOPLAN HOLDING, DRUŽBA ZA UPRAVLJANJE IN FINANCIRANJE, D.O.O.
ENLUX, DRUŽBA ZA TRGOVINO, STORITVE IN NALOŽBE, D.D.
EQUITY POSLOVNE IN FINANČNE STORITVE, D.O.O.
ERA, DRUŽBA ZA UPRAVLJANJE, FINANCIRANJE IN STORITVE, D.D.
EUROIN FOND MANAGEMENT DRUŽBA ZA FINANČNI INŽENIRING IN SVETOVANJE, D.O.O., LJUBLJANA
EVRIA HOLDINGS DRUŽBA ZA FINANČNE NALOŽBE IN POSLOVNE STORITVE, D.O.O.
FACIG, UPRAVLJANJE DRUŽB IN SVETOVANJE, D.O.O
FINANČNA POT, UPRAVLJANJE NALOŽB, D.D.
FINANCE ZUPANC, FINANČNA DRUŽBA, D.D.
FINEA HOLDING DRUŽBA ZA UPRAVLJANJE, D.O.O.
FINIKS, FINANČNE INVESTICIJE, KOOPERACIJE IN STORITVE, D.O.O.
FINIRA, USTANAVLJANJE, FINANCIRANJE IN UPRAVLJANJE DRUŽB, D.D., LJUBLJANA
FINIRA, USTANAVLJANJE, FINANCIRANJE IN UPRAVLJANJE DRUŽB, D.O.O. LJUBLJANA
FINSTRO HOLDINŠKA DRUŽBA, D.O.O.
FMR FINANCIRANJE IN UPRAVLJANJE NALOŽB, D.D.
FMR HOLDING DRUŽBA POOBLAŠČENKA, D.D.
FMR PODJETJE ZA FINANCIRANJE, MARKETING IN RAZVOJ, D.D.
FORI SKUPINA, UPRAVLJANJE Z NALOŽBAMI, D.O.O.
FUNDAMENT SVETOVANJE IN INVESTICIJE, D.O.O.
GBD SKUPINA, FINANČNA DRUŽBA, D.D.
GEN ENERGIJA, D.O.O.
GENERA GROUP DRUŽBA ZA UPRAVLJANJE S PODJETJI, D.O.O.
GIP HOLDING, DRUŽBA ZA UPRAVLJANJE IN FINANCIRANJE, D.O.O.
HD +, FINANČNE STORITVE, D.O.O.,
HIDRIA, D.D. PODJETJE ZA USTANAVLJANJE IN UPRAVLJANJE DRUŽB
HIDRIA, D.O.O., PODJETJE ZA USTANAVLJANJE IN UPRAVLJANJE DRUŽB
HIDRIA FIN, UPRAVLJANJE NALOŽB, D.O.O.
HOLDING M & M, UPRAVLJANJE NALOŽB IN STORITVE, D.O.O.
HOLDING NARIS, UPRAVLJANJE DRUŽB IN NALOŽB, D.O.O.
HOLDING SLOVENSKE ELEKTRARNE, D.O.O.
HTI INVEST, HOTELI, TURIZEM, IGRALNIŠTVO IN INVESTICIJE, D.O.O.

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ID INVESTICIJE, INVESTICIJSKA DRUŽBA, D.O.O.
IDRA SC GRADNJE, D.O.O.
IMKO PROIZVODNJA, INŽENIRING, TRGOVINA, D.D.
IMOS HOLDING UPRAVLJANJE POVEZANIH DRUŽB, D.D., LJUBLJANA
IMPAKTA HOLDING, DRUŽBA ZA UPRAVLJANJE Z NALOŽBAMI, D.O.O.
INFOND HOLDING, FINANČNA DRUŽBA, D.D.
INSTALACIJE SILA NALOŽBE IN UPRAVLJANJE, D.O.O.
INTERCEMENT, UPRAVLJANJE NALOŽB, D.O.O.
INTERING HOLDING, SVETOVANJE, D.O.O.
ISKRA ELEKTRO IN ELEKTRONSKA INDUSTRIJA, D.D.
ISKRA INDUSTRIJA SESTAVNIH DELOV, D.O.O.
ISKRA INDUSTRIJA SESTAVNIH DELOV, D.D.
ISTRABENZ, HOLDINŠKA DRUŽBA, D.D.
