Foreign investments versus domestic investments: how borders matter in private equity

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Abstract

This paper examines the effect of foreignness of PE firms on investment returns on a global scale, using domestic and cross-border deals during 1982-2023. This paper finds evidence towards that the foreignness of a PE firm has a significant positive relationship with deal performance. This positive effect of foreignness is significantly positive related to the foreignness of the exit acquirer. Foreign PE firms often have a larger global network compared to local competitors, which leads to a higher probability of finding a good foreign exit acquirer for their target company. Foreignness is in many literature seen as a liability for investors and multinational enterprises, however this paper finds that PE firms can makes those liabilities into an asset with the right exit. This paper builds on the existing literature on foreignness and PE returns, and adding a new empirical research on a global dataset containing 2719 individual PE deals.

Keywords: assets of foreignness, liabilities of foreignness, PE returns, private equity, deal performances, foreignness

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List of abbreviations

Abbreviation	**Meaning**
AOF	Assets of foreignness
AVGS	Average growth rate of sales
BO	Buyout
CAGR	Compounded annual growth rate
GP	General partner
IRR	Internal rate of return
LOF	Liability of foreignness
LP	Limited partner
MNE	Multinational enterprise
MoM	Multiple of money
OLS	Ordinary least squares
PE	Private equity
VC	Venture capital

1. INTRODUCTION

The 26 percent decrease in private equity (PE) deal volume in 2022, compared to 2021, shows that private markets fell back on earth and lost their momentum (McKinsey, 2023). The increasing interest rates, lower availability of debt and macroeconomic unpredictability make the future of PE more uncertain. These challenges will make investors more careful in expanding their portfolios and will increase the research costs for finding new targets.

Now, more than ever, PE firms need to know everything about their targets to make sure that they can convince their limited partners (LPs) and debt providers to invest their money in the target company. Investing in foreign companies will become less attractive for PE firms, because debt providers are becoming less likely to accept the higher amount of risk for cross-border investments compared to domestic investments. This leads to a decrease in cross-border M&A deal values in advanced economies in 2022 of 18 percent (OECD, 2023). However, is the assumption correct that foreign investments, because of the increase in (research) costs, are less likely to be more profitable than domestic investments?

This paper will examine the effect of the foreignness of the PE firm on the return on foreign investments. The subject of the effect of foreignness on investments has been researched in PE and Venture Capital (VC) literature (Taussig, 2017; Buchner, Espenlaub, Khurshed & Mohamed, 2018). Still, there is in my understanding, no study been done regarding the effect of foreignness on PE investments on a global scale. This paper will focus on both the Liabilities of Foreignness theory (LOF) and the Assets of Liabilities theory (AOF) and how these affect the return of an PE investment. My research answers the following research question: does the foreignness of the private equity firm has a positive or negative effect on the return of investments?

This study will focus on the returns generated by PE investments in domestic and cross-border deals. A cross-border deal is an investment from an investor that invests in a company outside his home country. PE firms (general partners) act as intermediaries between investors (limited partners) and the companies they want to invest in. The PE firm uses capital from their limited partners to create a fund which consists of the companies the PE firms invests in, the commonly named portfolio companies, with a view to sell the companies between four and five years on average (Strömberg, 2008; Jenkinson & Sousa, 2015; Degeorge, Martin & Phalippou, 2016). PE deals are often highly leveraged with debt from banks and other debt providers (Hoskisson, Shi, Yi & Yin, 2013). The role of the GP is pivotal in a PE transaction as they must initiate the relationships with banks and other debt providers, search for potential buyout deals and have to satisfy the investors.

It is favourable to focus on PE investments over investments of multinational enterprises (MNEs) to research the effect of foreignness on the returns of an investment. The two main advantages of this approach are the differences in investment cycles and the differences in tax strategies (Taussig, 2017). Strategic buyers (for example: MNEs) have a contrasting investment cycle and deal rationale compared to financial investors (PE or VC firms).

Strategic buyers tend to have a longer holding period because they often search for companies to improve their own businesses in the long run. Often focussed on, but not limited to, cost synergies and product differentiation. The holding period for PE firms is shorter; PE firms aim to sell their portfolio firms between four and five years. Note, however, that the strategy of some PE firms is changing to a more buy-and-build strategy in the last years, which increases the holding period (Bansraj, Smit & Volosovych, 2022). Still the 'short' holding period, compared to MNEs, of PE firms reduces the 'noise' during the time between the initial investment and the exit, which makes it easier to corner the effect of foreignness on the investment.

The second reason why it more favourable to focus on PE investments for this paper is that tax strategies of strategic buyers can distort the performance of a company, which also makes it harder to track the effect of the foreignness of the investor. This will be further explained in the "Literature review and hypotheses" section of my paper.

There are two dominant theories in the literature on the effect of foreignness: the Assets of Foreignness theory (AOF) and the Liabilities of Foreignness theory (LOF) (Zhou & Guillén, 2016; Mallon & Fainshmidt, 2017). The latter was first introduced in 1976 as "the cost of doing business abroad" and was renewed to "Liabilities of Foreignness" in 1995 (Hymer, 1976; Zaheer, 1995). The theory is defined as "firm-specific costs based on unfamiliarity with and lack of roots in a local environment'' (Zaheer, 1995). A key element of the LOF theory is that the negative effect of foreignness increases when the distance of the host country increases geographically, institutionally, or culturally to the firm's home country (Eden & Miller, 2004; Kostova & Zaheer, 1999; Zaheer, 1995). The information asymmetry involved in cross-border investments negatively affects the value of a portfolio company and therefore the exit value in the end. To limit these costs, PE firms try to extensively screen potential portfolio companies and conduct due diligence on the foreign companies. This becomes harder if the institutional and cultural differences are higher and this increases the transaction costs according to the LOF theory.

On the other hand, the Assets of Foreignness theory argues that the institutional and cultural differences can be exploited by investors to increase their return of the investment. The theory is defined as follows: "advantage or benefit incurred by a multinational enterprise's subsidiary in the

host-country context due to its foreignness, that domestic firms would not be able to easily access or duplicate" (Sethi & Judge, 2009). The theory argues that firms that are acquired by foreign firms can have advantages over local firms.

The theoretical framework of AOF can be divided into three perspectives: the institution-based view, resource-based theory, and transaction cost economics (Mallon & Fainshmidt, 2017). These perspectives will be used to increase the understanding of how foreignness can be used by companies to get an edge on their local competitors. These perspectives will be further explained in the "Literature review and hypotheses" section of his paper.

Another way how foreignness can be seen as an asset is during the exit phase of the investment cycle. The exit value could be higher for a foreign investor compared to a domestic competitor for four reasons: lack of association with local idiosyncrasies, ability to credibly show local co-owners' ability to collaborate with foreign owner, global buyer network and global track record (Taussig, 2017). This could lead to potentially more prospective buyers for the target company, compared to if a local investor tried to sell the same company. The LOF and AOF theories does not exclude each other, which makes it an interesting topic to research and researching the theories will only extend our knowledge of the effect of foreignness.

I will test the effect of the foreignness of PE firms on investments in general with two different independent variables to answer my baseline hypothesis. The independent variables are the Multiple on Money (MoM) and Compounded Annual Growth (CAGR) Rate variables. Further I will research the effect of the foreignness of the acquirer, borders and institutional differences in the hypotheses that follows.

My results provide evidence towards that foreign acquisitions have a higher return, compared to domestic investments. I show in the results section that foreignness of the PE firm is significantly positively related to deal performance. Also, the foreignness of the exit acquirer significantly increases the deal performance, which suggests that a global network from a foreign investor can significantly affect the return of an investment. One of the most surprising results of this research is that differences in institutions between investors and target companies is significantly positive related to deal performance. Which suggest that foreign investor could use the lack of association with local idiosyncrasies to their advantage.

My study lies at the intersection of the literature on information asymmetry, PE returns and foreignness. Hopefully my research contributes to this literature and other cross-border deal performance studies. The remainder of this paper proceeds as follows. 'Literature review and hypotheses' reviews the literatures and gives information on the hypotheses. 'Data and methods'

section describes the source of the data, the variables and the methodology I used, and ‘Results’ presents the results of my research. ‘Limitations and further research’ describes the limitations of my research and I will conclude my paper with the ‘Conclusion’ section.

2. LITERATURE REVIEW AND HYPOTHESES

My theoretical foundation builds on the literature on PE investments, the liability of foreignness theory and the assets of foreignness theory. These three pillars will be the basis of my research. I will explain first why I chose to focus on investments of PE firms instead of VC or multinational enterprises' investments.

2.1 Private Equity

PE funds are managed by their general partners and are depended on the limited partners. The LPs are the ones that invest their money in the funds of the PE firm. Those funds consist of portfolio firms; firms that are acquired by the PE firm. The GPs are the ones that manage those funds, in this case the PE firms. The portfolio firms are acquired with the equity of the LPs and additional debt; capital borrowed from banks or debt markets (Hoskisson, 2013). So, the main players in a PE transaction are the GPs, LPs, the portfolio firms, banks and other debt providers (Gil ligan & Wright, 2012; Stowell, 2010). The role of the GPs is crucial in a PE transaction as they have to initiate the relationships with banks and other debt providers, search for potential buyout deals and have to satisfy the LPs. Most of the academic research is focussed on how company performance differs between portfolio firms and firms which are not acquired by an investment firm, for example publicly traded firms (Cumming, Siegel & Wright, 2007; Harris, Siegel & Wright, 2005; Renneboog, Simons & Wright, 2007; Wright, Amess, Weir & Girma, 2009). Research on the effect of foreignness can be found on venture capital deals globally and the effect of foreignness for PE investments in emerging markets (Buchnet at al., 2018; Taussig, 2017). To differentiate from those academic papers, this paper will focus on the effect of foreignness on the return of PE deals globally. In my understanding this is a new angle in the academic research and will contribute to the knowledge we have of the effect of the foreignness of investors on investments.

