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SCHOOL OF ECONOMICS AND BUSINESS

MASTER'S THESIS

IMPACT OF FOREIGN DIRECT INVESTMENT ON THE INSURANCE SECTOR IN SLOVENIA

Ljubljana, January 2022   KRISTINA PEROVŠEK

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LIST OF ABBREVIATIONS

BoP – Balance of Payments

CEE – Central and Eastern Europe

CEECs – Central and Eastern East European countries

CIS – Commonwealth of Independent States

EIOPA – European Insurance and Occupational Pensions Authority

FDI – Foreign direct investment

FE – Fixed effects

GDP – Gross domestic product

LDC – Least developed country

M&A – Mergers and acquisitions

MNC – Multinational corporation

OECD – Organisation for Economic Co-operation and Development

OFCs – Offshore financial centers

OLS – Ordinary least squares

R&D – Research and development

RE – Random effects

SIA – Slovenian Insurance Association

SIT – Slovenian tolar

SKD – Standard Classification of Activities

INTRODUCTION

It is widely acknowledged that the presence of multinational corporations brings a significant effect on host markets. Multinationals have different motives to enter a new market and they influence a host country in different dimensions (Forte & Sarmento, 2014). That includes prices and wages, cross-country mobility of goods, efficiency, and investments. In a relatively small economy as Slovenia, the consequences of foreign direct investment can be even more noteworthy when the share of foreign entities is significant.

According to the existing literature, foreign direct investment (FDI) is expected to have a significant impact on the domestic market structure. However, the direction of the influence is not certain. Some literature claims that, due to the entry of foreign companies, foreign direct investment may reduce market concentration and boost competition. On the other hand, other papers argue that FDI may reduce competition because foreign entities tend to have more assets and greater possibilities to gain market share (Forte & Sarmento, 2014).

Several recent papers investigate the impact of FDI in the insurance or financial sector, yet there is an absence of studies in the Slovenian market.

In 2019, less than 2% of all firms registered in Slovenia were firms with FDI, which generated almost one-quarter of total capital (24.3%) (Banka Slovenije, 2020a). In 2020, the stock of inward FDI in Slovenia increased by 2.4% in the previous year. The total stock of inward FDI in 2020 is equivalent to 35.3% of the country's GDP. The growth rate in 2020 compared to previous years is relatively modest due to the COVID-19 health crisis. Between 1994 and 2020, growth in inward FDI averaged 11.5%. In 2020, foreign entities employed almost one-quarter of total employees (23.5%) in the entire corporate sector (Banka Slovenije, 2021). These numbers illustrate the importance of foreign direct investment in Slovenia.

Almost a quarter of all inward FDI in Slovenia (22.5%) in 2020 generated financial and insurance activities. The insurance industry has grown significantly in the recent few decades. The value of insurance premium reached 2.517 million euros in 2019. In the following year 2020, the number even increased to 2.568 million euros, the highest level to date (Slovenian Insurance Association, 2020). In the last 10 years (from 2010 to 2020), the annual gross insurance premiums grew by 19%. The industry is relatively highly concentrated - the top seven insurance providers were accounted for around 80% of total sales in 2019 (Slovenian Insurance Association, 2020).

As mentioned, the insurance and financial sectors in Slovenia are attractive to foreign players for investment. In the Slovenian insurance market, several changes have occurred concerning present providers in the past decade. If I name a few, in 2016, a new company (Zavarovalnica Sava) was formed as a merger of four smaller insurance providers - Zavarovalnica Maribor, Zavarovalnica Tilia, Velebit osiguranje, and Velebit življotno

osiguranje. Further, an important acquisition occurred in 2019 when the Italian company Generali acquired a local insurance provider Adriatic Slovenica (Slovenian Insurance Association, 2020). According to Slovenian Insurance Association (2020), local provider Adriatic Slovenica had had a market share of 12% at that time, while Generali's had been around 4% before the acquisition. To add more, in 2019, the French company Coface acquired a Slovenian insurance provider, SID – Prva kreditna zavarovalnica, which had previously been part of SID bank.

Hence mentioned all that, I believe it would be relevant to analyze the impact of FDI on the insurance sector in Slovenia.

The purpose of this master's thesis is to analyze the impact of foreign direct investment on the insurance sector in Slovenia.

Therefore, the objectives of this thesis are: (1) to discover whether FDI has had any impact on the host country's market structure in the case of the insurance industry in Slovenia, and (2) to determine what characteristics of market structure (such as market growth, company efficiency, and market size) have been affected by FDI.

To verify whether there is an impact of FDI on the insurance sector in Slovenia, the two following research questions will be explored:

− Does inward FDI impact the local market structure?
− How does the presence of MNCs influence the local market structure?

Based on the research questions of the thesis, therefore, the hypotheses are as follows:

− Hypothesis 1: MNCs intensify market concentration through foreign direct investment.
− Hypothesis 2: The higher efficiency of MNCs increases market concentration.

To analyze the impact of FDI on the insurance sector in Slovenia, I use data for the whole financial sector to have a more representative sample. The financial sector includes the banking sector, the insurance sector, the securities market sector, and the asset management industry which includes managing investment funds.

The data is collected from providers' annual reports and Slovenian Insurance Association's reports for the 2005-2020 period. Based on the data, I estimate a model with both cross and time fixed effects applied to balanced panel data.

In total, I identified 72 providers in the financial sector in the 2005-2020 period; this includes 22 different banks and saving banks, 25 different insurance and reinsurance providers, 15 players in the asset management industry, and 10 different providers in the Slovenian securities market sector.

The dependent variable is a measure of market concentration which is measured in two ways: (1) the market concentration ratio of the four largest firms and (2) the Herfindahl-Hirschman index. The independent variables are, in addition to the foreign revenue share within the industry, market size, market growth, and minimum efficiency. The model includes two dummy variables – annual dummy and type of industry.

I believe this thesis contributes to the existing literature not only by providing another analysis on the topic but also by focusing on a region that has not been researched much in this matter. Slovenia makes an interesting case study for several reasons. First, it has been witnessing average growth in inward FDI in the recent few decades. Secondly, the concentration rate in the financial (and only in the insurance sector) is relatively high because many foreign entities increased their market share through mergers and acquisitions. Thirdly, Slovenia as a developed country has a high level of prosperity and stability and could even further attract a higher level of FDI inflows in the upcoming years.

The structure of the master's thesis is organized into four chapters. In the first chapter, I explain the motives of companies to enter new markets, present the impact of multinationals on the host country, and elaborate on the connection between FDI and market concentration on a global level. The second chapter provides an overview of the insurance sector in Slovenia. In the third chapter, I explain the used model to verify hypotheses and the used variables. Gathered data and the methodology of the thesis are presented. Chapter four provides the results of the analysis and their interpretation.

1   FDI AND MULTINATIONAL CORPORATIONS

Recent development in market liberalization, information technology, and deregulation globally have fueled a significant growth of multinational corporations (MNCs) (Rugman & Verbeke, 2004). Globalization has favored corporations by enabling MNCs to enter new markets faster and by affording them an easier start of operations in foreign countries (Forte, 2013). Multinational corporations are perfectly placed to exploit the differences in the international integration of markets. Multinationals achieve that through foreign direct investment, cross-border investment in the form of controlling ownership (Rugman & Verbeke, 2004).

The concept of the multinational corporation is largely used in literature where different classifications and definitions are used. To understand the core meaning and understanding of an MNC, therefore, more definitions are described below.

According to Ghoshal and Bartlett (1990) and Caves (1996), a multinational corporation is defined as a group of geographically distributed businesses where its headquarters and subsidiaries are located in different countries. Michel & Shaked (1986) classify entities as multinational if foreign sales are equal to 20% of total revenues or more, or if direct capital investment exists in at least six other countries outside the country where headquarters are

located. Another source defines a multinational company as a business that successfully and efficiently transfers its knowledge across borders (Kogut & Zander, 1993). Markusen (1995) uses different definitions of an MNE – the author defines multinationals as firms that engage in foreign direct investment.

A multinational enterprise is defined as an instrument to generate and transfer knowledge, according to Heaton (2016). Due to lower resource costs and better control over professional secrecy MNEs gain an advantage and are more efficient on a global scale (Heaton, 2016).

Transaction costs theory offers another explanation for the multinational enterprise (Caves, 1996; Pitelis & Sugden, 2000). An MNE is described as a business that uses hierarchical methods of coordination to organize cross-national interdependencies (Pitelis & Sugden, 2000). If perfect competition and symmetric information exist in the market, there would not be transaction costs. In practice, however, market transaction costs exist due to individuals' tendency towards opportunism. These costs include the sum of information, enforcement, and bargaining costs (Caves, 1996; Pitelis & Sugden, 2000). Therefore, MNEs use hierarchy to eliminate these costs – multinationals arise to reduce transaction costs and internalize non-financial externalities (Pitelis & Sugden, 2000).

Many papers (Markusen, 2004; Honglin Zhang & Markusen, 1999) separate MNEs into two groups, vertical and horizontal organizations. Vertical corporations are the sum of geographically fragmented firms of different productions while horizontal firms replicate the same activities in different locations (Markusen, 2004).

MNEs represent a significant percentage of global economic activities and there is a trend of growing production by foreign affiliates as seen in Figure 1 (OECD, 2018).

Figure 1: Foreign affiliates' gross output and their share in global output, 2000 – 2014
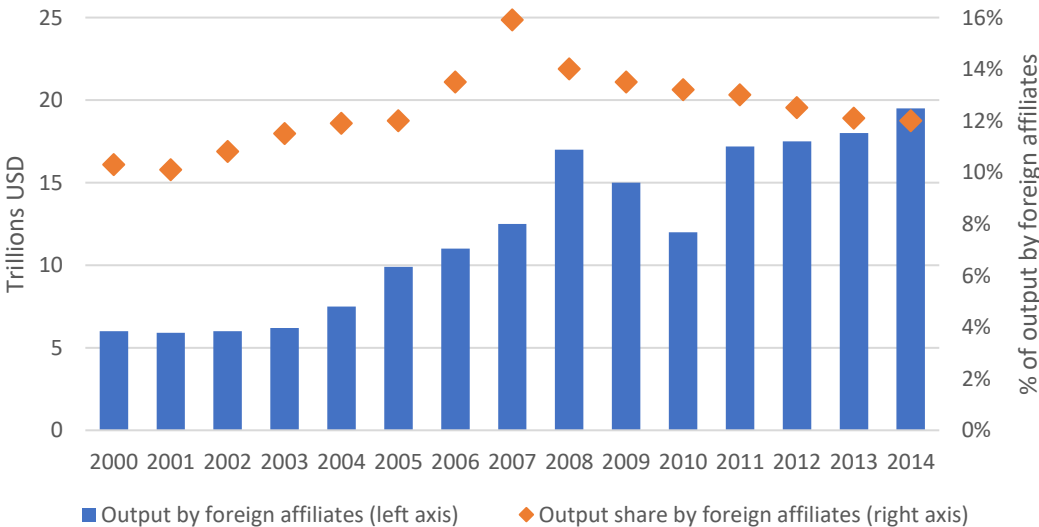
Source: OECD (2018).

According to Figure 1, the global gross output of foreign affiliates increased from 7 to 20 trillion USD (OECD, 2018). There was a continuous growth from 2000 to 2007; in the year 2007, output by foreign affiliates was around 16% of total output, as seen from the right axis in Figure 1. As seen in Figure 1, in 2008, there was a decrease in the output share of foreign affiliates due to the global economic crisis. However, in the post-crisis period (2010 – 2014), the output of foreign affiliates is growing again with an average annual growth rate of 5% (8 percentage points lower than in the pre-crisis period – 13%) (OECD, 2018).

The number of present MNEs has also been growing in the past century (OECD, 2008; Jaworek & Kuzel, 2015). At the beginning of the 20th century, there were around 2.500 MNEs present, in 1970 around 30.000 MNEs, in 2000 approximately 63.000 MNEs globally (OECD, 2008; Jaworek & Kuzel, 2015). A later approximation of the total number of MNEs for 2010 puts the number at around 100.000 MNEs with more than 800.000 subsidiaries (OECD, 2008; Jaworek & Kuzel, 2015).

As the number of MNEs has been rising over the years, so is their size and weight in the global economy. In the years 2005, 2006, and 2007, 100 of the largest MNEs accounted for 10%, 16%, and 12%, respectively (Serfati, 2008).

According to OECD (2014), MNEs accounted for more than half of global exports, and 49% of global imports. Figure 2 represents what percentage of gross output was generated by multinational corporations.

Figure 2: Decomposition of global gross output of ownership status, 2014
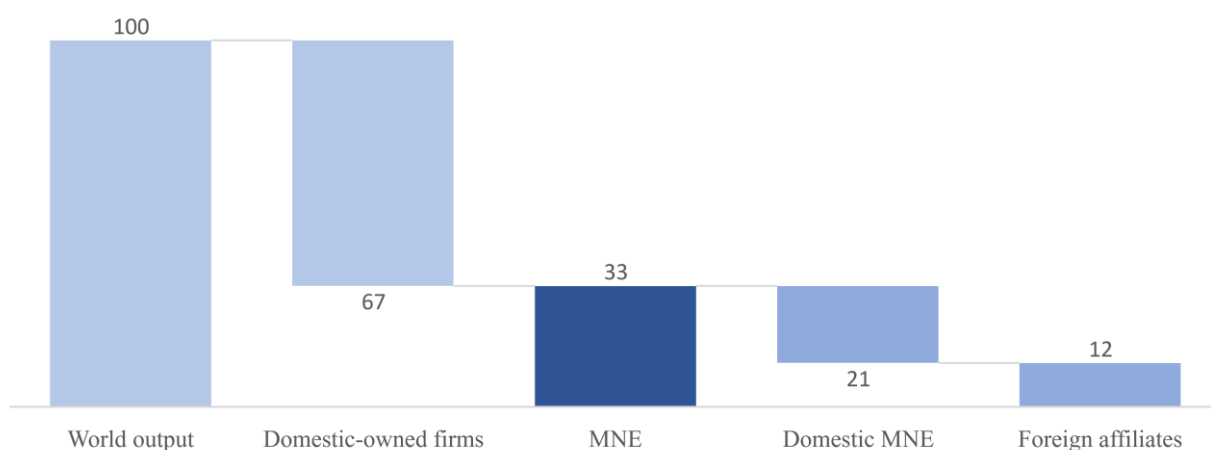
Source: OECD (2014).