JAVNI HOLDING LJUBLJANA, D.O.O., DRUŽBA ZA IZVAJANJE STROKOVNIH IN RAZVOJNIH NALOG NA PODROČJU GOSPODARSKIH JAVNIH SLUŽB
KD GROUP, FINANČNA DRUŽBA, D.D.
KD HOLDING, FINANČNA DRUŽBA, D.D.
KD KAPITAL, FINANČNA DRUŽBA, D.O.O.
KD KAPITAL, FINANČNA DRUŽBA, D.O.O..
KD, FINANČNA DRUŽBA, D.D.
KLS SI, DRUŽBA ZA UPRAVLJANJE, SVETOVANJE IN POSLOVNE STORITVE, D.O.O.
KLS, DRUŽBA ZA UPRAVLJANJE, SVETOVANJE IN POSLOVNE STORITVE, D.O.O.
KONTEUS INVESTICIJE, D.O.O
KOVINAR TRGOVINA IN STORITVE, D.D., KOČEVJE
KOVINOPLASTIKA LOŽ DRUŽBA POOBLAŠČENKA, D.D.
KRANJSKA INVESTICIJSKA DRUŽBA, D.O.O.
KRISTAL MARIBOR PROIZVODNJA, MONTAŽA IN TRGOVINA Z RAVNIM STEKLOM – 1921, D.D.
KRISTAL MARIBOR, PODJETJE ZA USTANAVLJANJE IN UPRAVLJANJE DRUŽB, TRGOVINO IN POSREDNIŠTVO, D.D.
KS NALOŽBE FINANČNE NALOŽBE, D.D.
M1, FINANČNA DRUŽBA, D.D., LJUBLJANA
MAKRO 5, INVESTICIJE IN UPRAVLJANJE Z DRUŽBAMI, D.O.O.
MAKSIMA HOLDING, D.D., FINANČNA DRUŽBA
MAKSIMA INVEST, FINANČNA DRUŽBA, D.D.
MEDALJON UPRAVLJANJE DRUGIH DRUŽB, D.D.
MEDVEŠEK PUŠNIK, DRUŽBA ZA UPRAVLJANJE, D.D.

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MERCATA, FINANČNA DRUŽBA, D.D., LJUBLJANA
MERFIN, HOLDINŠKA DRUŽBA, D.O.O.
MER-PROJEKT, UPRAVLJANJE NALOŽB, D.O.O.
METALKA ZASTOPSTVA HOLDING PODJETJE ZA UPRAVLJANJE, ZASTOPANJE IN STORITVE, D.D.
METREL DUS DRUŽBA ZA UPRAVLJANJE IN SVETOVANJE, D.D.
MODRA LINIJA HOLDING, FINAN?NA DRUŽBA, D.D.
MOHAR SATLER INVESTICIJE DRUŽBA ZA SVETOVANJE IN INVESTIRANJE, D.D.
MT INVEST DRUŽBA ZA INVESTIRANJE, D.O.O.
NFD HOLDING, FINANČNA DRUŽBA, D.D.
NOVO TIVOLI, IGRE NA SREČO NA IGRALNIH AVTOMATIH, TRGOVINA IN STORITVE, D.O.O.
NOVOLINE, UPRAVLJANJE IN SVETOVANJE, D.O.O.
NOVUS, NALOŽBENO PODJETJE, D.D.
ONYX GROUP TRŽENJE IN STORITVE, D.O.O.
PAPIRUS, HOLDING, D.O.O.
PC IZBIRA TRGOVINA IN DRUGE STORITVE, D.O.O.
PERIKLEJ, FINANČNE NALOŽBE, D.O.O.
PIVKA, DRUŽBA POOBLAŠČENKA, D.D.
POM-INVEST, DRUŽBA ZA INVESTIRANJE, D.D.
POM-INVEST, DRUŽBA ZA INVESTIRANJE, D.D.
POMORSKA DRUŽBA, UPRAVLJANJE HOLDING DRUŽB, D.D., PORTOROŽ
POTEZA SKUPINA, HOLDING PODJETJE, D.D., LJUBLJANA
PREVENT NT PODJETJE ZA NOVE TEHNOLOGIJE, D.O.O.
PRIMORJE HOLDING, D.D.
PRODROMOS, POSLOVNE STORITVE, D.O.O.
PROHOLDING, NALOŽBE IN UPRAVLJANJE, D.O.O.
PROPHETES PARTNERSKA DRUŽBA ZA FINANCIRANJE IN RAZVOJ, D.D. PROPHETES, PARNERISED COMPANY FOR FINANCING AND DEVELOPMENT INC.