To research this effect, it is favourable to focus on PE investments over investments of MNEs (Taussig, 2017). There are two main advantages for this approach. First, the differences between strategic and financial buyers. Strategic buyers have a contrasting investment cycle compared to financial investors. Strategic buyers are searching for companies who can improve their business/performance in the long run and are not solely focussing on improving the performance of the company they invest in. Even if the performance of the acquired firm decreases over time, the investment could still be a success for the strategic buyers. For example, because of an increase in the differentiation of products or the investment is part of a buy-and-build strategy. While financial investors are only focussing on increasing the performance of the portfolio to eventually sell the company for a multiple of the initial investment after four-five years on average. This makes it easier to see if foreignness

influences the investment. Because the longer the holding period of the company the more 'noise' come into play, which makes it harder to corner the specific effect of foreignness of the investment. The second advantage is that firm tax strategies can distort the performance review of a company/subsidiaries. The common practise of transfer pricing MNEs makes it harder to review the performance of a firm. Transfer pricing is the practise whereby firms deliberately shift earnings away from subsidiaries in countries with higher formal and informal taxes to countries with more favourable tax rules and regulations (Grubert & Mutti, 1991).

VC investments are often characterized by minimal financial information for the buyer and researcher. VC firms are specialists in investing in informationally vague and risky start-up companies (Gorman & Sahlman, 1989; Gompers, 1995; Amit, Brander & Zott, 1998). This leads to high information asymmetries involved in VC transactions which causes trouble to gather enough information to research the effect the VC firm has on the portfolio company. It is often the case that start-ups do not even have a balance sheet or other financials which makes it even harder to evaluate the effect the VC firm has on the performance of the portfolio company. Since the goal of this research is to corner the effect of foreignness as precisely as possible, I chose to focus on only PE deals.

2.2. The liability of foreignness

The foreignness of a firm is in academical research often seen as a liability and affects an investment in a foreign country in a negative way (Zaheer, 1995). In 1976, the term "cost of doing business abroad" was introduced, which argued that local firms have better market information and are more deeply embedded in the national environment than foreign firms and therefore did not face foreign exchange risks compared to the foreign firms (Hymer, 1976). This theory was elaborated and renewed in 1995 with the new notion: "liabilities of foreignness" (Zaheer, 1995).

The liability of foreignness theory is defined as: "firm-specific costs based on unfamiliarity with and lack of roots in a local environment'' (Zaheer, 1995). A key component of the LOF theory is that the negative effect of foreignness increases when the distance of the host country increases geographically, institutionally or culturally to the firm's home country (Eden & Miller, 2004; Kostova & Zaheer, 1999; Zaheer, 1995). As a result, cross-border mergers or acquisitions creates lower value for the portfolio company and therefore also for the investors. Information asymmetry is the main cause of the value destruction. Getting access to valuable information as market information, networks, knowledge and resources is one of the most important reasons why foreign firms seek for strategic alliances with indigenous firms (Hitt et al., 2000).

Academics write that the negative effect of foreignness has two perspectives: a dyadic and relative perspective (Mezias, 2002; Sethi & Guisinger, 2002). From the dyadic perspective, the effect of

foreignness is connected upon both the host country and the home country from the foreign firm (Zaheer, 1995; Hymer, 1976). From the relative perspective, the effect of foreignness is only measurable if you can compare the foreign investment with domestic investments from local embedded firms (Eden & Miller, 2004; Zaheer, 2002).

The mentioned research is mostly focussed on broadening the concept of LOF, but there is also some empirical research done. For example, shareholders have those LOF concerns as well if it comes to foreign acquisitions of their company. Research showed that stock prices of acquirers respond more negatively to an acquisition if the target company is foreign (Moeller & Schlingemann, 2005). Foreignness will according to this research not only lead to a negative effect on the return of the transaction but can also lead to value destruction of the investment company itself.

Still the LOF theory does not conclude that cross-border investments are not ideal or that there are no benefits of multinationalism of a firm. But it points out that some advantages of cross-border investments lose some of their value due to the unfamiliarity of the investor to the host country (Mezias, 2002; Zaheer, 1995). The advantage for a firm to go beyond the borders of their home country can for example be in the form of the organizational structure of the firm. Multinational enterprises' ability to transfer internal firm resources across borders for tax or supply chain benefits is often more efficiently than the market is able to (Contractor, Kundu, & Hsu, 2003; Kirca et al., 2011; Kogut & Zander, 1993; Lu & Beamish, 2004).

Information asymmetry is the main cause of the value destruction and so sending information signals is one of the solutions. Another key component of the LOF theory, the first was the increase of the negative effect when distances increase between countries, is that the negative effects dampens over time (Zaheer & Mosakowski, 1997). This comes from the fact that foreign firms learn more over the local market and norms and can get more access to resources and knowledge of the host country over time.

2.2.1 Liability of foreignness in PE context

The research mentioned above is consistent with the effect what foreignness of investors has on PE investments specifically (Taussig & Delios, 2015). First, because the negative effect of foreignness also increases for PE firms if the distance of the host country increases geographically, institutionally or culturally to the firm's home country. This increases the costs of a transaction as PE firms seek for potential foreign targets with the highest growth potential. Weak host institutions (e.g., contract enforcement) and unfamiliarity with the local makes it more challenging to find the perfect target for their investment. Therefore, to find useful information on potential portfolio companies the investor often requires extensive use of local networks (Batjargal & Liu, 2004; Bruton & Ahlstrom,

2003; Taussig & Delios, 2015). This will complicate the due diligence and will lead to higher costs for the PE firm and in the end to a reduction of the deal performance.

Difference in institutions will not only lead to higher (transaction) costs, but it will also lead to more fear for expropriation. This fear by other insiders in their investees increases when the contract enforcement and corporate governance is weak in the host country (Giannetti & Simonov, 2006). That is why foreign PE firms tend to invest in ownership stakes that give them more control over the company. This fear will also reduce the incentives for other investors to invest in the company which will eventually lead to a lower exit value.

Also, higher information asymmetry as a liability of foreignness can also be seen in PE context. The difficulty of effectively monitoring, communicating and adding value to the portfolio company increases if the need to substitute legal agreements with relational/personal agreements. Research shows that as PE firms invest across borders in countries with weak(er) contract enforcement the firms tend to write contracts with less sophisticated term (Lerner & Schoar 2005). At the end, this will lead to a negative relationship between contract enforcement conditions and deal performance (Lerner & Schoar 2005).

2.3. Assets of foreignness

The counterpart of the LOF is the assets of foreignness theory. The definition is as follows: “advantage or benefit incurred by an MNE subsidiary in the host-country context due to its foreignness, that domestic firms would not be able to easily access or duplicate” (Sethi & Judge, 2009). The idea behind this theory is that besides the costs of doing investments abroad, firms who are acquired by foreign firms can also have advantages over local firms. Such as the bargaining power in negotiations with domestic firms and the host country government (Fagre & Wells, 1982). It could give you access to knowledge and resources which are unavailable to other local firms (Sethi & Judge, 2009). Also, ownership advantages in the form of patents and trademarks from the foreign acquirer could boost the competitiveness of the acquired firm (Dunning, 1980, 1998; Delios & Beamish, 2001).

A fundamental concept of the AOF theory is that it operates independently from the LOF theory. Firms can still face negative effects from foreignness (for example, costs of information asymmetry), but could also benefit from their foreignness (Mallon & Fainshmidt, 2017). These theories do not exclude each other, which makes it interesting topic to research and research will only extend our knowledge of the effect of foreignness.

The theoretical framework of AOF can be divided into three perspectives: the institution-based view, resource-based theory, and transaction cost economics (Mallon & Fainshmidt, 2017). First, the

institution-based view argues that: “MNEs are influenced by the various institutions within which they are embedded” (Peng et al., 2008). The acquired firms must deal with the institutions based in the home and host country of the acquirer. Institutions can both be formal (tax regulations) and informal (local norms) and play a significant role in how a company can operate in a specific market. This will define the strategic options and opportunities the acquired firm has. Capabilities from the home country of the acquirer could be exploited in the host country. This could lead to more opportunities for the acquired firm and have a positive effect on the performance of the acquired firm and potentially on the return for the investor. These opportunities arise from institutions asymmetry (Mallon & Fainshmidt, 2017). An example is the usage of the technological infrastructure of the home country, this could lead to an advantage if the domestic firms does not have access to the same level of technical resources.

The second theoretical perspective of the AOF theory is the resource-based theory. This perspective asserts that: “heterogeneous firm resources and/or capabilities are the sources of competitive advantages” (Barney, 1991; Leiblein, 2011; Penrose, 1959). This view focuses on capabilities and resources that are rare, valuable, inimitable and non-substitutable. The exploitation of these unique (in)tangible resources, which are unavailable for the firms in the host country, are central in this perspective (Delios & Beamish, 2001; Hymer, 1960; Nachum, 2003).

This advantage must come purely from the foreignness of the investor, otherwise these advantages could be attributable to simple ownership advantages (Mallon & Fainshmidt, 2017). The values and norms from a MNE could be seen as an ownership advantage but are not directly connected to the foreignness of a firm. If the origin of the home country plays a key role in the resources and capabilities of the portfolio company or MNE subsidiary than the advantage can be seen as resource-based assets of foreignness.

These advantages can be created if there is a potential for institutional asymmetry. Therefore, the overlap of the institutional- and resource-based assets of foreignness is important to use foreignness to strengthen your competitive advantage. For example, institutions in the home country could be more focussed to innovate the economy, which could lead to more lenient regulation towards developing patents. This could potentially lead to a competitive advantage if it can be exploited in a host country which has more stringent intellectual property regulation. The distinction between the institution- and resource-based assets of foreignness is the firm-specificity of the advantage. If a firm can use the institutional asymmetry to create a firm-specific resource that is not available to other domestic firms from the home country, than the advantage can be seen as a resource-based asset of foreignness (Mallon & Fainshmidt, 2017).

The third theoretical perspective of the AOF theory is the transaction cost framework. Portfolio firms can take advantage of the foreignness of the investor if it can achieve lower transaction costs than domestic rivals. This can be realised in three separate ways: internalization advantages, subsidies/ incentives and bargaining power to the host government.