Figure 2 shows that in 2014 MNEs contributed a third (33%) to total global GDP (OECD, 2018). Almost a third (60%) of the global input by foreign affiliates consists of intermediate goods or services.

However, there are different ways of measuring the largest multinational corporations because there are different definitions of MNCs. Murphy, Haverstock, Gara, Helman and Vardi (2021) categorize the world's largest entities for Forbes' Global 2000 list by measuring four equally weighted metrics: assets, market value, sales, and profits.

Table 1: Ten largest world companies according to Forbes' Global 2000 list, the year 2020

Rank	Name	Country	Sales (in B $)	Profit (in B $)	Assets (in B $)	Market value (in B $)
1	ICBC	China	190.5	45.8	4,914.7	249.5
2	JPMorgan Chase	United States	136.2	40.4	3,689.3	464.8
3	Berkshire Hathaway	United States	245.5	42.5	873.7	624.4
4	China Contruction Bank	China	173.5	39.3	4,301.7	210.4
5	Saudi Arabian Oil Company (Saudi Aramco)	Saudi Arabia	229.7	49.3	510.3	1,897.2
6	Apple	United States	294.0	63.9	354.1	2,252.3
6	Bank of America	United States	98.8	17.9	2,832.2	336.3
6	Ping An Insurance Group	China	169.1	20.8	1,453.8	211.2
9	Agricultural Bank of China	China	153.9	31.3	4,159.9	140.1
10	Amazon	United States	386.1	21.3	321.2	1,711.8

Source: Murphy, Haverstock, Gara, Helman & Vardi (2021).

As seen from Table 1, five of the ten largest world companies in the year 2020 from Forbes' Global 2000 list are based in the United States (Murphy, Haverstock, Gara, Helman & Vardi, 2021). Four of the entities from the list have headquarters in China and one originates from Saudi Arabia. The MNE with the highest sales in 2020 is Amazon, with 386.1 billion USD sales. Apple captured the highest profit in 2020, which is equal to 63.9 billion USD.

Foreign direct investment (FDI) can be generally defined as a long-term investment by a firm in one country into an entity located in another country. This type of investment has a motive of a lasting interest in invested business, and at least ownership of 10% or more of the voting power (European Commission, 2021). If an investor does not own at least 10% of the investment object, this is called portfolio investment (European Commission, 2021; Davies, Desbordes & Ray, 2018).

British economist John H. Dunning developed an eclectic paradigm (also known as the OLI paradigm) which explains the attractiveness of making a foreign direct investment (da Cruz, Floriani & Ama, 2020). The framework follows three advantages to explain why a firm decides for FDI. These advantages are ownership, location, and internationalization advantages. According to da Cruz, Floriani and Ama (2020), the OLI paradigm is appropriate to explain diverse and complex sub-national business environments, especially for large and decentralized markets. Politics add even more complexity to a sub-national business environment. This is considered as a "non-internalizable" element that

multinationals need to deal with by adapting active agency so that firms survive and maintain competitive advantages over their competitors (da Cruz, Floriani & Ama, 2020).

We differentiate two types of FDI. Firstly, greenfield investment is a sort of FDI where a new firm is formed in a new country (European Commission, 2021). An MNE establishes a new subsidiary and uses its international capabilities in a new market (Davies, Desbordes & Ray, 2018). Secondly, M&A (mergers and acquisitions) is defined as investing in an existing business in another country (European Commission, 2021). Therefore, a multinational corporation transfers its know-how and resources to an established entity abroad (Davies, Desbordes & Ray, 2018).

Another differentiation of FDI is into a vertical and horizontal type of foreign investment. According to Beugelsdijk, Smeets and Zwinkels (2008), vertical FDI is commonly related to MNEs' motivation to pursue low-skilled labor-intensive production activities in locations that are relatively abundant with low-skilled labor. Multinational corporations take advantage of international factor price differences and companies to disperse their production processes geographically (Beugelsdijk, Smeets & Zwinkels, 2008). In other words, MNEs consider vertical FDI in countries with lower wages, smaller markets, and those which are geographically closer to headquarters (Fukao & Wei, 2008).

On the other hand, horizontal FDI occurs when an MNE wishes to replace exporting and wants to place production facilities closer to final consumers. With this type of FDI, a firm lowers transportation costs and trade barriers (Beugelsdijk, Smeets & Zwinkels, 2008). Horizontal FDI is more common in larger markets and in countries that have a greater distance between a home country and a host country (Fukao & Wei, 2008). Further, countries with a significant level of local skills are more interesting in horizontal foreign direct investment (Fukao & Wei, 2008).

Research by Beugelsdijk, Smeets and Zwinkels (2008) analyzes potential differences in the effects of vertical and horizontal FDI on host-country growth. The article suggests that horizontal FDI might create more significant effects on growth in a host country than vertical foreign direct investment. This is due to the higher intensive usage of capital and knowledge in the local country with horizontal FDI (Beugelsdijk, Smeets & Zwinkels, 2008).

According to Davies, Desbordes and Ray (2018), FDI is found to seek out large markets with low international barriers. Further, this type of investment is a driver of competitiveness and economic development (European Commission, 2021).

1.1 Motivations of MNCs to enter new markets

The foreign direct investment (FDI) motives of MNCs are commonly driven by four main factors (Carril-Caccia & Pavlova, 2018; Dunning & Lundan, 2008).

The first motivation is called the production-cost motive. Efficiency-seeking MNCs are mainly driven by lower labor costs and higher productivity or, in other words, by differences in traditional factor endowments in different countries (Dunning & Lundan, 2008). Companies rationalize geographically dispersed activities in a given region through relocating to host countries with low factor costs and regrouping activities in search of economies of scale or scope. In other words, an MNC opens new businesses in more cost-effective locations, fragments its operations, and locates individual parts according to cost advantages (Annan-Diab & Filippaios, 2017; Dunning & Lundan, 2008; Gao & Schaaper, 2019).

Secondly, asset-seeking FDI is driven by access to new, complementary resources, and capabilities (Dunning & Lundan, 2008). The motive, also called the rate of returns motive, is a firm's desire to improve or expand its existing technologies, managerial skills, or labor force (Carril-Caccia & Pavlova, 2018; Dunning & Lundan, 2008). Therefore, rates of return to capital investments may differ internationally – capital-poor countries may offer a higher rate of return to international capital than capital-rich countries (Dunning & Lundan, 2008). FDI in this case is used especially to avoid expropriation risk and informational asymmetries (Dunning & Lundan, 2008).

The third motive is the desire for access to natural resources (resource-access motive) (Dunning & Lundan, 2008). The main motivation of a firm is the acquisition of particular resources which are not available in the home country or are available in the home country for a higher cost (Carril-Caccia & Pavlova, 2018). This motive could be categorized into three subgroups. Firstly, there is seeking access to physical resources. This means that businesses are driven by cost minimization and security of supply sources. The second subgroup is seeking supplies of cheap and well-motivated low-skilled or semi-skilled labor – this kind of FDI is usually undertaken by manufacturing MNEs from countries with high real labor costs. The third subgroup captures the need of firms to acquire technological capability, management, and marketing expertise, as well as organizational skills (Dunning & Lundan, 2008).

The fourth motive is market access. Companies seek access to promising new markets (Dunning & Lundan, 2008). MNCs have a motive to increase both their global market share and their revenue and to lower transportation costs or other barriers to trade (e.g. tariffs) (Dunning & Lundan, 2008). In the case of this motive, horizontal FDI is a common practice (Carril-Caccia & Pavlova, 2018).

According to Dunning and Lundan (2008), there are additional motives that cannot be categorized in the four main groups:

− *Escape investment*. Firms use FDI to escape legislation policies by the home country's government.
− *Support investment* is a type of FDI which are motivated by supporting the other activities of a business. This type of investment could be divided further into 2 groups which are trade- and finance-related investments, which are essentially designed to support and facilitate the exports of a firm's goods or services as the name explains it as well.
− *Passive investment*. Firms invest abroad to provide passive income. An example of passive income is an investment in real estate (Dunning & Lundan, 2008).

Park and Choi (2014) analyze FDI motivations and knowledge acquisitions from multinational corporations in their overseas subsidiaries. The authors conclude that when multinational corporations invest in host countries, the exchange of knowledge on different levels is present. Invested subsidiaries offer headquarters (an MNE) information about the local market while an MNE uses its technological capabilities and managerial expertise in subsidiaries (Park & Choi, 2014).

Hanson (2001) stresses that the motivation of MNEs to enter new markets is correlated with a situation of a host country. MNEs are sometimes more likely to invest in a host country due to its strategic situation (Hanson, 2001). For instance, this strategic situation could be an important financial center, technologically-developed area, areas that enable integration to world trade (Hanson, 2001). Areas that have access to unique characteristics are also more attractive to MNEs for FDI (Hanson, 2001).

One of the motivations of MNEs for FDI is also preferential tax treatment in the host country (Carbaugh, 2002). Some nations attract foreign manufacturers to set employment-generating facilities by e.g. providing grant subsidies or free factory buildings (Carbaugh, 2002). This can also lead to the presence of a multinational corporation in a specific country. It results in a loss of its national sovereignty (Carbaugh, 2002). According to Carbaugh (2002), a corporation uses accounting techniques and shifts profits overseas into countries with the lower profit tax rate and, therefore, an MNE avoids paying taxes in a country with higher tax rates.

Transfer pricing is another example of why MNEs are motived to use FDI. In many cases, enterprises seek profit maximization which could be achieved through tax optimization (Carbaught, 2002). Transfer pricing means shifting the profits of a multinational corporation from a less to the most favorable country in terms of the tax rate. In other words, MNEs use the foreign direct investment to have subsidiaries in tax havens to reduce their overall tax burden.

Carbaugh (2002) provides an example of a German corporation with FDI in Ireland and the USA.

Figure 3: Transfer pricing

GERMANY Tax rate = 48 %	IRELAND Tax rate = 4 %	USA Tax rate = 34 %
A computer is produced by a parent company where total costs are equal to 2.000 €. Later, the product is sold to the firm's Irish subsidiary for 2.000 €. Tax is equal to 0 €.	Irish subsidiary resells the same computer further to the firm's subsidiary in the US for 2.500 € and makes a profit of 500 €. Tax is equal to 20 €.	The subsidiary in the US sells the computer to the final consumer for 2.500 €. There is no profit. Tax is equal to 0 €.

Source: Carbaugh (2002).

Figure 3 represents a hypothetical case of how MNEs can transfer their profits from countries with higher tax rates to countries with lower tax rates (Carbaugh, 2002). In this case, the Irish subsidiary lends money to the subsidiary in the US and the tax is paid in a country with the lowest tax rate (Carbaugh, 2002).

Some authors (Tombak, 2004; Tallman, 1991) have been researching the motivation of MNEs to impact the host country's market structure, and the conclusions are mixed. Tombak (2004), for instance, analyzes why a firm acquires other firms to achieve a monopoly. The author stresses that in most cases, the firm strives firstly to purchase the most efficient rival and one of the reasons why is to reduce the profits of the acquired firms. This impedes the reduction of asymmetry in the market and profit starts flowing into the hands of the acquiring firm. The second reason for FDI is that it reduces the subsequent purchase prices while also diminishing the reservation values of future targets. Furthermore, higher market power is also a strong motivation for horizontal mergers (Tombak, 2004). Some studies stress that MNCs do not directly intend to influence the host country's market but they still have an impact on it because of their competitive advantage (Tallman, 1991).

1.2 The impact of MNCs presence on the host country

As seen, globalization can be a positive concept at least for global market entities.

Xu (2000) investigates whether the financial development of a country (taking into account domestic investment) influences economic growth. His research shows strong evidence that financial development is highly correlated with GDP growth in a country (Xu, 2000). In

other words, domestic investment is a crucial factor in how a country's financial development affects economic growth positively (Xu, 2000). Investment, in general, is one of the most important economic processes and is one of the most crucial components of economic growth in a country (Bakari, 2017; Fischer, 1993). Fischer (1993) claims that investment increases the rate of growth in a country.

Chowdhury and Mavrotas (2006) and Beugelsdijk, Smeets and Zwinkels (2008) stress that FDI has a positive impact on economic growth. Foreign direct investment affects the quality of growth with its elements and reduces poverty. FDI generates revenue that may support the better development of a country. Chowdhury and Mavrotas (2006) investigate whether the presence of FDI impacts economic growth in developing countries and the authors conclude that there is causality in the case of Malaysia and Thailand while in Chile it is not confirmed (Chowdhury & Mavrotas, 2006). Beugelsdijk, Smeets and Zwinkels (2008) investigate developed countries but the conclusions are similar. Both types of FDI (vertical and horizontal) have a significant positive effect in investigated countries. In addition, the authors conclude that horizontal foreign direct investment has approximately 50% larger impact on growth than vertical in developed countries (Beugelsdijk, Smeets & Zwinkels, 2008).

Several researchers have analyzed how inward FDI affects the price level and changes a country's wage-price ratio. Lipsey (2004) has shown that foreign-owned firms on average pay higher wages than local firms. Therefore, the effect of foreign firms' presence raises the average wage level in a country, which has positive consequences for the workers. On the other hand, a higher average wage can negatively affect small or inefficient local firms which may be forced to leave the industry (Lipsey, 2004). Lipsey marks this phenomenon either as a healthy redeployment of the capital or as a host-country opposition to foreign MNCs. A research paper by Gelan (2009) concludes that MNCs worsen unemployment conditions and reduce the real national income of the host countries.