PSL STORITVE, FINANČNA DRUŽBA, D.D.
PSU POSLOVNE STORITVE, UPRAVLJANJE, D.O.O.
PUBLIKUM HOLDING, UPRAVLJANJE DRUŽB, D.O.O.
PUBLIKUM, DRUŽBA ZA INVESTICIJE, D.D.
QUADRO, DRUŽBA ZA UPRAVLJANJE INVESTICIJ, D.O.O.
RADGONSKE GORICE - SKUPNOST, DRUŽBA POOBLAŠČENKA, D.D.
REPRO-PHARM, DEJAVNOST HOLDINGOV, D.O.O.
RIALTO INVESTICIJE, D.O.O.

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S.T.HAMMER, DRUŽBA ZA INVESTICIJE, D.O.O.
SAVA, DRUŽBA ZA UPRAVLJANJE IN FINANCIRANJE, D.D.
SAVAPRO, HOLDING, D.O.O.
SIRINGA TRGOVSKO PODJETJE, D.O.O.
SIVENT, DRUŽBA TVEGANEGA KAPITALA, D.D., LJUBLJANA
SIVENT, USTANAVLJANJE, FINANCIRANJE IN UPRAVLJANJE DRUŽB, D.D., LJUBLJANA
SKIMAR, FINANCIRANJE IN RAZVOJ, D.O.O.
SKUPINA CLAAS, TRŽENJE IN INVESTICIJE, D.D. LJUBLJANA
SKUPINA FMC, HOLDINŠKA DRUŽBA, D.O.O.
SKUPINA KOVINAR, HOLDINŠKA DRUŽBA, D.D., KOČEVJE
PRVA GROUP, INSURANCE HOLDING COMPANY, PLC.
SKUPINA TUŠ, UPRAVLJANJE DRUŽB IN NALOŽB, D.O.O.
SLOVENSKE ŽELEZNICE, D.O.O.
S-REAL, DRUŽBA ZA INVESTICIJE, D.D.
STH HOLDING, DRUŽBA ZA INVESTICIJE, D.D.
SUROVINA HOLDING, DEJAVNOST HOLDINGOV, D.D.
TMK INVESTICIJE DRUŽBA ZA RAZVOJ IN UPRAVLJANJE INVESTICIJ, D.O.O.
TOM TOVARNA OPREME, D.D.
TOMOS INVEST, D.O.O., DRUŽBA ZA UPRAVLJANJE Z NALOŽBAMI
TOMOS, D.O.O., PROIZVODNJA DVOKOLES IN KOMPONENT, KOPER
TOMPLAST PREDELAVA TERMOPLASTOV, D.O.O.
TP CONSULTING DEJAVNOST HOLDINGOV, D.O.O.
TRDNJAVA HOLDING, FINANČNA DRUŽBA, D.D.
TRIGLAV INT, HOLDINŠKA DRUŽBA, D.D.
TUŠ HOLDING, UPRAVLJANJE DRUŽB IN NALOŽB, D.O.O.
ULTRALES SKUPINA, INVESTIRANJE IN SVETOVANJE, D.O.O.
UNICREDIT CAIB SLOVENIJA, FINANČNO SVETOVANJE, D.O.O.
VERITAS B.H. BORZNO POSREDNIŠKA HIŠA, D.O.O.
VIESTE RAZVOJNA DRUŽBA, D.O.O.,
VIPA DRUŽBA ZA FINANČNO POSLOVANJE IN RAZVOJ, D.D.
VIPA DRUŽBA ZA FINANČNO POSLOVANJE IN RAZVOJ, D.D. NOVA GORICA
VIPA HOLDING, D.D.
VITA HOLDING, D.O.O., DRUŽBA ZA UPRAVLJANJE PODJETIJ
W & P PROFIL - SOLARVALUE HOLDING, DRUŽBA ZA UPRAVLJANJE, D.O.O.
ZAFINA, HOLDING DRUŽBA, D.O.O.
ZDRAVILIŠČE ROGAŠKA ZDRAVSTVO, HOTELI, TURIZEM IN UPRAVLJANJE HOLDING DRUŽB, D.D.
ZENERGO, UPRAVLJANJE INVESTICIJ, D.O.O.

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ZRMK HOLDING, D.D.
ŽELEZAR ŠTORE D.P. DELNIŠKA DRUŽBA POOBLAŠČENKA, D.D.