Internalizations advantages consist of, but is not limited to, the internal integration of subsidiaries' activities, the assurance of input and output quality and the prevention of property infringement (Dunning, 1988, 1995, 2000). The internal integration of subsidiaries creates a knowledge advantage whereby the investor or the MNE can efficiently transfer knowledge to one portfolio company to another which reduces the transactions costs.

The transaction costs can also be reduced by governments who offer specific subsidies or incentives to increase the foreign direct investment in their country (Sethi and Judge, 2009). Portfolio companies or MNE subsidiaries can take advantage of the government support and use it to reduce their (transaction) costs. This creates a comparative advantage to domestic rivals which arises due to the foreignness of the investor.

The firm-specific assets from the foreign firm can also play a pivotal role in the bargaining power the firm has to the host government. If those assets are markedly different from those of domestic firms and the government wants those assets to be involved in the domestic economy, than foreign firms can use that to their advantage. The bargaining power of the foreign firm increases towards the host government and the foreign can bolster that power to reduce transaction costs.

There is once again an overlap between the different AOF theory perspectives. Assets of the foreign firm possess can both lead to resource-based assets of foreignness and reduced transaction costs (transaction costs perspective). Those assets (e.g., patents or other intellectual property) can lead to an increase of value of the portfolio company by deploying those resources. But can simultaneously lead to, if these assets are highly valued by the host company institutions, reduced transaction costs. The difference between transaction cost-based AOF and institution-based AOF is in the advantage they create. The reduction of transaction costs creates a *comparative advantage*, while institution based AOF create *competitive advantages* for the portfolio companies and therefore the investor. The classification of the advantages depends on both its underlying source and the effect it has on the investor (Mallon & Fainshmidt, 2017). The classification of the advantage is not of mayor importance for my research, but it gives some more context and body to the underlying theoretical framework of my research.

2.3.2 Assets of foreignness in PE context hypothesis 1

Research showed that local ties does not always create advantages, this means that foreign PE firms who do not have local ties could have an advantage over local firms (Uzzi, 1997). The main findings from this research suggests that firms who have embedded ties in their local economy will be at risk for institutional changes. This builds on the theory that local incumbents, who are more connected to the old ways of doing business, are more likely than foreign firms to be hurt by institutional changes and pro-market reforms (Uzzi, 1997). This gives room for advantages for foreign PE firms and other investors.

The effect foreignness has on PE firms will be measured with the performance of their domestic and foreign investments. The LOF theory suggest that the performances of foreign investments will be lower in general compared to similar domestic investments. But this effect will decrease over time, according to the same theory, because firms will get more familiar with the host institutions and the local resources. On the other hand, the assets of foreignness theory suggests the opposite: foreign investors will outperform their domestic rivals and will lead to a higher deal performance because of the institutional and cultural differences (Taussig, 2017). Overall, I expect to find a positive relationship between the foreignness of an investor and deal performance. Mainly because of the decrease of the liabilities of foreignness over time and the fact that institutional and cultural differences between countries can be used by PE firms in their advantage.

The theoretical framework of assets of foreignness mentioned above will be used to give some sense to the possible positive effect of foreignness found in the findings. Also, the assumption that the return of investment will increase if an investor is more experienced will be checked. Combining the two theories will give the findings of my empirical research some more context. Deal performances will be measured with the compounded annual growth rate and multiple of money independent variables, using the begin value of the investment and the exit value. This measurement will be explained in the “Data and methods” section. Based on the above-mentioned reasoning, I formulate my baseline hypothesis as follows.

Hypothesis 1: Ceteris paribus, the return of an investment is higher for a PE firm if the PE firm is foreign for the target company.

2.3.3 Assets of foreignness in PE context hypothesis 2

For the second hypothesis I will focus on the exit strategy of foreign and domestic investors, which is important for explaining why specifically PE firms can take advantages of their foreignness when they exit a portfolio company. Research showed that foreignness can be a great liability when a PE firm

entry a new market, because of the local idiosyncrasies. But PE firms can use these local idiosyncrasies for their benefit at the exit part of the PE investment cycle.

There are four reasons why foreignness can be asset during the exit part of the deal: lack of association with local idiosyncrasies, ability to credibly show local co-owners' ability to work with foreign owner, global buyer network and global track record (Taussig, 2017). This could lead to potentially more prospective buyers for the target company, compared to if a local investor tried to sell the same company.

The lack of association with local idiosyncrasies could create trust by prospective buyers (Taussig, 2017). Selling a portfolio company nowadays often is in the playing field of the global market. Think of small manufacturing companies who got bought by big MNEs as Adidas and Ralph Lauren. To get the most out of the deal you have to deal with and convince global companies. Those companies also clearly indicate that local idiosyncrasies of (emerging) countries are acting as significant barriers for bringing resources to the concerned country/economy. If these global resources can be shift with more ease to emerging market, than it is easier to see that the foreignness of an investor could cease to be a liability and even become an asset (Taussig, 2017). The reliance among local firms on informal contracting, in countries who have institutions with low power, can alienate them from foreign investors. Researched showed that especially in developing countries foreign firms know the increased risks they face when they invest in a company of developing country (Henisz, 2000). This leads too less foreign resources for firms of developing countries compared to developed ones (Henisz, 2000).

Based on the above-mentioned reasoning, the liability of foreignness of a foreign PE firm could change due to weak institutions at the beginning of the an investment to an asset when it needs to exit. To research this theory, I focus on the effect of the foreignness of the acquirer (foreign for the target company). According to the theory, international PE firms have a bigger network and are less dependable on domestic institutions when they have to exit (Taussig, 2017). To check if the possible (deal)value enhancement from foreign PE firms comes from the fact that they sell the company to a foreign acquirer, and so use their global network, will tell us if this theory is correct. My second hypothesis is therefore as follows.

Hypothesis 2: Ceteris paribus, the return of an investment for a foreign PE firm is higher if the exit acquirer is a foreign company for to the target company.

My third hypothesis is based on the idea that the effect of foreignness decreases if the differences between the institutions of the country of the PE firm and the target company are lower. The theory of liability and assets of foreignness should still apply, but the effect of it should be lower. How closer

the cultural distance is between the two countries how more the deal value should increase. Because if the cultural distance is high, foreign firms might not know and understand all the complexities of the process of making acquisitions in the host country (Nadolska & Barkema, 2007). Decrease in cultural differences leads to a decrease of the differences between institutions and so the levels of financial contracting, trust and therefore company performance (Li et al., 2014; Nahata et al., 2014).

The second thing what happens is that this decrease of the differences between institutions should also lead to a decrease in the assets of liability. Companies will become less 'foreign' to each other if cultural differences decrease. The effect of the lack of association with the domestic local idiosyncrasies of the foreign PE firm will also decrease if the differences between the countries' institutions decrease.

But the fact that foreign PE firms will still be an internationally active firm, after all they invest in foreign countries, makes sure that the decrease of the assets of foreignness will not disappear entirely. The foreign PE firm still holds his network and reputation and is still better able to find an acquirer who will maximize the exit value compared to domestic competitors, in theory. I apply the theoretical framework mentioned earlier for my hypothesis; a decrease of the differences between institutions should lead to a lower liability of foreignness and therefore an increase in the deal value. I formulate my third hypothesis as follows.

Hypothesis 3: Ceteris paribus, the effect of the liabilities of foreignness diminishes if the strength of institutions from the host company is closer to the strength of the institutions of the investor country.

My fourth hypothesis is based on the idea that information barriers decrease if the country of the PE firm and the target company share the same border. I will compare the data from neighbouring countries with the data from investments where the host and home do not share the same border but are foreign to each other.

The paper of McCallum (1995) can be seen as a starting point for literature on the (international) border effect (Cletus, 2013). He found out that Canadian provinces trade up to twenty-two times more witch each other than with US. While the institutional differences between the two countries are not relatively high compared to other countries. A more recent study found the same, but reduced, border effect of the US-Canadian border. It leaded to widespread consensus that borders between countries play a significant role to trade (Anderson & van Wincoop, 2004). The border effect between domestic and foreign investments can mostly be explained by tariff barriers, non-tariff barriers and transportation costs (Anderson & van Wincoop, 2004).

But research on the border effect has also some mixed findings. One global research showed that there is no difference in deal number or value if countries share the same border (Carril-Caccia, Paniagua & Requena, 2021). But they found that the effect of the border effect decreases if countries are highly integrated and share the same culture. My research focusses on another part of the border effect; the effect of borders in a global environment. The effect on the deal performance if two countries, who are foreign to each other, are neighbouring countries. I see neighbouring countries in my research as countries who share the same land border.

The explanatory power of the border variable is often not that high in global research on investments. Still, I am interested to know if the line, what was sometimes drawn thousands of years ago, between countries still has explanatory power on the difference of foreign deal performance. I expect that if countries share the same border that information barriers and cultural differences between the countries is, on average, lower than foreign countries who do not share a border. For example, speaking the same language, having the same level of law and contract enforcement institutions and level of social equality between genders is all more likely if countries are closer to each other. I expect that the decrease of information barriers and cultural differences will lead to a higher return of an investment for PE firms.

I will test if there is a border effect in cross-border investments by using the dummy variable 'Border'. The exact use and methodology of the use of this binomial variable will be explained in the 'Data and methods' section. This will be my last hypothesis of my research and the findings of testing all four of my hypotheses will answer my research question in the end. I formulate my fourth hypothesis as follows:

Hypothesis 4: Ceteris paribus, the return of an investment is higher for a PE firm if the PE firm is foreign for the target company and the countries share the same border.

In the next chapter I will expand on which data and methods I used for my research and how each individual hypothesis was tested.