Several researchers have analyzed whether FDI impacts profitability (price-cost margins) (Orazalin & Dulambaeva, 2013; Amess & Roberts, 2004; Rutkowski, 2006). The results indicate that due to FDI the domestic firms' profitability was increased (Orazalin & Dulambaeva, 2013, Rutkowski, 2006). Orazalin and Dulambaeva (2013) analyze 26 CEE (Central and Eastern Europe) and CIS (Commonwealth of Independent States) countries while Rutkowski (2006) examines the impact of foreign direct investment on domestic market profitability in thirteen Central and Eastern East European countries (CEECs). However, the author stresses that this could be due to specific industries as FDI may be attracted more to industries where the concentration and profitability are higher and more likely to increase in a certain time (Rutkowski, 2006).

It may be stressed that FDI by global firms affects the host country's aggregate productivity. MNCs are more efficient because foreign owners have taken over the more efficient local firms leaving the less efficient ones in local ownership (Lipsey, 2004). Locally-owned firms

try to stay in the market by increasing their efficiency, which usually amounts to mimicking the operations of the foreign-owned firms (Lipsey, 2004). Therefore, inefficient local firms may be forced to contract with MNCs or leave the industry (Lipsey, 2004). MNCs provide a more efficient environment, especially in the least developed countries (LDCs) than local firms (Lipsey, 2004). Some of the reasons for the better efficiency of MNCs are included higher capital intensities, more advanced technology, and the attraction of more educated employees due to the firm's reputation (Lipsey, 2004). Studies by Caves (1974) and Vahter and Masso (2007) have shown that both inward and outward FDI are positively correlated with the productivity of the firm receiving or providing FDI. Vahter and Masso (2007) suggest a strong self-selection effect for firms because higher productivity attracts inward FDI and makes companies more likely to engage in outward FDI. Higher shares in MNC subsidiaries coincide with productivity levels that are higher than those of competing domestic firms (Caves, 1996; Vahter & Masso, 2007).

Activities of MNCs affect host countries in other positive ways through innovations and technology growth, for instance (Forte, 2013). A paper by Bonitsis and Brown (2019) examines whether MNCs impact the host country by advancing technology growth. According to the findings, the presence of multinational banks in Spain has had some effect on the level of market concentration. However, the results do not provide a clear conclusion as to whether Spanish banking has become more or less competitive after the presence of MNCs within the industry (Bonitsis & Brown, 2019). On the other hand, Gelan (2009) stresses that developing host countries benefit from the more advanced technology, as well as from the inflow of capital. The new capital is used to generate the production of additional goods, so the investment of MNCs is growth-enhancing (Gelan, 2009). In the second case, however, whether a corporation's investment supports economic growth or inflicts economic harm, depends on many other factors (such as the type of transmitted technology and the type of capital market that exists in the host country) (Gelan, 2009). Investment by MNCs gains a monopolistic position in LDCs due to advanced technology. In general, however, it harms the countries' welfare and employment picture (Gelan, 2009).

According to Carbaugh (2002), concerns in the United States arose in the 1980s that the rapid rise in FDI inward would have a significant negative impact on local employment. The existing literature has reached different conclusions, depending on the situation of foreign direct investment (Carbaugh, 2002; Eckel, 2003):

− Carbaugh (2002) argues that a positive effect on employment of FDI is expected in the case of greenfield investment. With a new business entity creation, employment increases.
− In a case of an M&A, there is no direct short-term impact on employment. However, long-term M&A could have a negative impact on employment if a corporation decides to rationalize the firm's operations). Further, when an MNE decided to bring its high labor from its headquarters to subsidiaries or after M&A, there is an impact on employment in a host country. Carbaugh (2002) claims that foreign investors tend to

bring highly skilled workers to more developed countries while using low-skilled labor in less developed countries. Eckel (2003) claims that relocation leads to a negative FDI impact on employment.

– According to Carbaugh (2002), MNEs' usage of advanced technologies could boost the tensity for high-skilled labor. In other words, MNEs invest in their employees and educate them further, usually in employees' local countries. With additional education, MNEs increase the productivity of work, which is not connected only to the firm's operations but also creates a so-called spillover effect – when an employee from MNEs finds a new job in a local company and transfers his knowledge and skills further (Carbaugh, 2002).

– Eckel (2003) argues that the FDI impact on employment in a host country depends on efficiency. Higher efficiency in a host country increases the demand for labor, which further boosts employment (Eckel, 2003).

Honglin Zhang and Markusen (1999) argue that most MNCs own their competitive advantage, and the ownership of this advantage can be used for firm market power or cost advantage, while other firms do not have access to these benefits - an example of this advantage is superior technology and/or proprietary assets (Hongling Zhang & Markusen, 1999). The presence of foreign firms can lead to an increase in industry concentration because foreign MNCs produce the crowding-out effect, therefore forcing inefficient firms to exit the market (Forte, 2013; Honglin Zhang & Markusen, 1999). Product differentiation could be another factor in creating disadvantages to the entry levels. An already established MNC enjoys advantages that render the barriers to entry to less well-known entities (Caves, 1974).

Forte (2013) analyzes several articles on the topic of whether foreign presence influences the entry and exit barriers in a market. Four analyzed articles focus on the entry rate and all conclude a positive relationship between foreign presence and domestic entry rate. Common remarks show that a positive coefficient for foreign presence means that more new domestic firms are formed in industries characterized by a high foreign presence because FDI signals an important role for demonstration, networking, and spillover effects. Articles that examined the exit/survival conditions of the host country's firm have mixed conclusions. Around half of the examined studies found a negative relationship between foreign presence and exit conditions (higher foreign presence in an industry decreases the exit rate and generates a more competitive market structure). A third of the articles obtained a positive relationship – which means that higher foreign presence increases the exit rate and generates a less competitive market structure. The rest of the authors' results are not statistically significant (Forte, 2013).

Forte (2013) examines several existing studies on the topic of whether there is a correlation between multinational firms and host country market structure. The authors of these studies focus mostly on the manufacturing industry in developing countries. Most of the analyzed studies aim to measure the impact on the host country's market concentration and use i-firm

concentration ratio (CR_i) as dependent variable (Forte, 2013). The results of analyzed studies are mixed – half of the studies argued for a positive relationship between foreign presence and the concentration ratio. In other words, the presence of MNCs reduced industry competition. 36% of the surveys proved that there was a negative impact on market competition and the rest concluded that the effect is not statistically significant (Forte, 2013).

1.3   FDI and Market Concentration

In 2000, UNCTAD (United Nations Conference on Trade and Development) published a press release that FDI inflows may surpass the one-trillion-dollar value (UNCTAD, 2000a). An annual report by UNCTAD from 2020 stated that global FDI inflows in 2019 were equal to 1,520 trillion dollars (UNCTAD, 2020a). The value was even higher in 2017 when global FDI inflows were equal to 1,700 trillion dollars (UNCTAD, 2020a). In other words, FDI flows are growing over time and gaining more significance.

Figure 4: FDI, trade, GDP and GVC trends, 1990-2019
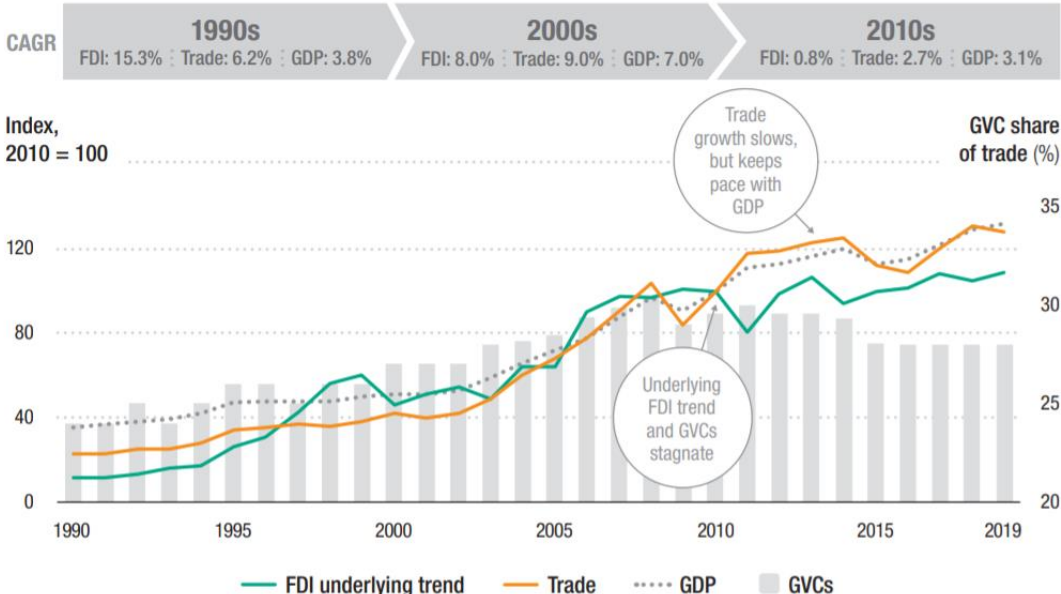
Source: UNCTAD (2020a).

As seen from Figure 4, the global FDI trend has been increasing rapidly from the year 1990 to 2010 (UNCTAD, 2020a). In the 2010s, average FDI growth has stagnated and is on average 0.8% in the period 2010-2019 (UNCTAD, 2020a).

At the end of 2020, UNCTAD (2020b) reported the drastic drop in global FDI in the first half of the year due to COVID-19. Global FDI flows fell by 49% in the first half of 2020 compared to 2019 (UNCTAD, 2020b). The pandemic slowed down the economy and national lockdowns lowered the existing investment projects (UNCTAD, 2020b). According

to the report, the most drastic drop in FDI flows was seen in developed countries, and the decline was seen in all major forms of FDI (UNCTAD, 2020b).

In 1976, the Declaration on International Investment and Multinational Enterprises was adopted by the OECD (Organisation for Economic Co-operation and Development) to govern investment by MNEs in advanced and emerging economies (OECD, 2011a). So far, OECD members and 13 non-OECD member countries have adhered to the declaration, and further countries are undergoing reviews to join this growing group (OECD, 2011a). The Declaration calls for responsible operations of MNEs, encourages government and national organizations to examine the impact of international investment, and ensures transparency about policy and thorough implementation (OECD, 2011a).

Based on the declaration, OECD issued guidelines for multinational enterprises. It consists of recommendations for responsible business conduct in a global context (OECD, 2011b). OECD Guidelines (2011b) are the directions for the responsible conduct of multinational corporations and represent voluntary guidelines and standards. The Guidelines aim to ensure that multinationals operate in harmony with the objectives set by the governing bodies to strengthen the foundations of mutual trust between multinationals and the society in which they operate (OECD, 2011b). The guidelines also aim to improve the climate for foreign investment and emphasize the contribution of multinationals to economic development (OECD, 2011b).

OECD Guideline for Multinational enterprises primarily cover (OECD, 2011b):

− guiding principles on business and human rights,
− transparency of MNE operations,
− employment and industrial relations,
− environmental protection requirements,
− combating bribery,
− consumer interests,
− implementation of activities related to science and development technology,
− local competition,
− taxation.

Further, according to the main principles of OECD Guideline for Multinational enterprises, MNEs should (OECD, 2011b):

− lead to achieving sustainable development with economic, environmental, and social progress;
− take into account internationally recognized human rights;
− co-operate with local communities (develop the firm's activities domestically and in foreign markets);
− create employment opportunities and facilitate training opportunities for new employees;

- not seek for exemptions in the statutory or regulatory framework anyhow related to human rights, environmental, health, safety, labor, taxation, or financial incentives;
- start and use effective self-regulatory practices and management systems that encourage a relationship of confidence and trust between enterprises and the societies in which they operate;
- promote awareness of and compliance by workers employed by multinational enterprises concerning company policies through appropriate dissemination of these policies including through training programs;
- avoid discrimination against workers who would report to management or any related institution about practices that contradict the law.

In 2017, more than a third (35.1%) of inward FDI in the EU-28 was held by the United States. Therefore, the US was a major holder of FDI stocks in the Union. The second-largest holder of FDI stock was OFCs (offshore financial centers) (29.0%) while Switzerland was the third largest (12.5%) in 2017. Key inward FDI partners are a relatively small group of developed countries while developing countries are not significant investors. China for instance accounted for only 0.9% of total inward FDI positions in the Union in 2017 (Eurostat, 2019).

Figure 5: FDI net inflows in the European Union, 1994-2019 (% of GDP)
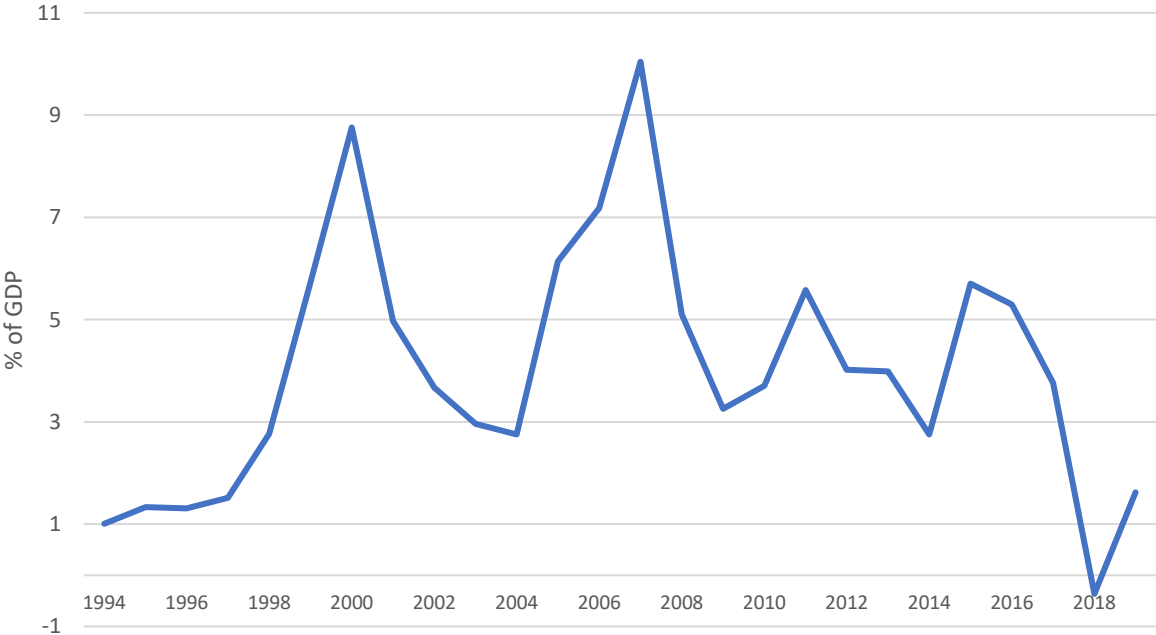
Source: The World Bank Group (2020).

Figure 5 shows FDI net inflows in the EU as the percentage of its GDP. In the period 1994-2019, the highest value was reached in 2007 (10,0%). In 2019, the value was equal to 1.6% of GDP (The World Bank Group, 2020).

The crucial question as to the impact of MNCs is whether foreign presence changes market concentration.

Forte and Sarmento (2014) analyze whether FDI increases the market concentration in the Portuguese manufacturing industries. Their results show that FDI has significant negative impacts on industry concentration, which is similar to conclusions of comparable literature on other developed markets (Forte & Sarmento, 2014). Therefore, Forte and Sarmento (2014) stress that foreign presence tends to reduce market concentration. Similar conclusions have a paper by Rutkowski (2006) which examines the impact of inward FDI on domestic firms. The results indicate that FDI reduces concentration in CEECs (Rutkowski, 2006).

An article by Ernst (1998) focuses on market concentration in high-tech sectors. The author analyzes one of the more globalized sectors of the electronics industry, namely the hard disk drives industry (HDD). The paper argues that MNCs have an impact on the market. The case shows that the HDD industry is a highly concentrated industry where the leading MNCs may influence prices and margins while there are no new entrants present due to high entry barriers. Computer operating systems, for instance, are highly concentrated because only a few companies are present in the business (e.g. Cisco, Microsoft, and Intel) (Ernst, 1998).

A paper by Driffield (2001) examines the impact of FDI on the host country focusing on the UK with a focus on the UK case. The author suggests that MNCs reduce market concentration within the industry and increase competition. The results reveal that the relationship between inward investment in the UK environment and industry concentration is clear. Inward investment reduction has the effect of reducing concentration in the host country in high sunk cost industries. Therefore, MNCs can overcome domestic entry barriers where potential domestic entrants cannot. Inward FDI reduces the domestic profitability of the leading firms. The intensity of R&D, economies of scale, capital intensity, and regional concentration are all positively correlated with concentration as well. The article argues that FDI has the speed of adjustment of concentration. Industries with high levels of foreign penetration adjust towards their equilibrium level quicker than other industries with lower levels of foreign penetration. The same effect is seen for import penetration and new entry. In other words, FDI can be seen as a method to increase competition at the industry level (Driffield, 2001).

2   INSURANCE SECTOR IN SLOVENIA

In this chapter, the insurance sector in Slovenia will be presented. Firstly, I introduce FDI trends and changes in the insurance sector. Secondly, I explain specifics and restrictions in the insurance sector due to the directive by the European Union. At the end of this chapter, growth and changes over the years in this industry in Slovenia are presented.

Researches have proven that insurance development promotes economic growth or, in other words, the functioning of insurance companies is important for economic growth (Čurak, Lončar & Poposky, 2009; Ilhan & Taha Bahadir, 2011).

Insurance companies are important for the stability of financial systems. In the 2009 Financial Stability Review, the European Central Bank provided three main reasons for its importance. Firstly, insurers are significant investors in financial markets. Secondly, insurers often have close links to banks and other financial institutions. Problems confronting an insurer can, therefore, spread to the banking sector. Thirdly, insurers contribute to the safeguarding of the financial stability of household and firm balance sheets by insuring their risks (European Central Bank, 2009).

2.1 FDI in the insurance sector

Global trade in financial services is one of the service industries which has grown significantly in the last 30 years (Moshirian, 1997). A great contribution to rapid growth was especially due to financial deregulation, telecommunication technology, and financial innovations.

Further, economic growth in many countries has unfolded the potential for MNEs to offer their insurance products to foreign consumers (Moshirian, 1997).

2.1.1 FDI in Slovenia

At the end of 2019, only 1.8% of all businesses registered in Slovenia were firms with FDI, according to the Banka Slovenije (2020). Although firms with FDI represent a small proportion of total entities, they have an important role in the Slovenian corporate sector. FDI firms in 2019 accounted for almost a quarter of total capital (24.3%), a quarter of total assets (25.8%), and a quarter of total employees (23.8%) in the entire corporate sector. FDI firms generated 1.4 billion euros profit, and 31 billion euros net sales revenue (30.9% of total net sales revenue). Almost half of the total imports (49.5%), and 44.2% of exports were accounted for by firms with FDI in Slovenia in 2019 (Banka Slovenije, 2020b).

Figure 6: FDI inflows and outflows in Slovenia, 2014-2019 (millions of dollars)
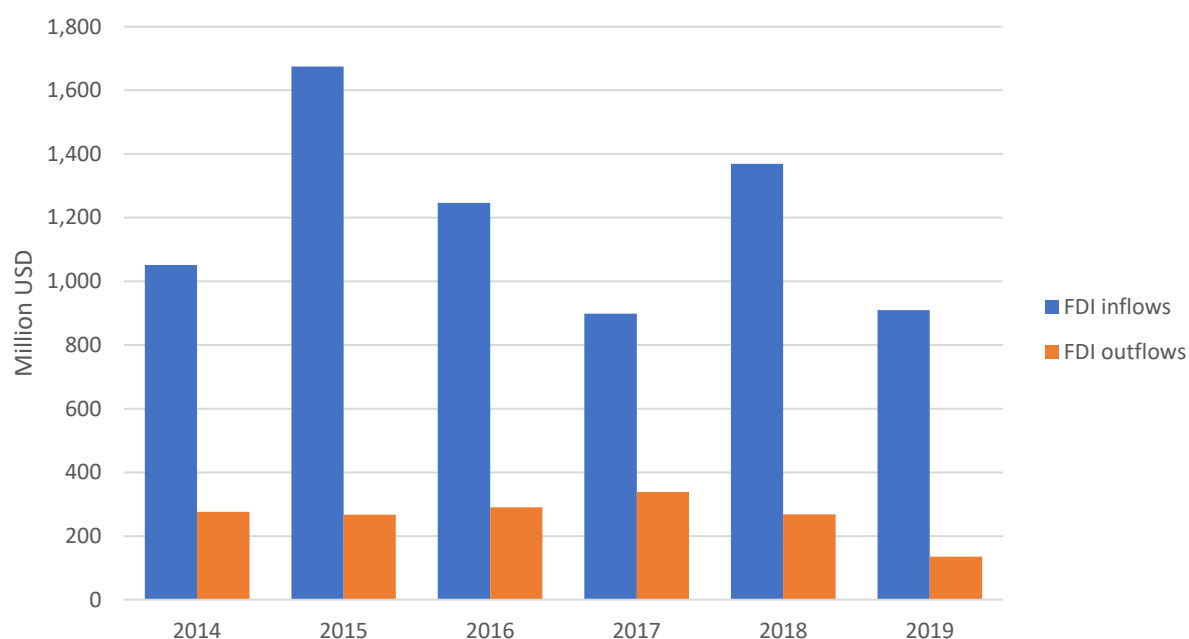
Source: UNCTAD (2020).

Figure 6 shows FDI inflows and outflows in the years between 2014 to 2019. As seen, Slovenian annual FDI outflows are in smaller volumes than FDI inflows. The highest annual FDI inflow was marked in 2015 when the total amount was equal to 1.657 billion euros (UNCTAD, 2020).

A report by Banka Slovenije (2020b) states that in 2019 more than 55% of all inward FDI in Slovenia was invested into two groups of activities. The largest group (34.7% of total inward FDI) represents the manufacturing industry whereas the second group (21.6%) denotes financial and insurance activities. This industry marked the largest absolute increase in 2019 where the increase was by 519 million euros or 17.7% compared to 2018 (Banka Slovenije, 2020b).

Figure 7: FDI stock in Slovenia, in 2000, 2010, and 2019 (millions of dollars)
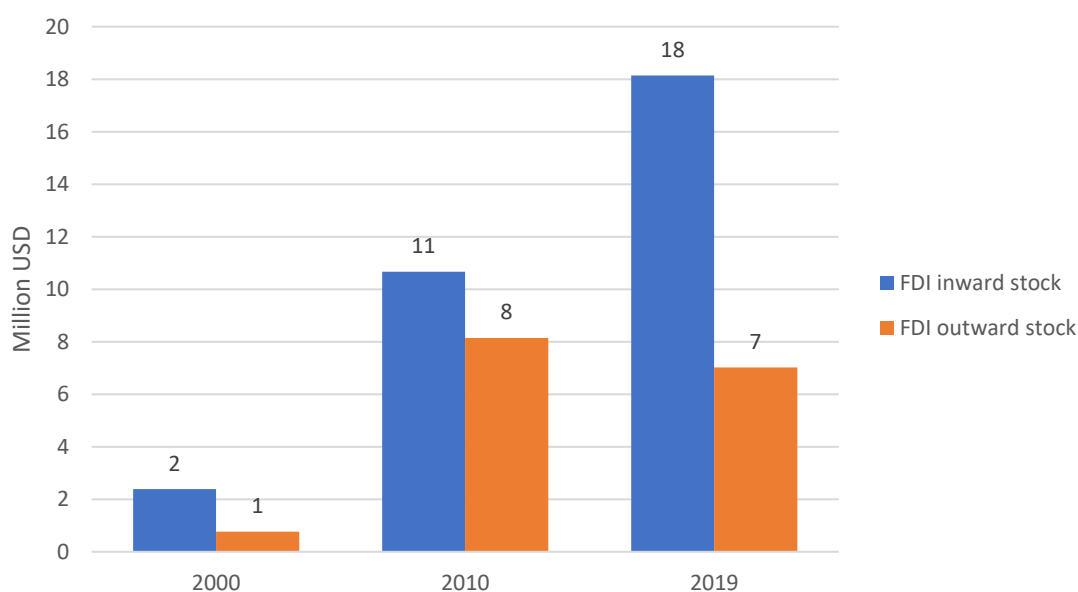
Source: UNCTAD (2020).

As seen from Figure 7, FDI outward stock has increased in the last 19 years whereas FDI inward stock has been increasing even more rapidly (UNCTAD, 2020).

At the end of 2019, the stock of inward foreign direct investment in Slovenia was equal to 16 billion euros (approximately 18 billion dollars) and rose by 4.9% (0.7 billion euros) compared to the end of 2018. The average growth in inward FDI for the last 25 years (between 1994 and 2019) has been 11.8%. The slowest growth (0.9%) was marked during the 2009-2013 period, which could be linked to the financial crisis in those years (Banka Slovenije, 2020b). In 2020, the stock of inward foreign direct investment increased to 16,6 billion euros (Banka Slovenije, 2021). Foreign investors' balance shows a profit equal to 1.2 billion euros in 2020 (Banka Slovenije, 2021).

According to Statistični urad RS (2021), FDI in Slovenia in 2019 represented around 33.1% of Slovenia's GDP and Slovenia's FDI outward stock represented 13.7% of GDP.

Employees in firms with FDI in 2019 in the Slovenian corporate sector received wages above average, according to Banka Slovenije (2020b). In this year, the national average annual gross wage was equal to 20,585 euros where employees in firms with FDI received on average 9.5% higher wages. Therefore, the average annual gross wage per employee was 22,539 euros in firms with FDI (Banka Slovenije, 2020b).

2.1.2 FDI in insurance in Europe

According to the classical foreign trade theory, services are tradable only to a limited extent due to the complexity of transactions (Blind & Jungmittag, 2004). In light of decreasing communication costs, however, there has been increased trade in business services in the past decades (Blind & Jungmittag, 2004). According to a study by Ramasamy and Yeung (2010) in 2005, the service sector accounted for more global FDI stock than the primary and the manufacturing sectors combined in UNCTAD members (Ramasamy & Yeung, 2010).

Shikhare (2015) analyzed FDI in the insurance sector in India. This country has been identified as one of the fastest-growing insurance markets, which could highlight the possibility of exposing the economy to the vulnerabilities of the global market. The effect can be seen in endangering the interest of policyholders (Shikhare, 2015). It would be beneficial to analyze the insurance sector in Slovenia to be able to define whether FDI has the same impact on the host country's structure market, regardless of the development of the country.

The activity structure of the EU-28's inward FDI positions was dominated by financial and insurance activities in 2016 according to Eurostat (2016). Similar conclusions are stated in a report by European Commission (2019) about foreign direct investment in the EU considering data from 2015, 2016, and 2017. Financial and insurance activities accounted for almost 75% of the inward FDI positions held in the EU at the end of 2016 (Eurostat, 2016). Foreign ownership is even more significant in some subsectors in the insurance sector (e.g. in non-life insurance foreigners control more than 90 percent of total assets) (European Commission, 2019).

The two most active investors in the period 2015-2017 in the EU were the US and Canada. Those two North American countries accounted for 37% of the deals in financial and insurance activities, followed by OFCs (19% of the deals), EFTA (17%), and China (8%) in the 2015-2017 period (European Commission, 2019).

In 2017, 3% of all firms in the EU's financial services and insurance activities were foreignly owned. However, a small percentage of foreign ownership accounted for 45% of all assets in financial services and insurance activities on average in the EU member states (European Commission, 2019). When analyzing insurance, reinsurance, and pension funding (excluding compulsory social security), 15% of all firms were foreign in 2017 and accounted for 45% of all assets in the two mentioned sectors (European Commission, 2019).

Financial and insurance activities accounted for around two-fifths (39,9%) of outward FDI positions of the EU-28 (Eurostat, 2016).

2.1.3 FDI in insurance in Slovenia

There is no existing research on FDI's impact on the Slovenian insurance sector. It is relatively similar to the Croatian market which has also experienced several M&As in recent years. Research on changes in market concentration in Croatia has been conducted by Škuflić, Galetić, and Gregurić (2011). The authors conclude that the insurance industry is rather concentrated (as four companies control almost 60% of the market) but that the concentration has been decreasing over the past few years (Škuflić, Galetić & Gregurić, 2011).