3. DATA AND METHODS

3.1 Main data source and sample

3.1.1 Preqin dataset

The research in this paper is based on a global deals dataset focussed on PE deals from Preqin, the London-based alternative assets database provider founded in 2003. It covers different sets of asset classes: PE, venture capital, hedge funds and other alternative assets. The dataset contains deal specific data from 1982 till 2023 and is updated hourly. Preqin gathers data from, but not limited to, institutional investors, public fillings and fund managers. With this data they provide reliable financial information for researchers, asset/fund managers and others who want information on alternative assets. The dataset is singular compared to other PE dataset because it contains a lot of information on individual deals. Most of the PE & VC datasets only contains information on funds as a whole. The Preqin dataset gives me the opportunity to look at each deal individually, which makes it easier to control for the effects of foreignness, borders and other independent variables. The paper from Begenau, Robles-Garcia, Siriwardane and Wang (2020) provides an empirical guide on the investor-level PE Data from Preqin for the interested reader.

3.1.2 Sample

My data contains the 'Buyout' individual deals dataset from Preqin and is the main dataset. The sample used of this dataset starts with starts with 127,078 observations. This dataset includes investor type, investment type, primary industries, investor country, portfolio company, portfolio company, deal status and deal value. Every deal got his own 'deal code'. This deal code was used for the merging with the 'Exit value' dataset, which added the exit value of the deal and information on the exit acquirer. Using the 'Fund', 'Buyout' and 'Venture Capital' dataset I could find the country of the exit acquirer with a specific merge. I added ISO codes to the country of the investor, target company and acquirer to make it easier for merging different datasets to my sample to make new independent variables. I used the ISO codes database from the International Organization for Standardization (website: www.iso.org).

I filtered the dataset to only include the deals from investments firms from 1-1-1982 till 15-04-2023 and the observations which have complete information on the variables mentioned above (deal value, portfolio country, etc.). To have complete exit information on all the deals I include only the 'completed' deals. Those are the deals where the investor fully exited the target company. This will leave out the 'partially exit' deals. Those partially exited deals are unusable for my analysis, because

you cannot compare the partial exit value to the beginning value and make an economic meaningful analysis on the deal performance out of it.

Thereby the dataset is limited to 5171 buyout deals, after filtering to only include PE firms I ended with 2719 observations of individual PE investments with complete information. These are deal observations from 52 different primary industries and eight different investment types (for example: buyout, merger and add-on).

For the financial information on the portfolio, I merged the Preqin dataset with a dataset from Orbis. Orbis is one of the biggest databases of the world if it comes to financial data on private companies. I used the names of the portfolio companies from the Preqin dataset to search for their financial information in the Orbis database. In the end I got useful financial information for 524 portfolio companies. I use this information to make the control variable 'Average growth of sales'. The usage of this variable will be explained in the methodology section of this paper.

Using global data gives me enough observations to give an economic meaningful analysis on the effect of the foreignness of investors on PE investments.

3.2 Tackling the selection bias

Selection bias is the bias that is introduced by the selection of non-random sample of individuals, company and for example financial deals. This could cause a biased sample and will lead to a non-objective representative of the sample. If the sample is systemically different from the target population, it will cause research bias. This will lead to biased conclusions from the data results (Nunan, Bankhead & Aronson, 2017).

For my research self-selection bias could be a problem. Because PE firms rarely give information on their investment and exit deals. Therefore, it could be the case that PE firms only give information on successful deals to the 'market' so it increases their image and value in the industry. I created two tests to look if the deals dataset from Preqin is self-selected by the firms and not representative for the population.

First, I checked if all the deals from the Preqin 'funds' dataset were also listed in the individual dataset. If this is not the case than the missing deals could create a selections bias towards the dataset. The reason some deals are missing could be due the fact that funds to not provide enough information on those specific deals.

Firms could deliberately not share (all) the details of those deals possibly because the performance of those deals are lacking or highly negative. To check if this is the case, I compared the volumes of the fund dataset and the VC & PE dataset which each other. The data in the fund datasets shows the

exact number of PE and VC deals in each firm. The data includes 22091 different funds globally including 116924 PE deals and 499856 VC deals. The PE deals dataset amounts 127078 individual PE deals and the VC dataset has 430967 individual VC deals.

Table 1 provides the first results of my selection bias analysis, the first thing that meets the eye is that the total number of the funds and deal dataset do not match. There is difference of approximately 5,1%, which means that there are 5,1% more deals in the fund dataset compared to the deal dataset. What is particular about these results is that there more buyout (PE) deals in the individual dataset than in the fund dataset. For the VC deals this is completely the opposite. For the completeness of this analysis I added the 'total check' to see if the number of the individual VC and PE datasets combined is the same amount as if you download the complete individual deal dataset. You can see that these numbers match. After doing some research to the missing deals, I found that most of the deals that cannot been found in the individual 'Deals' dataset did not contain a lot of deal information on the Preqin website. Which could be the reason that it was not included in the individual 'Deals' dataset. Also some 'Buyout' deals in the 'Deals' dataset were seen as a 'VC' deal in the 'Fund' dataset. This explains a lot of the difference between the total number of 'VC' and 'Buyout' deals in the 'Fund' dataset. I do not see these 'missing deals' in the 'Deals' dataset as a problem for my research.

Table 1: Selection bias analysis

Selection bias analysis	**TOTAL NO. OF VC DEALS**	**TOTAL NO. OF BUYOUT DEALS**	**TOTAL NO. OF DEALS**	**Total check (VC+BO)**
Fundmanagers dataset	499856	116924	616780	616780
Deals dataset	430967	127078	558045	558045
Difference (FM - Deals)	68889	-10154	58735	
Difference (FM - Deals) in %	13,78%	-8,68%	5,10%	

Second, and most important, thing I looked in too was if the deals in my sample contains negative deal performances. If this is the case than it could create an enormous bias towards the results of my research. The dataset I use for my regressions only include deals which have complete information, if nothing or a small part of these deals are negative than the chance is high that funds only provide complete information on positive deals.

Table 2: Negative deals check

Only positive deals buyout PE deals?	Observations
Positive	2321
Negative	398
Total	2719
% negative deals	15%

Table 2 provides the results of the second part of my selection bias analysis. This analysis is focussed on the sample I use for all my regression and so the results are important for my research. You can see that approximately 15% of the observations of my sample have a negative deal performance, this accounts for 398 observations. This shows that PE firms do not only provide complete information on individual deals with positive deal performance but also on deals with a negative deal performance. This could still mean that my sample does not perfectly representative all the PE deals around the world and that there is some sort of selection bias. But the samples give me enough positive and negative observations to give an economic meaningful analysis on the effect of foreignness on PE firm's investments.

3.3 Methodology

3.3.1 Depended variables

I use the return of a PE investment for my depended variables. I estimate the return of a PE investment in two different ways: the compounded annual rate of return (CAGR) and the multiple of money (MoM). Different from most databases is that I can measure the return of investments for each individual PE deal, other datasets often only contain performance data at the fund level (Buchner et al., 2018). To measure the compounded annual rate of return of the investment I use the data I have on the cash out- and inflows. For the outflow I use the 'Deal value' (the amount the PE firm had to pay for the investment at the beginning) and the 'Exit value' (the amount the acquirer paid to the PE firm) for the inflow. Both values are reported in the Preqin database. The compounded annual rate of return measure takes not only into account the amount the PE firm receives, but also when in time the investor receives the amount. This normalizes the results, because it takes into account the holding period of the investment. If for example, the PE firm bought an investment for ten million euros in 2000 and sold it for forty million euros in 2022 than it should not be considered a better investment compared to an investment made in 2000 of ten million euros which got sold for thirty million euros in 2004. The metric is calculated as follows:

$$CAGR = ((Exit\ value)/(Deal\ value))\text{^}(1/number\ of\ years) - 1$$

Note that the internal rate of return (IRR) is quite similar to the CAGR but not the same. You can use the IRR if the investment has multiple cash inflows, my dataset only contains one cash inflow so using the IRR as metric was not an option.

The second metric I used for the measuring the return of an investment is the multiple of money. This metric divides the amount of equity the PE firm takes out on the date of exit with the initial equity investment. This metric is calculated as follows:

$$MoM = Exit\ value / Deal\ value$$

Note that the Exit value and the Deal value normally consist of all the cash in- and outflows for measuring the multiple of money. Again, my dataset only contains two cash flows for each deal so I only use these two to calculate the MoM. The disadvantage of the MoM metric is that it fails to consider the value of time. It does not differentiate if you double your investment in 4 of 20 years. So, to have more normalized results I will more often refer to the compounded rate of return for answering my hypothesis. I winsorized both the variables at a four percent level from the top to replace extreme positive returns of investments.

3.3.2 Independent variables

PE firm foreignness (foreign investment, border and experience-based foreignness)

I use the binary variable 'Foreign', which captures if the host country and home country differ. If it differs than it is seen as a foreign investment. Preqin uses the country where the headquarters of the company is located as the country of origin for the investor, portfolio firm and acquirer.

I add to my dataset the variable 'Border', which capture if the home and host country share the same border. The dataset 'Country Borders' available on the website: https://www.geodatasource.com/ was used for adding this variable, the dataset consist of all the countries who share the same border. Merging this data with the ISO codes in my main dataset created the 'Border' variable. With this variable I could now differentiate between foreign and neighbouring countries.

The binary variable 'New foreign investor' only defines a PE firm as foreign if the home country of the target is different from the home country of the PE firm *and* the PE firm does not have experience in investing in the host country. I created this independent variable with the full PE and VC individual deals dataset containing of 782691 deals. For example, if a German PE firm does his first investment in 2000 in a target company in the Netherlands, then the PE firm is considered foreign. But if the same PE firm does a second investment in a Dutch company in 2006, then the PE firm is not considered as a foreign PE firm, because it has already experience in the host country. Which affects

how effectively the PE firm deals with the local idiosyncrasies. Transactions costs could be reduced if an investor first have prior investment experience in the countries of their portfolio companies. They also suffer less from overall information asymmetry and are more aware of local business practises (Dai & Nahata, 2015).

Thus, the liability of foreignness should decrease if the PE firm invest for the second time in a host country. This experience effect is an interesting opening for further research but will not be fully focussed on in this research. Perhaps in a future paper.

Geographical distance

To measure if the distance between the host and home country has an effect on the investment, I use three different ways in measuring distance: geographic distance, cultural distance and institutional differences (Buchner et al., 2018). Literature shows that those different distances effect the exit performance of investment firms (Chen et al., 2010; Cumming & Dai, 2010; Bengtsson & Hsu, 2015).