According to Banka Slovenije, at the end of 2019, there were 1,204 registered enterprises in Slovenia with more than 10% of direct investment. 66 of those companies' main activity is financial and insurance, which is around 5,5% of the total number. These 66 companies declared 415 employees on the 31st December 2019 and 109 million € sales in 2019 (Banka Slovenije, 2020b).

In Slovenia, in 2018, FDI inward stock in financial and insurance activities was equal to 2,932.6 million € and total FDI inward stock was equal to 15,243.2 million €. Therefore, financial and insurance activities contributed to almost a fifth of total FDI inward stock (19.22%) and were the second-largest contributor to the total sum. The largest contributor (35.33%) in 2019 was manufacturing (Banka Slovenije, 2020b).

The structure of FDI inward stock of financial and insurance activities in 2019 was as follows: 2,895.5 million € of equity capital, 212.2 million € of assets, and 249.2 million € of liabilities (Banka Slovenije, 2020b).

2.2   Restrictions of the insurance sector in Slovenia

The insurance industry is rather specific. Directive 2009/138/EC (also known as Solvency II) introduced delegated regulation and promotion of transparency, comparability, and competitiveness in the insurance sector. Solvency 2 empowers supervisors to review and evaluate whether insurance companies comply with the rules in all member states of the European Union (European Commission, 2020). Solvency 2 is a risk-oriented approach for measurement and evaluation of the financial position and strength of the insurance companies (Chobanova, 2015).

According to Insurance Europe (2021), the main aim of Solvency II is to ensure that policyholders have the same level of protection throughout the European Union. Other goals of the directive are to (1) harmonize national insurance regulations, (2) introduce a risk-based approach, and (3) ensure a coherent level of customer protection (Insurance Europe, 2021).

The first review of the implications of Solvency II was made in 2018, and the second review took place in 2020. Both reports, according to Insurance Europe (2021), show that Solvency II achieved its main objective. However, small details should be taken into account further. Therefore, the review from 2020 suggests three main implications (Insurance Europe, 2021):

− reporting (to simplify reporting requirements and to use all significant elements which are useful for supervisors and consumers),
− proportionality (framework works better with proportionality because costs are reduced and a competitive European insurance market is preserved, which is beneficial for final consumers),
− treatment of long-term business (to support Europe's long-term sustainable investment needs and to close the pensions gap).

Due to Solvency II regulations, the Insurance Supervision Agency analyzes, prepares, and publishes statistical data and reports on the state of the insurance market in Slovenia (Insurance Supervision Agency, 2020). The Slovenian Insurance Association also collects, publishes, and analyzes statistical data of insurance companies, but only if they are members of the association (Slovenian Insurance Association, 2020). Nevertheless, the Slovenian Insurance Association presents a comprehensive picture of the industry because only one insurance provider is not a member of the association. This company, CDA 40 zavarovalnica d.d., is an insurance company specializing in surety bonds (CDA 40 zavarovalnica d.d., 2020).

Chobanova (2015) analyzes Bulgarian insurance companies from Solvency 2 perspective. The authors stress that the transition towards Solvency II aims not only to improve financial stability but also to consolidate the insurance market (Chobanova, 2015). Chobanova (2015) argues that the smallest insurance providers (local) could not succeed in responding to the higher capital requirement and would face two options – either to exit the market or to merge with another company, a local or foreign player in the market.

2.3   Growth and changes in the insurance sector in Slovenia

At the end of the 1990s, Slovenia was facing a financially unsustainable public health insurance system (OECD, 2011c). Therefore, Slovenia decided to introduce a public-private mixed system of health insurance coverage (OECD, 2011c).

Nowadays, the health insurance system is separated into compulsory and voluntary health insurance (OECD, 2011c). Most of the voluntary insurance premium is collected from complementary health insurance although the percentage is slowly decreasing through the years (OECD, 2011c).

Before Slovenia gained independence in 1991, the insurance market was primarily dominated by Triglav with a 95% market share (OECD, 2011c). In 1990 Triglav was separated into five different business entities but Zavarovalnica Triglav d.d. still represents

a strong competitor and a player with the highest total revenue from insurance premiums (OECD, 2011c; Slovenian Insurance Association, 2020).

The most important insurance class in Europe is life insurance which accounts for 4.3% of the total European GDP. Slovenia is a small contributor to the total European insurance market because the country has a small proportion of the population. The four largest insurance markets in Europe are the United Kingdom, France, Germany, and Italy – those four together represent around 70% of European insurance premiums (Slovenian Insurance Association, 2020).

In 2019, in Slovenia, the insurance market size was equal to approximately 2.8 billion euros (Slovenian Insurance Association, 2020). The top seven insurance providers were accounted for around 80% of total sales (Slovenian Insurance Association, 2020).

Table 2: Top seven insurance and reinsurance providers in Slovenia, 2019

Company	Sum of premium in 2020 (in thousand €)	Market share
Zavarovalnica Triglav, d.d.	659,166 €	23.20%
Zavarovalnica Sava, d.d.	428,684 €	15.09%
Vzajemna zdravstvena zavarovalnica, d.v.z.	330,819 €	11.64%
Adriatic Slovenica, Zavarovalna družba d.d.	313,802 €	11.04%
Triglav, Zdravstvena zavarovalnica, d.d.	177,416 €	6.24%
Pozavarovalnica Sava, d.d.	166,528 €	5.86%
Modra zavarovalnica, d.d.	159,981 €	5.63%

Source: Slovenian Insurance Association (2020).

Table 2 presents a list of seven insurance and reinsurance providers from the Slovenian market with the highest sum of sales from premiums in the year 2019. Zavarovalnica Triglav d.d. is a company with the highest total sales, equal to 659 million euros which represent almost a quarter of the total market – 23.20% (Slovenian Insurance Association, 2020). Second largest company by total sales is Zavarovalnica Sava d.d. with 15% of market share, and Vzajemna zdravstvena zavarovalnica d. v. z. has its market share in the year 2019 equal to 11.64% (Slovenian Insurance Association, 2020).

Insurance remains one of the most important industries in Slovenia because the share of insurance premiums in 2019 represented 5.2% of GDP (Slovenian Insurance Association, 2020). In comparison to the average share in GDP in OECD country members, the share of insurance premiums is below the average (OECD, 2021). The OECD average share of insurance premiums in 2019 represented 8.99% of GDP (OECD, 2021).

In 2019 the average spending on insurance per capita was 1,209 euros (Slovenian Insurance Association, 2020). The number has increased rapidly – in 2006 the average spending per capita on insurance was equal to 859 euros (OECD, 2021). Therefore the increase in average annual spending in the last fourteen years is 41% (OECD, 2021).

The value of insurance premium reached 2,517 million euros in 2019. In the following year, the number even increased to 2,568 million euros, the highest level to date (Slovenian Insurance Association, 2020).

Table 3: Trend in annual gross insurance premiums by SIA members 2010 to 2020

Year	Annual gross insurance premiums (in thousand €)	Index
2010	2,161,784	/
2011	2,120,181	98.08
2012	2,117,453	99.87
2013	2,038,178	96.26
2014	1,998,098	98.03
2015	2,036,161	101.91
2016	2,066,054	101.46
2017	2,179,285	105.48
2018	2,341,121	107.43
2019	2,517,351	107.53
2020	2,568,966	102.05

Source: Slovenian Insurance Association (2018), Slovenian Insurance Association (2020).

Table 3 represents annual gross insurance premiums by members of SIA (Slovenian Insurance Association, 2020). From 2010 to 2014 there was a negative trend in the annual gross figure because we can index values smaller than 100. After 2014, there is a continuous trend in growing of annual gross insurance premiums by SIA members. The highest annual gross increase was market so far in 2019 where the figure grew by 7.53% according to the previous time (Slovenian Insurance Association, 2020).

The insurance market provides different products for final consumers. In broader terms, insurance policies are divided into two groups: non-life insurance policies (also named general insurance) and life insurance policies. In 2020, 70.05% of total gross insurance premiums by Slovenian providers were accounted for non-life insurance while 29.95% came from life insurance policies (Slovenian Insurance Association, 2021a).

Figure 8: Structure of insurance premium, the year 2020

- Health insurance - 24 %
- Land motor vehicle insurance - 12 %
- Motor vehicle liability insurance - 11 %
- Pensions funds asset management, Pension annuities and Annuities of the First pension fund of the Republic of Slovenia - 10 %
- Unit-linked life insurance - 10 %
- Life assurance - 10 %
- Others - 8 %
- Other damage to property insurance - 6 %
- Fire and natural forces insurance - 5 %
- Accident insurance - 4 %
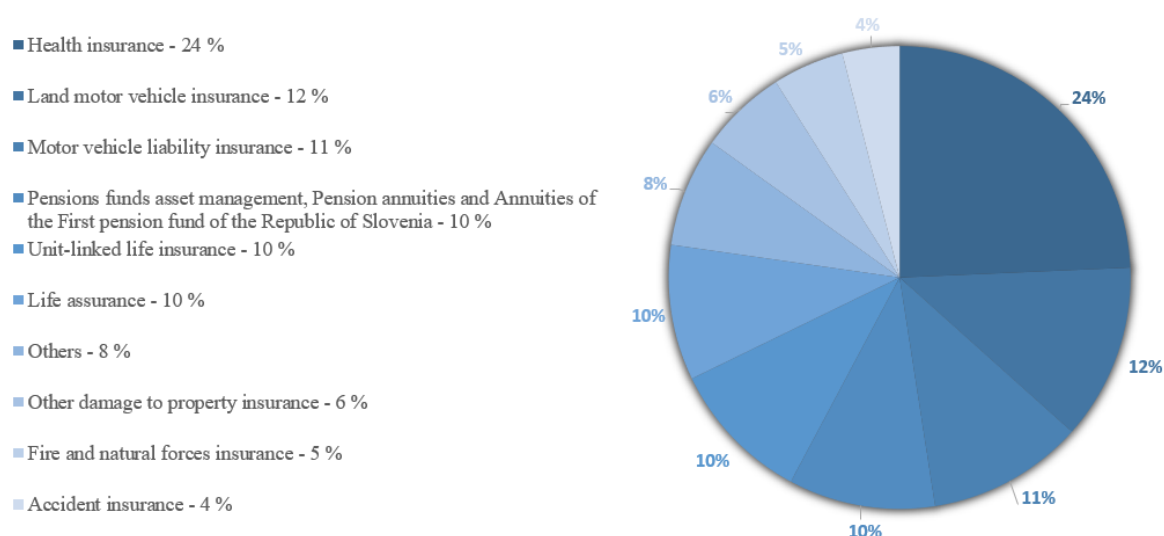
Source: Slovenian Insurance Association (2021a).

Figure 8 shows the structure of insurance premiums for the year 2020. The highest percentage (24%) was paid for health insurance (Slovenian Insurance Association, 2021a). 12% of insurance premium comes from motor third-party liability insurance which is regulated by a particular set of directives (OECD, 2011c). Insurance premiums for land motor vehicle insurance and motor vehicle liability insurance together represent 23% of all insurance premiums paid in 2020. Life insurance represents around 10% of total insurance premiums (Slovenian Insurance Association, 2021a).

According to Slovenian Insurance Association (2021a), in 2020, the association had 20 members (insurance and reinsurance companies registered in Slovenia). Besides that, 7 branches of foreign insurance companies and 833 insurance companies registered abroad could provide insurance services to final consumers directly (Slovenian Insurance Association, 2021a).

At the end of 2019, the SIA had 21 members. The insurance premiums by the four largest members of the SIA accounted for 68.8% of the total insurance premiums by all members. The market concentration of the four largest SIA members decreased by 0.9% in 2019 relative to the previous year. SIA members account for more than 98% of the Slovenian insurance market (Slovenian Insurance Association, 2021a).

At the end of 2019, 6,255 people were employed in Slovenia as SIA members (both insurance and reinsurance providers) (Slovenian Insurance Association, 2021a). In the Slovenian insurance market several changes have occurred with regards to present providers in the last decade:

- In 2008, a new insurance company Allianz, headquartered in Germany (Allianz, 2020), entered the Slovenian insurance market.
- In 2013, Agro Zavarovalnica (Austrian provider Österreichische Hagelversicherung VVaG) entered the market as an agricultural insurance company (Agro Zavarovalnica 2020).
- In 2016, a new company Zavarovalnica Sava was formed due to cross-border M&A. There was a merger of two Slovenian and two Croatian insurance providers (Zavarovalnica Maribor, Zavarovalnica Tilia, Velebit osiguranje, and Velebit životno osiguranje) (Sava Re d.d., 2006; Slovenian Insurance Association, 2020).
- In 2019, another cross-border M&A occurred: the Italian company Generali acquired a local insurance provider Adriatic Slovenica (Slovenian Insurance Association, 2020). According to Slovenian Insurance Association (2020), local provider Adriatic Slovenica had had at that time a 12% market share while Generali's was around 4% before the acquisition.
- In 2019, two Croatian insurance companies (Ergo osiguranje and Ergo životno osiguranje), which had their services available in the Slovenian market as well, entered the Sava Re Group (Sava Re d.d., 2018).
- In 2019, the French company Coface acquired a Slovenian insurance provider SID – Prva kreditna zavarovalnica, which had previously been part of SID bank (Coface, 2019).

Below, other foreign providers which are present in the market for a longer time are presented:
- Grawe (an Austrian insurance company that entered the Slovenian market in 1991) (Grawe, 2020),
- the Croatian insurance provider Croatia zavarovanje (Croatia zavarovanje, 2018),
- Merkur zavarovalnica, which is an Austrian provider (Merkur zavarovalnica, 2020),
- Porsche Versicherungs AG (an Austrian provider present in Slovenia for more than 30 years) (Porsche Inter Auto, 2020),
- the Austrian provider Wiener Staedtische which entered the Slovenian market in 2004 (Wiener Städtische, 2020).

Table 4: Branches and subsidiaries of foreign insurance companies, 2019

Subsidiaries of foreign insurance companies	Branches of foreign insurance companies	Headquarters of the foreign insurance company
Allianz Slovenija, zavarovalna podružnica	Allianz SE	Germany
ARAG SE – Zavarovalnica pravne zaščite podružnica v Sloveniji	ARAG SE	Germany
CROATIA zavarovanje d.d. podružnica Ljubljana	Croatia osiguranje d.d.	Croatia
ERGO zavarovalnica, podružnica v Sloveniji	ERGO Versicherung A.G.	Austria
Generali zavarovalnica, d.d.	Assicurazioni Generali S.p.A.	Italy
GRAWE Zavarovalnica, d.d.	Grazer Wechselseitige Versicherung	Austria
Merkur zavarovalnica, d.d.	Merkur Versicherung A.G.	Austria
Coface PKZ zavarovalnica d.d.	Compagnie française d'assurance pour le commerce extérieur (Coface)	France
Wiener Städtische zavarovalnica, podružnica v Ljubljani	Wiener Städtische Versicherung A.G.	Austria

Source: Slovenian Insurance Association (2020).

Table 4 represents the current subsidiaries of foreign insurance companies in 2019 (Slovenian Insurance Association, 2020). The table shows that most foreign insurance companies are Austrian and two originate from Germany (Slovenian Insurance Association, 2020). The present foreign insurance companies originate relatively geographically close to Slovenia and are all based in the EU (Slovenian Insurance Association, 2020).

During the last decade, some local M&A also entered the market, which could be a response to foreign entry for firms to stay competitive. For instance, in 2013, the local provider Adriatic Slovenica acquired the insurance firm KD Življenje, zavarovalnica (Slovenian Insurance Association, 2020).

A report by OECD (2011c) claims the Slovenian insurance market remains underdeveloped despite recent developments. Capital markets stay relatively unattractive for foreign investors (OECD, 2011c). One of the challenges of the Slovenian insurance market is that most Slovenian insurance providers are not rated by any rating agency (OECD, 2011c). The

report by OECD (2011c) states that a complicated process for issuing corporate bonds is another barrier in the development of the corporate bond market.

3   DATA AND METHODOLOGY

In her article, Forte (2013) analyzes several papers focusing on the impact of foreign presence on host country market concentration. The author stresses that conclusions of the papers are mixed – half of the studies obtained a positive relationship between foreign presence and the concentration ratio; around a third obtained a negative impact and the rest is not statistically significant (Forte, 2013).

In the studies that analyzed the impact of FDI on a specific host country, the authors take into account different variables. The most common variables that could impact market concentration are market size, market growth, entry barriers, the share of fixed expenses in total expenses, etc. (Forte & Sartmento, 2014; Kastratović, 2018).

The empirical literature has not reached an agreement on the impact of foreign direct investment on market concentration in the insurance sector. To see what the effect of foreign entry is in the Slovenian financial markets, I will research the impact of FDI on market concentration in Slovenia.

To have a larger sample for econometric analysis, I will collect data for all financial sectors. In the SKD (Standard Classification of Activities), the financial and insurance activities are part of category K. The mentioned sectors have classification numbers from K64 to including K66. K64 includes financial service activities, except insurance and pension funding. K65 consists of Insurance, reinsurance, and pension funding, except compulsory social security. K66 includes activities auxiliary to financial services and insurance activities (Statistični urad RS, 2008).

I will focus on the financial market structure from 2005 to 2020 which consists of 16 years. In this period, most changes have happened since the country's independence. In addition, in 2004 Slovenia became an EU member state and in 2004 the country marked its highest annual economic growth since 1999 (Lorenčič, 2009). The selected period includes the latest financial crisis that hit the Slovenian market and took place from 2008 to 2012. With the regression analysis, I will test whether the set of four independent variables (market growth (MG), minimum efficiency (ME), foreign presence (FP), and market size (MS)) are significantly correlated with market concentration.

The results of the analysis will show whether my hypotheses can be rejected or not. The hypotheses are as follows:

− Hypothesis 1: MNCs intensify market concentration through foreign direct investment.
− Hypothesis 2: The higher efficiency of MNCs increases market concentration.

This chapter presents the empirical approach with a regression model. After that, I will describe the variables used in the model. Further, I will present variables through the observed period.

3.1   The model and data

The impact of FDI on the host country's market structure was measured by a model explained by Berger (1995) and further used by Rivera – Solis (1997), Forte and Sarmento (2014), and Kastratović (2018).

Forte and Sarmento (2014) used this model to test whether FDI has any impact on the Portuguese manufacturing market. They concluded that foreign presence tends to reduce industry concentration (Forte & Sarmento, 2014). Kastratović (2018) used their model to test the market concentration in Bosnia and Herzegovina. The results of his survey showed that the impact of FDI on market concentration is statistically significant (Kastratović. 2018). Rivera – Solis (1997) used the regression model to test the influence of multinational bank entry on market concentration in the Spanish banking market. The author claims to have used all crucial determinants of structure that have been used for a developed country.

My empirical analysis will be based on the following specification:

$$MC \ = \ \beta_0 + \beta_1\,MG + \ \beta_2\,ME + \ \beta_3\,FP + \ \beta_4\,MS + \beta_5 TI + \ \beta_6\,T \qquad (1)$$

The dependent variable (MC) stands for the market concentration. In the regression analysis, two different measures for market concentration are used: (1) market concentration ratio of the four largest firms (CR_4) and (2) Herfindahl-Hirschman index (HHI).

In the following studies cited in the literature survey, the chosen explanatory variables are market growth (MG), minimum efficiency (ME), foreign presence (FP), market size (MS), and type of industry (TI). The T is annual dummies. Type of industry (TI) is a dummy variable that differentiates companies from four different industries within the financial sector. β_0 to β_6 are parameters that will be estimated by the equation.

In the model, the same companies (objects) are observed repeatedly. Multiple variables are measured of the same companies and the observations take place at multiple points in time. Therefore, the model uses panel data – multidimensional data of observations that are measured repeatedly over a period of time (Hsiao, 2014). According to Hsiao (2014), a panel (also named longitudinal) data set for economic research provides some significant advantages compared to conventional cross-sectional or time-series data sets. Two of the main advantages are that panel data sets (1) improve the efficiency of econometric estimates (as they contain more sample variability and more degrees of freedom than cross-sectional data), and (2) induce more accurate predictions for individual outcomes (Hsiao, 2007; Hsiao, 2014).

By applying this model, the estimated results will help to understand whether there is an impact of FDI on the host country's market concentration. Further, the impact of FDI on other determinants will be estimated if there is any. The most common models for the analysis with panel data sets are RE (random effects) and FE (fixed effects) (Gardiner, Luo & Roman, 2009; Hsiao, 2014). A Hausman test will be run afterward. The Hausman test is used to decide whether to use random effects or fixed effects estimators. Based on the results of the Hausman test, one of the models will be applied in the research (Hsiao, 2014).

Hausman test helps to decide between fixed or random effects – the test's results show where the preferred model is random effects or the alternative (the fixed effects). The Hausman specification test compares the parameters for the models with fixed (β_{FE}) and random effects (β_{RE}) (Baltagi, 2005).

The null hypothesis states that there is no correlation between the unique error and the regressors in the model. The null hypothesis is equal to $H_0: \beta_{RE} = \beta_{FE}$ (Baltagi, 2005).

If the null hypothesis is not rejected, both FE and RE are consistent. Further, as RE is more efficient, the standard error of random effects is smaller than that of fixed effects: $se(\beta_{RE}) < se(\beta_{FE})$. In this case, random effects estimator is chosen because it is more efficient (Baltagi, 2005).

If we reject the null hypothesis ($H_0: \beta_{RE} \neq \beta_{FE}$), the fixed and random effects estimators are not consistent. The null hypothesis is rejected when the p-value is less than 0.05 ($p \leq 0.05$). Therefore, the fixed effects estimator is the only consistent and is the chosen estimator (Baltagi, 2005).

Data

The dataset includes data about companies from the financial sector in Slovenia from 2005 to 2020. According to Zakon o finančnih konglomeratih (ZFK), Ur. l. RS, no. 43/06, 87/11 and 56/13, the financial sector includes the following sectors: (1) the banking sector, (2) the insurance sector, (3) the securities market sector, and (4) the asset management industry which includes managing investment funds.

Data obtained for the banking sector is sourced from banks' annual reports. The reports are published on providers' websites or obtained via email. In 2005, there were 22 banks and three savings banks (Banka Slovenije, 2006). Over the years, the number of bank providers decreased in the Slovenian market. In 2020, there were 15 bank providers in the Slovenian market. Together the firms aggregated 1.4 billion euros of revenue in 2020 (The Bank Association of Slovenia, 2021). The market size of the banking sector has decreased since 2005. The main reason for smaller bank income is due to lower or even negative interest rates (Banka Slovenije, 2018).

The estimated model will use data from 22 different banks and saving banks in Slovenia for the 2005-2019 period. The dataset consists of all companies in the market for the period 2016-2020 while some data is missing for the other years. In 2005 seven firms of 25 are not included in the dataset while the data for the upcoming years is more concrete. Nevertheless, the dataset represents approximately third quarters of the sector or more.

The analyzed data for the insurance sector is collected by the Slovenian Insurance Association, an independent organization that is a commercial interest association of Slovenian insurance companies (Slovenian Insurance Association, 2021b). The association collects and publishes an overview of the insurance industry in Slovenia every year. The reports include detailed information about each insurance provider but only of members of the Slovenian Insurance Association which is a limitation of the dataset. Nevertheless, the SIA presents a comprehensive picture of the industry because the majority of insurance providers are members of the association. Members of the Slovenian Insurance Association represent 98% of the total market in 2020.

The insurance providers which are not members in 2020 are:

- Agro Zavarovalnica, podružnica v Sloveniji,
- CDA 40 zavarovalnica d.d.,
- Kapitalska družba pokojninskega in invalidskega zavarovanja, d.d.,
- Pokojninska družba A, d.d.,
- Porsche Versicherungs AG, Podružnica v Sloveniji,
- Sava pokojninska družba, d.d. (Slovenian Insurance Association, 2021a).

In 2005, 15 insurance and two reinsurance providers were members of SIA in the Slovenian insurance sector (Slovenian Insurance Association, 2007). In 2006, total revenue from insurance premium was equal to 334.9 billion SIT (Slovenian tolar) which is approximately equal to 1.37 billion euros. In 16 years, the insurance sector grew, and in 2020 the members of SIA had aggregate sales of 2.9 billion euros (Slovenian Insurance Association, 2021a).

The estimated model will use data from 25 different insurance and reinsurance providers in Slovenia for the 2005-2020 period. As mentioned, the data is used from the Slovenian Insurance Association which collects, publishes, and analyzes statistical data of insurance companies that are members of the association. Nevertheless, the association presents a comprehensive picture of the industry. According to the estimation of the Slovenian Insurance Association (2021a), their data consists of 98% of all insurance sectors in Slovenia.

Data acquired for the securities market is sourced from providers' annual reports. The annual reports are published on providers' websites or obtained via email. The market size of the securities market was in 2005 equal to 1.7 billion SIT (approximately 7 million EUR) while in 2020, it was equal to 8.9 million EUR, according to the collected dataset. The estimation

model will use data from 10 different providers in the Slovenian securities market for the 2005-2020 period. The dataset includes all providers for the period 2015-2020. However, some companies' data are missing for the period before 2005-2014 where up to three providers are not included.

Data acquired for the asset management industry is sourced from providers' annual reports. This sector includes data for asset management companies and managing investment funds in the Slovenian market from the year 2005 to 2020. The annual reports are published on providers' websites or obtained via email. In the year 2005, there were 15 players in the asset management industry in the Slovenian market. This includes five managing investment funds and ten managing investment funds. The size of the market in 2005 was equal to 4.5 billion SIT (approximately 18.78 million EUR) and in 2020 was equal to 64.2 million EUR. The dataset for this industry consists of around half of the industries in the year 2005 whereas in the dataset for upcoming years two to three providers are not included. Dataset for 2020 consists of all providers.

For the research, I, therefore, extract data on sales, fixed costs, and total costs per provider from Slovenian Insurance Association's reports and companies' annual reports.

Only for the insurance market, an independent organization (Slovenian Insurance Association) collects and publishes annual relevant data per provider. I contacted also other organizations and associations that are connected with other industries of the financial sector in Slovenia. The Bank Association of Slovenia does not connect and process data of the banking providers but uses data of other public statistics. The Securities Market Agency creates annual reports on the situation and conditions on the market in financial instruments but does not publicly publish each providers' income statement or related data. The Agency has not responded to my request for the mentioned data.

Therefore, I could not obtain data for the analysis from independent organizations (except for the insurance sector).

For the banking industry, securities market, and asset management industry I collect the necessary data for the analysis from providers' annual reports.

This provides a limitation to the dataset for further reasons:

– Not all providers have publicly available companies' annual reports from 2005. According to the current legislation in the Slovenian banking Banking Act – ZBan-3 (2021), the bank has to have its annual reports available for at least five years. Therefore, before 2015, the banks do not have to share their annual reports publicly.
– Not all the relevant market participants are included in the dataset. Annual reports from companies that do not exist anymore are not all available. Therefore, these companies' data is excluded from the dataset used in this analysis.

- The dataset includes an overview of the industry for only 16 years. Due to lack of data before 2005 earlier years are not included because many annual reports are not available online.
- As the dataset represents a sample with less than 100 observations, the size of the sample is small.

All mentioned limitations have an impact on the analysis. I am aware that these limitations increase the possibility of heteroscedasticity or sample selection bias. As mentioned, not all the relevant market participants are included in the dataset for three industries within the financial sector (the banking sector, the securities market, and the asset management industry). The companies which are not included in the dataset exited the market, most likely due to insolvency. Due to this selection, the results based on this dataset could be biased because some companies which had to exit the market are not included. The influence of FDI on these companies is, therefore, not measured in the analysis.

I try to minimize the error variance with robust standard errors in the program SPSS. I will use an alternative method of reducing the effects of heteroskedasticity on inference by employing a heteroskedasticity-consistent standard error (HCSE) estimator of OLS parameter estimates.