For the geographic distance I used the data from GeoDist (available on the website www.cepii.fr), this dataset provides a complete set of gravity variables and is developed by Mayer and Zignago (2005). This dataset is largely cited and used among researchers because it includes weighted distances. They use city-level data to assess the geographic distribution of population inside each nation (the population of 2004 is therefore used). The basis idea is to "is to calculate distance between two countries based on bilateral distances between the biggest cities of those two countries, those inter-city distances being weighted by the share of the city in the overall country's population". They took their inspiration out of Head and Mayer (2002) and use longitudes, latitudes and populations data of main cities of all countries. The formula they use comes straight from the paper of Head and Mayer (2002). The advantage of this weighted geographic distance is for example the distance between China and Russia will be much higher if you compare inter-city distances with border-to-border distances. Those border-to-border distances create biases for countries who are large, but only have a relatively small economic active region (like Russia).). I created the variable 'Geographical distance' by taking the natural log of the weighted geographical distance value of each deal

Cultural distance

Cultural distance is measured as cultural disparity between the home and host country. I use the framework made by Hofstede et al. (2010), who build their framework on the approach of Kogut and Singh (1988). Their framework consists of the following dimensions: power distance, individualism, masculinity and uncertainty avoidance. This measurement of cultural disparity is widely used in diverse types of academic literature (Sivakumar & Nakata, 2001; Kirkman, Lowe, & Gibson, 2006).

Power distance is according to the Hofstede et al. (2010) measured as follows: “Power Distance is the extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally”. There is always an acceptance that the government holds more power than the individual, but the acceptance rate is different for every country.

Individualism is measured as follows: “Individualism is the extent to which people feel independent, as opposed to being interdependent as members of larger wholes”. The authors make clear that individualism is not about egoism, but that a person makes individual choices and decisions.

Masculinity is measured as follows: “Masculinity is the extent to which the use of force in endorsed socially”. According to the authors, in a masculine society men are supposed to be tough, and in a feminine society the genders are emotionally closer.

Lastly, uncertainty avoidance is measured as follows: “Uncertainty avoidance deals with a society’s tolerance for uncertainty and ambiguity”. Which should not be confused with risk avoidance. It has to do with anxiety for the unknown.

The cultural disparity variable is made by using the Cartesian distance formula with the cultural data obtained from Geert Hofstede’s website (www.geerthofstede.nl). The basis idea is that cultural differences between the two companies using the four dimensions creates a number between 0 and 100. How higher the number how higher the cultural disparity and so the cultural distance is between the host and home country.

$$\text{Hofstede cultural distance} = \frac{\left(\sum_{i=1}^{4} \left(C_{\text{Local},i} - C_{\text{Foreign},i}\right)^2\right)^{\frac{1}{2}}}{4}$$

Institutional difference

Good institutions are the basis for more international trade. Different institutional systems between countries make it harder for firms to invest in foreign companies. Foreign investment firms’ practises will often be different to institutionalized practices regarding monitoring, deal selection, contracting and advising (Li et al., 2014). For example, transactions costs increase if PE firms cannot get the right financial information on their targets. This means that they have to do more research or have to contact a local contact, which will increase the research costs for the company (Cumming, Schmidt, & Walz, 2010). To see how much institutional differences affect the return of an investment I divide the institutional differences in three independent variables: difference in regulatory quality, political stability and legal systems.

Firstly, the regulatory quality data is obtained from the Worldwide Governance Indicator database of the World Bank website (http://data.worldbank.org/data-catalog/worldwide-governance-indicators). The score value for each country is between 0 and 10 and is, according to the World Bank's website, measured with four thematic areas: preparation, procurement, contract management, and a special module on unsolicited proposals (USP). The value of the variable is the difference between the regulatory quality scores of the host and home country.

Secondly, the political stability data is also obtained from the Worldwide Governance Indicator database and measures: "Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism." The value of the variable is the difference between the political stability quality scores (between 0 and 100) of the host and home country.

Thirdly, for the legal system difference I used the data obtained from Rafael La Porta's website (http://faculty.tuck.dartmouth.edu/rafael-laporta/researchpublications). According to Rafael La Porta (2009): "standard historical narrative and recent empirical research show that national legal systems vary systematically according to the legal traditions or origins which countries belong to". The main difference between legal systems is often in the origin a law system. For example: some law systems have their origin from civil (or Roman) law or common (or English) law (Zweigert & Kotz, 1998; La Porta et al., 2008). The dataset of Rafael La Porta divides legal systems in the five different legal origins: English, French, socialist, German and Scandinavian. I created a dummy variable, which has the value one if the host and home country legal system differs.

Foreign Acquirer

In theory, like explained in the theoretical framework, the liability of foreignness of a foreign PE firm could change to an asset when the PE firm must exit the target company. This comes from the assumption that foreign PE firms have a bigger network of potential buyers compared to the local competitors in the host country and are less reliable on the domestic institutions when they have to exit. This will increase the deal performance in the end. To check if this (deal)value enhancement from foreign PE firms comes from the fact that they sell the company to a foreign acquirer, and so use their network, I will research the effect of the country of origin of the acquirer for the deal performance.

I use the data from the 'Exit value' dataset from Preqin, which includes the home country of the acquirer. They set the home country the same way they do in 'Deals' dataset: looking at the country of the location of the headquarters of the acquirer. My sample consists of 2719 observation and so 2719 acquirers. From these 2719 acquirers there is information on the home country for 1587 of

them. One of the reasons why the information of the acquirer country is not available is because there is no information about the acquirer whatsoever. Also, for some deals there were multiple acquirers so there is not one country of origin of the acquirer. To increase the sample size of the home countries of the acquirers I added some hand collected data after doing some research online to some of the missing values.

For my hypothesis; "Ceteris paribus, the return of an investment for a foreign PE firm is higher if the exit acquirer is a foreign company for to the target company", I only use the deals that come from a foreign PE firm. Which reduces the sample size to 446 observations. Hopefully, this still gives enough explanatory power for answering my hypothesis. The paper who first got me inspired to author this paper only had 546 observations for the whole paper, so in theory this should not be a complication for answering my hypothesis (Taussig, 2017).

3.4 Control variables

Investment size

I added three main control variables for my research. The first one is investment size. This variable measures the initial investment in the portfolio company. If a company spends more money on a particular firm than it could be the case that the investor is overly optimistic about the portfolio firm and the potential returns (Taussig, 2017). I created the variable 'Investment size' by taking the natural log of the 'Deal Value' (total investment of the PE firm) of each deal.

Average Sales growth

To control for firm specific performance, I created the 'Average Sales growth' variable. By including this firm specific variable on the performance of the portfolio company, it controls for the possibility that investors only invest in high growth companies. What often leads to a higher exit value.

It measures the average turnover growth of the five years prior the investment. If there is for instance only data on revenue available for first four, three or two years prior the investment, then the average of those years is used. If there is no data available on the revenue figures prior to the investment, then the average sales growth after the initial investment is used (till five years after the initial investment).

GDP per Capita

To control for the economic development of the home country I use the variable 'Gross domestic product per capita'. A more economic development country is more open for foreign investment, this 'openness' will diminish the negative effects of foreignness for a PE firm (Lambrechts, McGrath &

Rule, 2012). By including this variable, I control for the possible relationship between the economic development of a country and the economic conditions per capita with the dependent variables. I created the 'GDP per Capita' variable by taking the log of the GDP per Capita of the home country of the year of the initial investment.

Holding period

I added the variable 'Holding period' to my regressions to measure the number of years between the day of the initial investment (entry date) and the day of the exit (exit date). This variable is also used for the making of the dependent variable CAGR, to see if time has significant effect on the deal value. Using common sense this should be the case. The variable is calculated using the 'age_frac()' function of Stata. Which creates the age difference between the 'Entry date' and the 'Exit value' in years with fractional part. The advantage of this function is that you know the exact age difference and so can use it for formulas which include a time variable like for the depended variable compounded rate of return.

Investors tend to only sell their portfolio companies as they are 'in the money' and can make a profit out of it. Selling below the initial investment price will not only be a loss of money to the PE firm, but also it will harm their reputation. There is a possibility that investors wait as much as needed before selling their investment to another financial sponsor or strategic investor. To control for this possibility, I created this variable.

3.5 Testing the hypotheses

Testing the hypotheses will proceed as follows:

First, I will test my baseline hypothesis: "Ceteris paribus, the return of an investment is higher for a PE firm if the PE firm is foreign for the target company". I will use the statistical program 'Stata' for performing an ordinary least-squares (OLS) linear regression for the two depended variables I created. This OLS regression will measure the relationship between the depended variable (deal performance) and the independent variables. The focus of the first regressions is on the effect foreignness has on deal performance. I will use two different independent variables for foreignness: foreign investment and investor foreignness.

Second, I will test my second hypothesis: "Ceteris paribus, the return of an investment for a foreign PE firm is higher if the exit acquirer is a foreign company for to the target company". I will use an OLS regression to see the relationship between deal performance and the independent variable 'Acquirer foreignness'.

Thirdly, I will test my third hypothesis: “Ceteris paribus, the effect of the liabilities of foreignness diminishes if the strength of institutions from the host company is closer to the strength of the institutions of the investor country”. This hypothesis will be approached with several OLS regression to test the relationship between deal performance and the institutional and cultural independent variables.

Fourthly, I will test my fouth hypothesis: “Ceteris paribus, the effect of foreignness decreases if the countries share the same border”. This hypothesis will be approached with one ‘simple’ OLS regression to test the relationship between deal performance and the independent variable ‘Border’. The results of these regressions and what they mean for testing the hypotheses will be explained in the ‘Results’ section.