The four different HC (heteroscedasticity-consistent) methods exist and all four of the methods are based on an approximation of the variance-covariance matrix of the estimated regression coefficients using the square of the residuals from an OLS linear regression (Hayes, 2003). These four HC methods are HC0, HC1, HC2, and HC3.

The four mentioned methods differ in how these squares residuals are used in the estimation processes. According to Hayes (2003) and Hayes and Cai (2007), the first two methods (HC0 and HC1) estimate the conditional variance of the error for each pattern rather than relying on an average squared error as when homoscedasticity is assumed.

HC2 and HC3, on the other hand, adjust each square of the residuals by a function of how atypical the case's pattern of predictors is or how much the case affects the regression coefficient estimates (Hayes, 2003).

According to Hayes and Cai (2007), HC3 is recommended because it can keep the test size at the nominal level regardless of the presence or absence of heteroskedasticity and there is only a slight loss of power associated with HC3 when the errors are indeed homoskedastic. Hayes (2003) recommends that HC standard error estimates should be routinely used and favor HC3 for sample sizes less than 250. Further, Cribari-Neto, Ferrari, and Oliveira's (2005) simulation results suggest the superiority of HC3 over its predecessors.

3.2   Dependent variable

As mentioned above, market concentration (MC) is measured by two different measures.

The market concentration ratio of the four largest firms is one measurement where sales of the four largest companies are compared to total industry sales.

Therefore, market concentration is calculated as follows:

$$CR_{4,t} = \frac{S_{1,t}+S_{2,t}+S_{3,t}+S_{4,t}}{total\ industry\ sales_t}, \tag{2}$$

where S_i represents total sales of the four largest firms by revenue in time t.

According to the Slovenian Insurance Association (Slovensko zavarovalno združenje), there were 21 insurance providers in 2019 and the following companies had the highest revenue from insurance premiums: Zavarovalnica Triglav, d.d. Zavarovalnica Sava d.d., Vzajemna zdravstvena zavarovalnica d.v.z., and Adriatic Slovenica, Zavarovalna družba d.d. (Slovenian Insurance Association, 2020). Therefore, the market concentration of the largest four firms is calculated as the ratio of the sum of the four largest firms' annual revenues to the sum of all firms' annual revenues. The data will be extracted from the Slovenian Insurance Association, which publishes its annual report every year. It includes sales from insurance premiums per company in the sector (Slovenian Insurance Association, 2020).

Another measurement for market concentration is the Herfindahl-Hirschman index (HHI). The index is a measure of the sizes of companies within an industry and indicates market competitiveness (Kastratović, 2018). Some papers state that HHI is a more precise measurement for market concentration because it uses information about the relative sizes of all players within an industry. Herfindahl-Hirschman index weights the market shares of the largest enterprises more heavily (Kastratović, 2018).

HHI is calculated by the sum of the squared market share of each firm (MS_i) competing in the market:

$$HHI = MS_1^2 + MS_2^2 + MS_3^2 + \ldots + MS_n^2. \tag{3}$$

3.3   Independent variables

Market growth

Market growth (MG) will be calculated based on the percentage change in sales over a period of time. Sales in this research mean revenue from insurance premiums. Growing markets can mean higher sales and can attract more competitors, which can indicate a prosperous industry for FDI (Forte & Sarmento, 2014; Sathye, 2002). The report of the Slovenian Insurance Association collects data for the period from 2005 to 2020 for all insurance

providers in this industry (Slovenian Insurance Association, 2021). Data for the other three markets within the financial sector (the banking sector, the securities market, and the asset management industry) is collected from providers' annual reports.

Market growth is expected to have a positive impact on industry concentration as Forte and Sarmento (2014) conclude in their research. Their paper stresses that larger industries tend to present a higher concentration ratio.

Market growth is calculated as follows:

$$MG_{i,t} = \frac{S_{i,t}}{S_{i,t-1}} - 1 \, , \qquad (4)$$

where $S_{i,t}$ presents sales of i company in t time, and $S_{i,t-1}$ presents sales of i company in $t-1$ time.

Minimum efficiency

In many existing surveys, economies of scale are quantified with the minimum efficiency (ME). According to Kastratović (2018) and Berger (1995), the precise calculation requires information regarding the physical production scale of individual companies which is either not available or not easily accessible. Therefore, substitution can be made with the share of fixed expenses in total expenses. This is calculated as the ratio of total fixed costs (sum of accounting positions labor costs, amortization costs, and provisions from the income statement) for all the companies of a given industry to the sum of total business expenses of all the companies in the industry. It is likely that in industries with relatively high fixed costs, fewer companies can survive. Therefore, a positive effect of this variable on market concentration is expected (Kastratović, 2018).

The Slovenian Insurance Association collects data for all the companies in the mentioned industry from the firms' income statements to statements of comprehensive income which I got access to for the period between 2005 and 2020 (Slovenian Insurance Association, 2020). For the banking sector, the securities market, and asset management industry the data for fixed and total costs is collected from companies' annual reports.

Minimum efficiency is calculated as follows:

$$ME_{i,t} = \frac{FC_{i,t}}{TC_{i,t}} \, , \qquad (5)$$

where $FC_{i,t}$ presents fixed costs of i company in t time and $TC_{i,t}$ presents total costs of i company in t time.

Fixed costs (FC) represent the sum of labor costs, amortization costs, and provisions of a company. Total costs (TC) present the sum of all total business expenses of a company (fixed and variable costs).

Foreign presence

Various measures for foreign presence (FP) have been used in the existing literature which includes assets, staff numbers, etc.

According to Forte and Sarmento (2014), the foreign presence (FP) variable is measured by foreign firms' sales divided by total sales of the industry.

Foreign presence is expected to increase market concentration in the long run because foreign companies tend to acquire local providers to acquire a higher market share, as was also the case in the Slovenian insurance market (e.g. Generali acquiring Adriatic Slovenica in 2019) (Slovenian Insurance Association, 2020). Mergers, acquisitions, and greenfield investment were present also in the last 16 years in the other three industries within the financial sector.

The variable foreign presence (FP) is calculated as follows:

$$FP_t = \frac{TR_{f,t}}{TR_t}, \tag{6}$$

where FP_t presents the share of foreign companies' revenue in t time ($TR_{f,t}$) and total market share in t time (TR_t).

As mentioned, other ways of measuring the foreign presence are possible (e.g. by employment). However, there were recent developments and changes in employment in the financial sector which could provide inefficient measurement. According to Paska, Satyr, Zadorozhna, Stadnik and Shevchenko (2020), employment in the financial sector is impacted by the rapid technological changes, bringing innovations, and shifting the services online.

To add more, as the sector was growing in the past few decades, according to Paska, Satyr, Zadorozhna, Stadnik and Shevchenko (2020), employment in the financial sector is growing even more. In other words, the number of people employed in the financial sector is ahead of the growth rate.

Due to the mentioned trends and specific characteristics of employment in the financial sector, I believe taking the share of revenue of foreign firms in a total market share provides a more efficient measurement for the variable foreign presence (FP).

Market size

Various measures for market size (MS) were used in previous surveys which included assets, staff numbers, etc. Forte and Sartmento (2014) and Kastratović (2018) measure market size as the total revenues of all the companies competing in the relevant market. In my analysis, I will employ the total revenue of all insurance providers in Slovenia.

In its annual report, the Slovenian Insurance Association publishes total revenue from insurance premiums per insurance provider (Slovenian Insurance Association, 2021). The data for total revenue for the banking sector, the securities market, and the asset management industry are collected by providers' annual reports. A negative correlation is expected between market size and concentration because, on average, an increase in the size of the market reduces concentration. In other words, larger markets provide space for more companies to compete. Therefore, a negative correlation between market size and market concentration is expected (Forte & Sartmento, 2014).

Market size is calculated as follows:

$$MS_{i,t} = \sum S_t ,\qquad(7)$$

where $\sum S_t$ represents the sum of revenues of all relevant companies in t time. Market size will be measured in billions of currency.

Type of the industry

As mentioned, the financial sector consists of four different industries in the Slovenian market according to ZKF.

To examine whether the type of the provider has a significant difference on the dependent variable, a dummy variable is created: TI.

This dummy, therefore, differentiates four industries within the financial sector: the banking sector, the insurance sector, the securities market, and the asset management industry.

Limitations

In addition to the mentioned independent variable, other socio-economic and political variables are not included in the model. According to Todorov (2018), the impact of FDI on market growth depends on various social, economic, and policy conditions of the host country. Empirical research suggests that the impact of FDI on growth is more significant in countries with political stability and less corruption. Further, host countries that are endowed with human capital and have access to larger domestic and foreign markets are expected to have a more significant impact of FDI on growth. To add more, the existing research claims that for developing countries with a favorable economic environment (such as tax regime, and natural resources), FDI is more likely to flow into and impact the growth (Todorov, 2018).

The exclusion of those variables is primarily due to the lack of access to the data and due to the overall complexity of the model given the limited size of the sample. Therefore, only the selected variables are included in the model of this research.

4   RESULTS AND DISCUSSION

The impact of foreign direct investment on market concentration in the Slovenian market was analyzed. 72 companies were examined in the period of 16 years (2005 – 2020). These organizations are 22 different banks and saving banks, 25 different insurance and reinsurance providers, 15 firms in the securities market sector, and 10 different providers in the Slovenian securities market sector.

As mentioned, the dataset includes data for the financial sector from 2005 – 2020 which consists of the last 16 years.

In this period, most changes happened since the country's independence. In addition, in 2004, Slovenia became a country member of the EU and in 2004, the country marked its highest annual economic growth since 1999 (Lorenčič, 2009). The selected period includes the latest financial crisis that hit the Slovenian market and took place from 2008 to 2012.

To add more, the dataset includes data for the last 16 years as it was more difficult to collect data before 2005 due to the lack of data. Therefore, the data for the financial sector before 2005 would not present the whole market.

To analyze the impact of FDI on the Slovenian financial sector, the empirical model was estimated with the usage of panel regression.

 The model begins by using OLS (ordinary least squares) regression.

Table 5: Descriptive Statistics

	Mean	Std. deviation	N
CR_4	70.62%	15.95%	64
HHI	18.53%	8.55%	64
MG	28.60%	291.73%	64
ME	51.49%	33.44%	64
MS	31.58	97.56	64
FR	29.70%	29.84%	64

Source: Own work.

Table 5 presents a descriptive analysis of the model. The sample consists of 64 observations ($N = 64$).

As mentioned, the model was run by two different measurements for dependent variables with the market concentration ratio of the four largest firms (CR_4) and with the Herfindahl-Hirschman index (HHI). The model has been run with heteroskedasticity-consistent

standard error (HC3) to reduce the effects of heteroskedasticity on inference. Table 6 represents summaries for both regressions.

Table 6: Results of OLS regression equation (dependent variable – market concentration)

VARIABLES	HHI as dependent variable		CR_4 as dependent variable	
	(1) OLS regression	(2) HC3 method	(3) OLS regression	(4) HC3 method
Market growth	0.000 (0.000)	0.000 (0.000)	-0.001** (0.001)	-0.001** (0.001)
Minimum efficiency	-0.001 (0.004)	-0.001 (0.002)	0.003 (0.006)	0.003 (0.005)
Foreign revenue share	0.020** (0.008)	0.020 (0.014)	0.290*** (0.053)	0.290*** (0.053)
Market size	0.013*** (0.003)	0.013** (0.005)	0.073*** (0.005)	0.073*** (0.021)
Constant	30.194 (0.464)	31.805 (0.592)	87.713 (0.798)	87.713 (1.015)
Time dummy	Yes	Yes	Yes	Yes
Industry dummy	Yes	Yes	Yes	Yes
Observations	64	64	64	64
F statistic	233.716	263.990	298.110	298.110
Adjusted R^2	0.845	0.844	0.860	0.860

Notes: Standard errors are in parentheses; * $p < .1$;** $p < .05$; *** $p < .01$

Source: Own work.

Table 6 shows the results generated by the OLS regression and linear regression with the HC3 method where two different measurements for dependent variables were taken into account.

Two of four independent variables are found to be significant in the model with the Herfindahl-Hirschman index (HHI) as the dependent variable. In the model with the market concentration ratio of the four largest firms (CR_4) as the dependent variable, three independent variables are found to be significant. Some coefficients do not have the expected signs.

Market growth is found to have a negative and significant effect on market concentration in the model with CR_4 as the dependent variable. Therefore, the results imply that market concentration is negatively affected by market growth.

Minimum efficiency is not found to have a statistically significant effect in the model with neither of the dependent variables.

Foreign revenue share in the market is found to be positive and highly significant as expected. This implies that market concentration in the Slovenian financial sector is highly impacted by the higher revenue share of foreign entities.

Furthermore, market size is also found to be significant on the dependent variable and has a positive correlation. The coefficient of the mentioned variable has a contrary sign to my expectation. Therefore, according to the results, on average, an increase in the market size increases concentration.

As explained above, OLS and HC3 methods were used to generate the benchmark results. In addition to these two techniques, the empirical model is tested with both FE and RE estimation models.

As mentioned, both FE and RE have their advantages and disadvantages. The existing literature does not conclude whether the advantages of FE or RE prevail (Baltagi, 2005; Hsiao, 2014). Therefore, the Hausman test is run to help to decide between fixed or random effects. As mentioned before, the Hausman specification test compares the parameters for the models with fixed (β_{FE}) and random effects (β_{RE}) (Baltagi, 2005).

Table 7: Hausman test (CR4 as dependent variable)

	Coefficients			
	(b)	(B)	(b-B)	Sqrt(diag(V_B − V_B))
	FE	RE	Difference	S.E.
Market Growth	0.000543	-0.000247	0.000000	0.0044
Minimum Efficiency	0.006358	0.002202	0.000009	0.1762
Foreign Revenue Share	0.252102	0.243764	0.000085	0.3667
Market Size	0.000750	0.000612	0.000000	0.0000
Insurance sector	0.014829	0.036414	0.000350	0.2484
Banking sector	-0.152391	-0.134545	0.000326	0.3228
Asset Management sector	0.250994	0.264073	0.000146	0.2790

$Chi^2 (7) = 11.823266$
Prob=0.1065

Source: Own work.