4. RESULTS

4.1 Summary descriptives

Table 3 provides summary statistics on deal performance of global PE deals. Among the 2719 deals with complete information there are 29,8% cross-border deals. Which means that the investing company (the PE firm) is foreign for the target company. Only approximately 5,4% of the deals have a host and home country who share the same borders. The standard deviation of the multiple of money variable is quite high. This is because of the positive outliers of the variable, even after 'winsorizing' 4% of the top. The standard deviation of the CAGR on the other hand is compared to the MoM variable a lot lower. This because the CAGR variable considers the holding period of the investment. The investments who have the highest deal performance are often also the deals with the longest holding period. The mean of the CAGR and MoM is still a bit high, but the median of the two dependent variables is more in line with economic theory. Which in general states that PE firms are searching for investments with a minimum of 20% or/and a MoM of 2. My observations are in line with these rules of thumb. The 'Weighted geographical distance' variable had an enormous standard deviation, so I took the natural logarithm of the weighted geographical distance. The variables 'Foreign acquirer' and 'Weighted geographical distance' have the lowest observations for the independent variables (excluding the 'AVGS' control variable), even after adding some hand-collected data. My dataset consists of 1587 deals which the country of origin of the exit acquirer is known and approximately 45.6% of the observations have an acquirer who is foreign to the target company.

Table 3: Descriptive statistics

	Obs	Median	SD	Min	Mean	Max
CAGR	2717	.23	0.572	-.993	.398	2.285
Multiple of Money	2719	2.429	6.392	.002	5.039	26.8
Foreign	2719	0	0.457	0	.298	1
Border	2719	0	0.225	0	.054	1
Ln Geo. Distance	792	7.966	1.076	5.081	7.966	9.717
Cultural disparity	2045	0	4.598	0	1.813	23.491
Regulatory Quality	2719	0	16.238	0	6.489	100
Political Stability	2719	0	17.475	0	8.03	85.238
Legal system difference	2663	0	0.347	0	.14	1
New foreign investor	2718	0	0.301	0	.1	1
Foreign acquirer	1587	0	0.499	0	.466	1
Holding period	2719	4.496	2.824	0	4.999	22
AVGS	565	.121	43.819	-1	3.795	775.615
Ln GDP per capita	2615	10.635	0.980	6.028	10.281	11.699

‘New foreign investor’ variable has a mean of 0,1 what means that 10% of the 2718 deals are made by a foreign PE firm which has no experience in investing in the host country.

4.2 Cross tabulation and total regression model

In table 4 I make the distinction between foreign and domestic investors (PE firms) and the region of origin of the PE firm. The first rows consist of medians and means of the dependent variable ‘Compounded annual rate of return’ across seven different regions for foreign and local investments of PE firms. It shows the performance of PE firms in different regions. For example, the deal performance of European PE firms is higher (23,6%) if they do domestic investments compared to foreign investments (17,9%). I chose for the median as first measurement for deal performance because it excludes the most the effect of, mostly positive, outliers. To have a good insight on how the deal performances are scattered among each other it makes more sense to look at the median values. These values are also more in line with the general economic belief that a PE investment has to have a minimum CAGR of 20%.

The second part of table 4 consists of a cross tabulation of means and medians for the ‘Multiple of money’ depended variable, across foreign and local firms by the same regions as the part above. The crucial difference between these and the compounded annual rate of returns results is that the factor time plays no role.

What catches the eye is that foreign investments from PE firms in the Middle East are relatively less profitable when there is no discount rate of time. For the compounded annual rate of return the foreign investment have a two times higher compounded rate of return compared to domestic investment. For the multiple of money the opposite is true; the local investments score higher on performance compared to the foreign investment. This means that good performing foreign investments have a shorter holding period, compared to the investments in their own country. According to these results you could say that is more profitable for PE firms to invest domestically in general (higher means and median for both depended variables). Still the difference is very low and with this information you cannot say if the effect of foreignness is significant. To see if foreignness and all my other variables have a significant effect on the performance of PE investments you have to do a regression.

Total (regression) model

I did a multivariate regression on my cross-sectional dataset including all my variables without the variable ‘Foreign acquirer’ and control variable ‘Average growth of Sales’. These variables have the lowest observations and will only be used for answering specific hypothesises to maintain a high

explanatory power of the total model. Also, the 'Ln Weighted geographical distance' variable is excluded, because of the high collinearity with the 'Foreign' variable. The number of observations is still lower than 2719, this is because the variable 'Cultural disparity' has 2044 observations. You can see the results in table 5 for the dependent variable: compounded annual rate of return. The results of the multiple of money variable are displayed in the second column of table 5. Both columns represent Ordinary Least Squares models that predict the deal performance for PE firms.

Table 4: Cross sectional dataset (divided by regions)

			Foreign PE firms		Local PE firms
		Obs.	Median (mean)	Obs.	Median (mean)
Compounded annual rate of return	All deals	809	22.3% (38,2%)	1904	23,69% (40,1%)
By regions					
	All regions	808	22.3% (38,2%)	1904	23,69% (40,1%)
	Africa	27	37,9% (43,5%)	11	22,34% (43,1%)
	Asia	132	21,7% (54,7%)	196	20,8% (39,2%)
	Australasia	18	22,4% (16,6%)	78	30,2% (51,3%)
	Europe	358	17,9% (31,1%)	803	23,6% (37,8%)
	Latin America	4	12,2% (12,7%)	11	72,6% (102%)
	Middle East	17	76,5% (82,8%)	15	38% (60,1%)
	North America	132	23,9% (38,2)	764	23,4% (41,7%)
Multiple of Money (MoM)			Foreign PE firms		Local PE firms
		Obs.	Median (mean)	Obs.	Median (mean)
	All deals	809	2.4x (4.94x)	1905	2,5x (5,1x)
By regions					
	All regions	809	2.4x (4.94x)	1905	2,5x (5,1x)
	Africa	27	5,9x (8,0x)	11	2,1x (4,3x)
	Asia	132	3,1x (6,7x)	196	1,9x (4,8x)
	Australasia	18	2,2x (3,1x)	78	3,3x (5,7x)
	Europe	358	2x (3,9x)	804	2,4x (6,6x)
	Latin America	4	1,1x (7,4x)	11	6x (11,5x)
	Middle East	17	5,6x (10,1x)	15	7,1x (9,3x)
	North America	233	2,7x (5,1)	764	2,6x (5,4x)

Looking at table 5, the variable 'New Foreign Investor' is positively significant with a $p<0.1$, this means that is has a significant level of 10% ($|t\text{-value}|>1.282$). This is in line with the 'Assets of foreignness' theory, foreignness for the PE firm creates assets that increases the performance of the deal compared to domestic investments. The coefficient of 0.089 means that statistically if a PE firm does an investment the compounded rate of annual return will decrease with 8.9% if it is a cross-border deal. This takes also into account the holding period. The rest of the coefficients of the independent variables, excluding the control variables, are not significant and so this gives me no information what their effect is on deal performance. The F-test for this regression is 78, this means that I reject the null hypothesis that all the coefficients in the table are zero for a significance level of at least 1%. So, I can conclude that my sample data provides sufficient evidence that my regression model fits the data better than a model of no independent variables at all. The predictive power of this table is therefore not worthless. The adjusted R-squared is 0.279, which means that more than 27% of the dependent variable can be explained by the independent variables.

The second full model on the other hand, has a lower predictive value with an adjusted R-squared of 0.210. Still the F-test score for this regression is 79. So it rejects the null hypothesis that the coefficient variables of the model are zero with a significance level of 1%. Which means that there is a probability of at least 99% that the independent variables fit the data better than no independent variables at all. The predictive power of his model is also shown by the individual t-test scores and p-values of the independent variables. The variable Foreign has a positive coefficient of 0.511 but is not significance at a significant level of 10% ($p>0.1$). The control variables 'Ln investment size', 'Holding Period' and 'Ln GDP per capita' have a significant level of 1%, according to their p-values (both $p<0.01$).

Comparing the coefficients between the first and second model leads to the conclusion that the coefficients are relatively stable between these models. Most negative coefficients stay negative and vice versa. Which is not a completely a rare founding, because they both predict the same deal performance of the same deals. The difference is that the first models take into account the time variable, but that evidently makes also no difference if the variable has a negative or positive effect.

For testing the four hypothesis I made different models, because including all the independent variables in one model gives too much multicollinearity problems which decreases the explanatory power of the independent variables and so of the model. Which will be explained in the next section.

Table 5: Full model OLS regression (CAGR and MoM as depended variables)

Variables	Full Model CAGR	Full Model MoM
Foreign	-.059	0.726
	(0.064)	(0.74)
Border	-.032	-0.995
	(0.071)	(0.82)
Cultural disparity	.012	-0.007
	(0.009)	(0.104)
Regulatory quality	0	0.004
	(0.002)	(0.024)
Political stability	-.001	0.006
	(0.002)	(0.025)
Legal system difference	-.078	-0.385
	(0.099)	(1.147)
New foreign investor	.089*	0.514
	(0.051)	(0.594)
Ln GDP per capita	0***	0***
	(0)	(0)
Holding Period	-.073***	0.291***
	(0.004)	(0.043)
Ln Investment size	-.12***	-1.743***
	(0.007)	(0.078)
Constant	1.123***	9.436***
	(0.046)	(0.53)
Observations	2043	2044
R^2	0.279	0.210
F-test	78.641	54.198

*** p<.01, ** p<.05, * p<.1

4.3 Testing for multicollinearity

Table 7 provides information on the correlation between the variables. What stands out is that some independent variables are highly correlated. For example, cultural disparity and the variable foreign have a correlation of 0.824. Which could create a problem in the multiple regression model and creates multicollinearity. Multicollinearity occurs when independent variables have a high correlation and are therefore not independent anymore. This can cause problems for the regression, because it will make it more difficult to see how the independent variables affect the dependent variables.

To test if there is a multicollinearity problem in my model, I use the variance inflation factor (VIF) to determine the amount of multicollinearity in my model. This factor estimates how much the variance of a regression coefficient is inflated due to multicollinearity. I use the VIF command in Stata to test this and you can see the results in table 6. The general rule of thumb to interpret these results is as follows:

- A value greater than 5 indicates that the coefficient estimates and p-values in the regression are highly unlikeable
- A value between 1 and 5 indicates that the multicollinearity is often not severe enough to require attention
- A value of 1 indicates no correlation between and multicollinearity between an explanatory variable and any other independent variable

Table 6: Variance inflation factor table

	VIF	1/VIF
Cultural disparity	15.087	.066
Legal system difference	5.747	.174
Foreign	5.688	.176
Political stability	4.579	.218
Regulatory quality	3.09	.324
Border	1.734	.577
Ln GDP per capita	1.463	.683
New foreign investor	1.354	.738
Ln Investment Size	1.117	.895
Holding Period	1.013	.987
Mean VIF	4.087	.

You can see that 'Cultural disparity' has a remarkably high variance inflation factor: 15.087. which leads to unreliable coefficient estimates and p-values. Because of the high correlation between this variable and other variable (observed from table 7), this is not an unexpected finding. Also, the high variance factor of the variable foreign: 5.747 can be explained. Every variable has something to do with foreignness of the PE fund. There would be no legal, cultural and political differences if the PE firm was not foreign to the target company. The 'New foreign investor' and 'Border' variables are different measures for the same question: how foreign the PE firm is compared to the target company. This leads to high correlation between the variables and so a high variance inflation factor.

The institutional independent variables are highly correlated and will be used separately for testing the hypotheses. Multicollinearity will otherwise distort the results of the regressions, which makes it impossible to link the results with the theoretical framework. Tables 6 and 7 will be used to choose the combination of variables for my regressions. To make sure that the correlation between the independent variables of each regression will be on an accepted level. This will decrease the level of multicollinearity as much as possible and the distortion of the result (through multicollinearity) will therefore be minimized.

Table 7: Matrix of correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Multiple of Money	1.000												
(2) Foreign	-0.009	1.000											
(3) Ln Investment Size	-0.434	0.096	1.000										
(4) Holding period	0.114	-0.003	0.039	1.000									
(5) LN GDP per capita	-0.023	-0.108	0.213	-0.060	1.000								
(6) Cultural disparity	-0.036	0.824	0.066	-0.029	-0.205	1.000							
(7) Regulatory quality	0.020	0.671	0.007	0.032	-0.394	0.667	1.000						
(8) Political stability	0.018	0.729	0.003	-0.027	-0.259	0.745	0.643	1.000					
(9) Legal system difference	-0.048	0.562	0.083	-0.016	-0.042	0.819	0.356	0.356	1.000				
(10) New foreign investor	0.048	0.492	-0.023	0.018	-0.077	0.407	0.290	0.406	0.300	1.000			
(11) Border	0.027	0.419	-0.043	-0.004	0.047	0.164	0.141	0.347	-0.036	0.269	1.000		
(12) Ln GDP per capita	0.130	0.017	-0.070	0.403	-0.376	0.042	0.123	0.047	0.024	0.072	-0.017	1.000	
(13) Foreign acquirer	0.042	0.255	0.045	-0.005	-0.145	0.231	0.191	0.193	0.168	0.174	0.115	-0.031	1.000

4.4 Hypothesis 1 results

Hypothesis 1: Ceteris paribus, the return of an investment is higher for a PE firm if the PE firm is foreign for the target company

For answering the first hypothesis I used both of the dependent variables: 'Compounded Annual Growth Rate' and the 'Multiple of money' variables. To see how foreignness affects those variables I use the independent variables 'Foreign' and 'New foreign investor'. The difference between those dummy variables is that that the latter only has the value '1' if the investor did not invest in the home country before the initial investment. Foreign investors who already have more experience in a certain country can be seen as less 'foreign' compared to investors without local experience. For both the dependent variables I will use two groups of control variables. The first group consists of the variables 'Ln Investment Size', 'Holding Period' and 'Ln GDP per capita'. The second group consists of all the variables of group 1, but also includes 'AVGS'. The average growth rate of sales variable has significantly lower observations, because of the lack of available financial information on private companies. More observations will give a better explanatory power to the independent variables, increases the predicting power of the model for real-life deals and so increases the usefulness of the model. But to make the analysis more complete I added the variable to group 2.

Results of the effect of the variable 'Foreign' on the compounded annual growth rate of the investment is presented in table 8. The first column includes the independent variable 'Foreign' and group 1 of the control variables. In the second column group 2 of the control variables is used. I use an ordinary least squares regression to predict the dependent variable.

I find a significant positive effect of the variable 'Foreign' on the deal performance measure compounded annual growth rate. The independent variable is significant at a significant level of 5% (|t-value|>1.96). Also, the control variable are meaningful in this regression as alle three of the variables have p-value lower than 0.1 and are significant at a significant level of 1%. This means that if PE firm is foreign for the portfolio company, not sharing the country of origin, the compounded annual growth rate increase with 4.2%, looking at the coefficient. A sanity test on the control variables concludes that the coefficient variables of the control variables are logical. The 'Ln Investment size' variable is negative, which makes sense because a good small investment can easier grow at a higher growth rate than a big investment. For example, an increase of the entry value from one million to an exit value 1.5 million is percentagewise bigger than an increase from 10 to 10.5. The negative coefficient of the control variable 'Holding period' can also be explained by the discount rate of time included in the dependent variable. The positive value of the 'Ln GDP per capita' variable indicates that a bigger economy gives more room for investment growth. This can be explained by the fact that bigger economies are often more open to (foreign) investments (Lambrechts et al., 2012).

Table 8: Hypothesis 1 regressions

Variables	CAGRa	CAGRb	CAGRc	CAGRd	MoMa	MoMb	MoMc	MoMd
Foreign	0.042**	0.066			0.879***	1.090*		
	(0.022)	(0.049)			(0.255)	(0.598)		
New foreign investor			0.044	0.165**			0.757**	1.689*
			(.031)	(0.081)			(0.372)	(0.991)
Control variables								
Ln Investment Size	-0.128***	-0.147***	-.125***	-0.144***	-1.848***	-2.080***	-1.803***	-2.027***
	(0.006)	(0.013)	(0.006)	(0.013)	(0.070)	(0.160)	(0.069)	(0.158)
Holding period	-0.078***	-0.076***	-0.078***	-0.077***	0.229***	0.343***	0.224***	.325***
	(0.003)	(0.008)	(0.003)	(0.008)	(0.040)	(0.101)	(0.040)	(0.100)
Ln GDP per capita	0.038***	0.020	0.034***	0.015	0.448***	0.400*	0.357***	.288
	(0.011)	(0.019)	(0.010)	(0.018)	(0.124)	(0.238)	(0.120)	(0.224)
AVGS		0.001**		0.001**		0.012**		.012**
		(0.000)		(0.000)		(0.006)		(0.006)
Constant	0.948***	1.195***	0.99***	1.248***	7.142***	8.394***	8.090***	9.622***
	(0.106)	(0.194)	(0.102)	(0.179)	(1.247)	(2.377)	(1.204)	(2.192)
Observations	2613	524	2612	524	2615	524	2614	524
R^2	0.298	0.331	0.298	0.334	0.220	0.265	0.217	0.264

**** p<.01, ** p<.05, * p<.1*

The second column of table 8 (CAGRb) gives the results for adding the control variable 'Sales growth' to the regression. Adding this variable made the independent variable 'Foreign' insignificant, possibly because it reduced the number of observations from 2613 to 524. Still the coefficient is positive, but this is meaningless if it is not statistically significant.

Columns 'MoMa' and MoMb' present the results of the same independent variables, but now they are predicting the dependent variable 'Multiple of Money'. I find a significant positive effect of the variable 'Foreign' on the deal performance measure multiple of money. The independent variable is significant at a significant level of 1% (p-value <0.01) for the first group of control variables. The change of a positive coefficient (in the first two columns) in a negative coefficient for the 'Holding period' control variable is logical. This depended variables does not include a discount rate for time

and so it makes sense that how longer the holding period is of an investment the more time an investment has to come 'in the money'.

The 'MoMb' model includes the fourth control variable 'Sales growth'. Just like in model 'CAGRb' including this variable drops the observations, only this time the 'Foreign' variable stays significant at a significant level of 10% and all the control variables are significant of at least a significant level of 10%.

The results are in line with my prediction of the effect of foreignness on the return of investment, stated in hypothesis 1. An alternative explanation for this increase of deal performance could be that foreign PE firms gain experience over time when investing in the host country. This could reduce the transactions costs and an experienced PE firm can be seen as 'less' foreign. To control for this assumption, I created a new variable which measures if the PE firm invests for the first time in the host country. To see what the effect is on deals if the PE firm is 'completely' foreign.

I did the same analysis as the models mentioned above but changed the 'Foreign' variable in the 'New foreign investor' variable, these models can be seen in the 'CAGRc', 'CAGRd', 'MoMc' and MoMd columns.

These models show the relationship between deal performance and making the first foreign investment in a certain country by a PE firm. Column CAGRc shows that the 'New foreign investor' has no significant effect on deal performance (p-value>0.1). On the other hand, the significance of the control variables are still really high. All three of them are significant at the 1% level. When controlling for the firm specific control variable 'AVGS' in column CAGRd, the model shows a significant positive relationship between investing in a country for the first time and compounded annual growth rate. The positive coefficient of 0.165 means that the compounded annual growth rate of a foreign investment will increase with 16,5% if the investor invests for the first time in the host country.

Columns 'MoMc' and 'MoMd' shows the effect of 'New foreign investor' on the multiple of money as the depended variable for two different control groups. Column 'MoMc' controls only for deal and country specific variables. It shows a significant level at least at 5% for all the variables. The 'New foreign investor' has a significant positive coefficient of 0.757, which means that the first investment of a foreign PE firm increases the multiple of money with 0.757. Adding the firm specific control variable 'AVGS' makes the coefficient of 'New foreign investor' less significant, but more than doubles the coefficient to 1.689 (See column MoMd).

These models are also in line with the first hypothesis, this means that the alternative explanation that foreignness only increases deal performance because firms gain experience over time does not hold. Also 'completely' foreign PE firms have a significantly positive relationship with the return of an investment. This shows evidence towards that foreignness of a PE firm increases the return of an investment, what is in line with the AOF theory (Mallon & Fainshmidt, 2017).