Table 7 presents the results of the Hausman test where the market concentration ratio of the four largest firms (CR_4) is taken as the dependent variable. Based on the results, the probability of the test is higher than the 5% level of significance. Therefore, the null hypothesis cannot be rejected.

Because the null hypothesis is not rejected, both FE and RE are consistent. RE is more efficient than fixed effects because the standard error of RE is smaller than that of fixed effects: $se(\beta_{RE}) < se(\beta_{FE})$. Therefore, random effects estimator is chosen for the model.

Table 8: Hausman test (HHI as dependent variable)

| | Coefficients | | | |
| | (b) | (B) | (b-B) | Sqrt(diag(V_B – V_B)) |
	FE	RE	Difference	S.E.
Market Growth	-0.000206	-0.000186	0.000000	0.8666
Minimum Efficiency	-0.000754	-0.000779	0.000002	0.9856
Foreign Revenue Share	-0.014968	-0.015019	0.000018	0.9904
Market Size	0.000145	0.000174	0.000000	0.1364
Insurance sector	-0.130484	-0.121984	0.000080	0.3426
Banking sector	-0.161152	-0.165238	0.000073	0.6330
Asset Management sector	0.035765	0.028146	0.000031	0.1723

$\text{Chi}^2(7) = 5.652549$
$\text{Prob} = 0.5809$

Source: Own work.

Table 8 presents the results of the Hausman test with HHI as the dependent variable. Based on the results, the probability of the test is higher than the 5% level of significance. Therefore, the null hypothesis cannot be rejected.

Similarly, as in the test with CR_4 as the dependent variable, the RE estimation is favored over FE as a mode consistent technique.

By applying the random effects technique, the following results were obtained:

Table 9: Random Effects estimations (dependent variable – market concentration)

VARIABLES	HHI as dependent variable (1)	CR_4 as dependent variable (2)
Market growth	-0.000295 (0.000403)	-0.001366** (0.000693)
Minimum efficiency	-0.001016 (0.003727)	0.003125 (0.006405)
Foreign revenue share	0.019770** (0.008395)	0.290262*** (0.014427)
Market size	0.012832*** (0.002614)	0.073329*** (0.004491)
Constant	30.194447 (0.459288)	87.713060 (0.789279)
Time dummy	Yes	Yes
Industry dummy	Yes	Yes
Observations	64	64

Notes: Standard errors are in parentheses; $* p < .1; ** p < .05; *** p < .01$

Source: Own work.

Table 9 presents results obtained with the RE technique.

According to the results of RE estimations, market growth is found to be significant in the model where CR_4 is used as the dependent variable while in the model with HHI as the dependent variable the independent variable is not significant. Similarly, as in the OLS model and model with the HC3 technique, the market growth is found to be negatively correlated to the market concentration.

Minimum efficiency is not found statistically significant in the model with neither of the dependent variables.

The correlation with foreign revenue share in the market is found to be positive and significant as expected, similarly as with the OLS model and model with the HC3 method. This implies that market concentration in the Slovenian financial sector is highly correlated with the higher revenue share of foreign entities.

Based on the RE results, market size is found to be statistically significantly positively correlated with the dependent variable. Therefore, it can be concluded that an increase in the market size increases market concentration.

Because the topic of the thesis is the impact of FDI on the insurance sector in Slovenia, an additional analysis was made. With additional regression, I want to test whether the conclusions are similar for the insurance sector alone. To test this, an additional regression with RE estimations was run with interaction for the dummy variable type of industry (TI) where four main independent variables are multiplied with an indicator variable for the insurance sector.

Table 10: Random Effects estimations with interactions (dependent variable – market concentration)

VARIABLES	HHI as dependent variable (1)	CR_4 as dependent variable (2)
Market growth	0.001269 (0.002158)	0.001093 (0.003728)
Minimum efficiency	-0.001981 (0.004007)	0.004515 (0.006923)
Foreign revenue share	0.022480*** (0.008523)	0.297246*** (0.014725)
Market size	0.014571*** (0.002968)	0.078276*** (0.005127)
Market growth * Insurance-industry Indicator	-0.001490 (0.002190)	-0.002320 (0.003784)
Minimum efficiency * Insurance-industry Indicator	0.010096 (0.010610)	-0.002935 (0.018331)
Foreign revenue share * Insurance-industry Indicator	-0.225952*** (0.064018)	-0.188327* (0.110599)
Market size * Insurance-industry Indicator	-0.005924** (0.002621)	-0.010593** (0.004529)
Constant	30.280297 (0.466908)	87.549477 (0.806644)
Time dummy	Yes	Yes
Industry dummy	Yes	Yes
Observations	64	64

Notes: Standard errors are in parentheses; * $p < .1$; ** $p < .05$; *** $p < .01$

Source: Own work.

According to the results from Table 10, two independent variables with and without interactions are found significant.

Foreign revenue share is found to be positively significant for the whole sample in both models (with CR_4 and HHI as the dependent variable). However, foreign revenue share interacted with the insurance sector indicator is found to be negatively correlated with the market concentration and highly significant.

The sum of both coefficients for this variable in the model with HHI as dependent variable is negative and equal to -0.203472 at a 1% level of significance. On the other hand, in the model with CR_4 as the dependent variable, the sum of both coefficients for the variable foreign revenue share is positive and equal to 0.108919. This implies that market concentration is positively correlated to foreign revenue share with the impact somewhat smaller for the insurance market.

Based on the RE estimation results with interactions, market size is found to be positively significant for the whole financial sector (at a 1% level of significance) while the incremental impact on the insurance industry is negative at a 5% level of significance. The sum of the coefficients is positive (0.008647 in the model with HHI as dependent variable and 0.67683 in the model with CR_4 as dependent variable). In other words, it can be concluded that market size impacts market concentration positively but the effect is smaller in the insurance industry compared to the rest of the financial sector.

The effect of market growth is not found to be statistically significantly different for the insurance sector for neither of the dependent variables.

Minimum efficiency is found to have a positive correlation with the market concentration for the insurance sector (because the sum of the coefficients is equal to 0.008115) but not statistically significant.

CONCLUSION

The impact of foreign direct investment on the market structure has been largely discussed in the literature of international business. The existing literature has been focusing on different sectors. However, the impact on the financial sector, or even more specifically, on the insurance sector, is not that widely investigated.

The conclusions of the existing literature are mixed – according to some papers, FDI is expected to have a significant impact on the domestic market structure but the direction of the influence is not certain. Some literature claims that, due to the entry of foreign companies, FDI may reduce market concentration and boost competition. On the other hand, other papers argue that FDI may reduce competition since foreign entities tend to have more assets and hence greater possibilities to gain market share.

Several recent papers investigate the impact of FDI in the insurance or financial sector, yet there is an absence of studies in the Slovenian market. Therefore, an attempt to give a contribution in this respect was made by providing evidence for the impact of FDI on the insurance sector in Slovenia.

As mentioned, the main focus of this thesis was to estimate the impact of foreign presence on the market concentration in Slovenia focusing on the insurance sector. The data for the whole financial sector was collected for the period 2005-2020. Based on the random effects estimations with interactions, a foreign revenue share was proved. Additionally, the effect of market size on the market concentration was found statistically significant. There was not enough evidence to prove the effect of minimum efficiency and market growth on market concentration.

Before ending this thesis, I have to mention its limitations. As mentioned, in addition to the used variables in the model, other socio-economic and political variables are not included. For instance, additional variables could be political stability in a host country, level of corruption, development of the host country, tax regime, and the existence of natural resources.

Secondly, there are limitations of the dataset, which could influence the results. The limitations of the dataset are that not all providers of the financial sector in the period 2005-2020 are included in the dataset due to a lack of data. Further, the dataset consists of data for the last 16 years. Due to lack of data, years before 2005 (earlier years) are not included because many annual reports are not available online. By mentioning this, the dataset represents a sample with less than 100 observations. Therefore, the size of the sample is small.

In the analysis, I tried to overcome the limitations of the dataset with the usage of heteroskedasticity-consistent standard error (HC3) to reduce the effects of heteroskedasticity on inference.

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APPENDICES

Appendix 1: Povzetek (Summary in Slovenian language)

Splošno priznano je, da prisotnost multinacionalnih družb močno vpliva na gostiteljske trge. Multinacionalke imajo različne motive za vstop na nov trg in vplivajo na državo gostiteljico v več razsežnostih. To vključuje cene in plače, mobilnost blaga med državami, učinkovitost, investicije itd. V razmeroma majhnem gospodarstvu, kot je Slovenija, so posledice neposrednih tujih investicij lahko še bolj pomembne, če je delež tujih podjetij visok (Forte & Sarmento, 2014).

Zaključki trenutne literature so različni. Nekaj raziskav trdi, da imajo neposredne tuje investicije močan vpliv na strukturo domačega trga, vendar smer vpliva ni jasna. Nekatera strokovna literatura trdi, da lahko tuje neposredne naložbe zmanjšujejo koncentracijo trga in povečajo konkurenco zaradi vstopa tujih podjetij. Po drugi strani pa nekateri raziskovalci trdijo, da lahko neposredne tuje investicije zmanjšajo konkurenco, saj imajo tuja podjetja toliko več sredstev in s tem večje možnosti za pridobitev tržnega deleža (Forte & Sarmento, 2014).

V letu 2019 je bilo manj kot 2 % vseh podjetij, povezanih z neposrednimi tujimi investicami in registriranih v Sloveniji, ki pa so skupaj ustvarila skoraj četrtino celotnega kapitala (24,3%) (Banka Slovenije, 2020a). Skupni obseg vhodnih neposrednih tujih investicij je bil v letu 2020 enak 35,3% slovenskega bruto domačega proizvoda, tuja podjetja pa so v omenjenem letu zaposlovala skoraj četrtino vseh zaposlenih (23,5%) v Sloveniji (Banka Slovenije, 2021). Stopnja rasti vhodnih neposrednih tujih investicij je v Sloveniji znašala 11,5 % v obodbju med letom 1994 in 2020. Le v letu 2020 je bila stopnja rasti v primerjavi s prejšnjimi leti zaradi pandemije Covid-19 razmeroma nizka, in sicer znašala okoli 2,4 %.

Veliko aktualnih znanstvenih člankov raziskuje vpliv neposrednih tujih naložb v zavarovalniškem ali finančnem sektorju, vendar raziskav, osredotočenih na slovenski zavarovalniški trg, primanjkuje.

Zavarovalniški sektor v Sloveniji je za tuja podjetja zelo privlačen, in sicer je bilo v zadnjem desetletju na slovenskem zavarovalnem trgu zabeleženih kar nekaj tujih neposrednih investicij. Leta 2016 je na slovenskem zavarovalniškem trgu nastala nova družba (Zavarovalnica Sava) kot posledica združitev štirih manjših zavarovalnic. V letu 2019 je italijanska družba Generali prevzela slovensko zavarovalnico Adriatic Slovenica; po podatkih Slovenskega zavarovalnega združenja (2020) je v letu 2019 lokalni ponudnik Adriatic Slovenica beležil 12-odstotni tržni delež, medtem ko je italijanski konglomerat Generali v istem letu beležil okoli 4 %. Poleg tega je v letu 2019 francoska družba Coface prevzela slovensko zavarovalnico SID – Prvo kreditno zavarovalnico, ki je bila prej del SID banke.

Vrednost slovenskega zavarovalniškega trga je v obdobju med letom 2010 in 2014 nekoliko padla, kar je bila posledica globalne finančne krize. Vendar je po letu 2014 naprej trg beležil

pozitivno rast letnih bruto kosmatih zavarovalnih premij - do sedaj je bila najvišja letna rast leta 2019, in sicer v višini 7,53 %.

Glede na obstoječe podatke in ugotovitve sem se odločila raziskovati vpliv neposrednih tujih investicij v slovenskem zavarovalništvu. V magistrski nalogi sem podrobno preučevala, kako različni dejavniki neposrednih tujih investicij vplivajo na tržno strukturo in tržno koncentracijo. Kot omenjeno, sem se osredotočila na panogo zavarovalnic v Sloveniji.

Za merjenje odvisne spremenljivke (t.j. tržna koncentracija) sem uporabila dva načina, in sicer (1) tržno koncentracijo štirih največjih podjetij znotraj panoge (CR_4) in (2) Herfindahl-Hirschman index (HHI). Za neodvisne spremenljivke sem določila naslednje štiri spremenljivke: velikost trga, letno rast prihodkov posameznega podjetja, minimalno učinkovitost posameznega podjetja in delež prihodkov tujih podjetij v celotni panogi. Poleg teh sem v modelu uporabila dve »slepi spremenljivki«, in sicer časovno spremenljivko in vrsto industrije znotraj finančnega sektorja. Tekom analine je bilo opravljeno več analiz regresij z obema odvisnima spremenljivkama. Glede na rezultate Hausmanovega testa je bila zaključna regresija opravljena z oceno RE.

Rezultati so pokazali, da je tržna rast negativno povezana s tržno koncentracijo. Delež tujih prihodkov na trgu je pozitiven in statistično značilen. Na tržno koncentracijo v slovenskem finančnem sektorju vpliva višji prihodkovni delež tujih podjetij. Na podlagi rezultatov je bilo ugotovljeno, da je velikost trga pozitivno značilna za odvisno spremenljivko. Glede na rezultate je možno sklepati, da povečanje velikosti trga povečuje tržno koncentracijo. Minimalna učinkovitost ni statistično značilna v modelu z nobeno od odvisnih spremenljivk.

Kot omenjeno, moja raziskava ni vključevala dodatnih družbeno-ekonomskih in političnih spremenljivk zaradi kompleksnosti in težav pri pridobivanju podatkov. Poleg tega ima uporabljen nabor podatkov v raziskavi svoje slabosti; uporabljeni podatki ne vključujejo vsa podjetja iz obdobja med letom 2005 in 2020, saj podatkov zaradi nedostopnosti baz ali letnih poročil ni bilo mogoče prejeti.