4.5 Hypothesis 2 results

Hypothesis 2: Ceteris paribus, the return of an investment for a foreign PE firm is higher if the exit acquirer is a foreign company for to the target company

One important part of the assets of foreignness theory is that foreign investors have better exit possibilities. According to the literature, international investors have a bigger network and are less reliable on domestic institutions when they have to exit (Taussig, 2017). To test if a part of the deal value enhancement from foreign PE firms comes from the fact that they sell the company to a foreign acquirer, and so uses their international network, I test the relationship with four regressions using only cross-border deals.

In the first two regressions the dependent variable is the compounded annual growth rate and these regressions differentiate in the usage of control variables. The last two regressions predict the dependent variable 'Multiple of Money' with also a differentiation in the control variables. For all four regressions I focus on investments from foreign investors, to see if the positive increase of deal performance from foreign investors comes mostly from their skill of finding a good acquirer.

The result of the four regressions can be seen in table 9. The first two models ('CAGRa' and 'CAGRb') show no significant effect of the variable 'Foreign acquirer' on the dependent variable 'CAGR'. The significance of the coefficient of 'Foreign acquirer' is higher in the second column, but still not significant at a 10% level.

In the last two models, in table 9, the coefficient of 'Foreign acquirer' is positively significant at a 5% level with a coefficient of 1.276. Which means that if the acquirer of the portfolio firm is foreign for the portfolio firm than it increases the multiple of money with 1.276. This is only the case if you control for the deal and country specific variables. Note that the observations for all four the regressions, and mostly for the second control group, are lower than other results in this paper. This is because information on the acquirer is limited in Preqin and Orbis databases.

I find support for hypothesis 2 with the results in the 'MoMa' model in table 9. In column 'MoMb' the coefficient is positive, but is not significant and the low observations give low explanatory power of the model for the whole dataset. In contrast, model 'MoMa' shows a significant positive coefficient of

the 'Foreign acquirer' what also includes more observations. More observations lead to a more statistical power of the model and reduces the impact of outliers. The positive coefficient means that if the initial investor is foreign for the portfolio firm the return of investment will increase if the acquirer is also foreign for the same portfolio firm. This is line with assets of foreignness theory that most of the deal enhancement of foreign investors comes from finding a good exit acquirer (Taussig, 2017).

Table 9: Hypothesis 2 regressions

Variables	CAGRa	CAGRb	MoMa	MoMb
Foreign acquirer	0.055	-0.020	1.276**	0.120
	(0.045)	(0.121)	0.604	1.419
Control variables				
Ln Investment Size	-0.169***	-0205***	-2.374***	-3.136***
	(0.014)	(0.034)***	0.181	0.400
Holding period	-0.082***	-0.056	0.099	0.261
	(0.008)	(0.018)	0.100	0.214
Ln GDP per capita	0.028	0.003	0.452*	0.114
	(0.020)	(0.044)	.259	0.517
AVGS		-0.002		-0.095
		(0.009)		0.105
Constant	1.288***	1.626***	10.452***	17.755***
	(0.191)	(0.433)	2.546	5.059
Observations	446	73	447	73
R^2	0.398	0.462	0.305	0.545

**** p<.01, ** p<.05, * p<.1*

4.6 Hypothesis 3 results

Hypothesis 3: Ceteris paribus, the effect of foreignness diminishes if the strength of institutions from the host company is closer to the strength of the institutions of the investor country.

My third hypothesis is based on the idea that the effect of foreignness decreases if the differences between the institutions of the country of the PE firm and the target company is lower. A decrease of the differences between institutions should therefore lead to an increase in the deal value. To test if this true I made regressions based on four independent variables: cultural disparity, regulatory quality, political stability and legal system difference. All four variables measure the difference of institutions and cultural characteristics of countries between the home and host country. Only the absolute value of the difference is used as measurement, so the values of these variables cannot be negative.

I used the variables separately in different regressions because the correlation between the variables is too high (see correlation and vif table). To overcome the problem of multicollinearity I only include one of the four independent variables in the regressions. All the individual untouched regressions output can be found in the 'Appendix' section.

The first two columns of table 10 (excluding the 'Variables' column) show the results of the regression on the dependent variable 'Compounded annual growth rate' which includes the 'Cultural disparity' variable. These regression models differentiate in the use of control variables. The coefficient of 'Cultural disparity' is significantly positive in the first two columns. Which shows that for every 'point' cultural difference between the host and home country the compounded annual growth rate will increase with 0.4%. In columns 'MoMa' and 'MoMb' both the coefficient of 'Cultural disparity' are positive in relationship with the independent variable 'Multiple of money'. In the 'MoMa' column 'Cultural disparity' is significance at a 10% level and in the second column at a 5% level.

Columns 'CAGRc', 'CAGRd'. 'MoMc' and 'MoMd' in table 10 show the results on the relationship between the difference in regulatory difference with deal performance. In all of the four regression the coefficient is positively significant. For every independent variable the coefficient is more significant in the first control group, which also includes more observations.

The relationship between political difference, between the host and home country, with deal performance can be seen in table 11. Also in these models the coefficients of the focussed variable are positive and significance. With the positive relationship between political difference and compounded annual rate of growth being the most significant at a 1% level for the first control group.

Table 10: Hypothesis 3 regressions A

Variables	CAGRa	CAGRb	MoMa	MoMb	CAGRc	CAGRd	MoMc	MoMd
Cultural disparity	0.004*	0.009	0.048*	0.175**				
	(0.002)	(0.006)	(0.028)	(0.076)				
Regulatory quality					0.003***	0.003*	0.039***	0.045**
					(0.001)	(0.002)	0.010	(0.019)
Control variables								
Ln Investment size	-0.120***	-0.141***	-1.728***	-1.840***	-0.128***	-0.147***	-1.843***	-2.069***
	(0.007)	(0.014)	(0.077)	(0.175)	(0.006)	(0.013)	0.070	(0.158)
Holding Period	-0.074***	-0.068***	0.284***	0.421***	-0.077***	-0076***	0.232***	0.354***
	(0.004)	(0.009)	(0.043)	(0.115)	(0.003)	(0.008)	0.040	(0.101)
Ln GDP per capita	0.065***	0.070**	0.651***	1.222***	0.054***	0.038*	0.659***	0.672***
	(0.014)	(0.027)	(0.167)	(0.333)	(0.012)	(0.023)	0.144	(0.283)
AVGS		0.001		0.007		0.001**		0.011**
		(0.001)		(0.011)		(0.000)		0.006
Constant	0.149***	0.586**	4.232**	-1.786	0.779***	1.003***	4.962***	5.514*
	(0.149)	(0.278)	(1.729)	(3.425)	(0.124)	(0.236)	(1.466)	(2.889)
Observations	2044	383	2045	383	2613	524	2615	524
R^2	0.277	0.309	0.208	0.238	0.300	0.333	0.221	0.268

**** p<.01, ** p<.05, * p<.1*

The difference of legal systems is not significant for the multiple of money when I control for the firm specific variable 'AVGS'. For the other three regressions the coefficient of 'Legal system difference' is significant and positive (see columns CAGRg, CAGRh and MoMg in table 11)

I predicted that the liabilities of foreignness could be seen in the negative relationship between the institutional difference variables and the independent variable, stated in hypothesis 3. But these results are the opposite of my prediction. It shows a small but significantly positive relationship between cultural and institutional differences and the return of investment. For both the first and second control group. The results show no support for hypothesis 3, but these results are in line with the AOF theory that argues that PE firms who are unaffiliated with local cultural or institutional idiosyncrasies can use these institutional and cultural differences to their advantage (Taussig, 2017).

Table 11: Hypothesis 3 regressions B

Variables	CAGRe	CAGRf	MoMe	MoMf	CAGRg	CAGRh	MoMg	MoMh
Political stability	0.002***	0.002*	0.025***	0.041				
	(0.001)	(0.001)	(0.008)	(0.015)				
Legal system difference					0.073**	0.128*	0.714**	0.826
					(0.029)	(0.069)	(0.337)	(0.849)
Control variables								
Ln Investment size	-0127***	-0.146***	-1.826***	-2.059	-0.128***	-0.150***	-1.814***	-2.055***
	(0.006)	(0.013)	(0.069)	(0.158)	(0.006)	(0.013)	(0.071)	(0.165)
Holding Period	-0.077***	0.076***	0.232***	0.346	-0.077***	-0.077***	0.231***	0.328***
	(0.003)	(0.008)	(0.040)	(0.100)	(0.003)	(0.008)	(0.040)	(0.103)
Ln GDP per capita	0.049***	0.036	0.559***	0.683	0.031***	0.003)	0.348***	0.159
	(0.012)	(0.023)	(0.138)	(0.276)	(0.011)	(0.020)	(0.126)	(0.243)
AVGS		0.001**		0.011		0.001*		0.011*
		(0.000)		(0.006)		(0.000)		(0.006)
Constant	0.830***	1.023***	5.96***	5.324	1.021***	1.394***	8.164***	11.110***
	(0.119)	(0.231)	(1.41)	(2.821)	(0.108)	(0.194)	(1.268)	(2.390)
Observations	2613	524	2615	524	2567	508	2569	508
R^2	0.299	0.333	0.219	0.270	0.300	0.340	0.217	0.263

**** p<.01, ** p<.05, * p<.1*

4.7 Hypothesis 4 results

Hypothesis 4: Ceteris paribus, the return of an investment is higher for a PE firm if the PE firm is foreign for the target company and the countries share the same border.

For answering this hypothesis, I tested the general relationship between deal performance and if the country of origin of the PE firm share the same border with the host country. A priori, I expect that the liability of foreignness should decrease if countries are more alike. The lower the cultural disparity and difference of institutions the lower the transactions costs will be for the

investor. I test this relationship with four models, two dependent variables and a differentiation of three or four control variables.

First, the results of the border effect on deal performance are measured in the form of compounded annual growth rate and can be seen in the models 'CAGRa' and 'CAGRb' in table 12. For controlling for deal specific and host country specific variables there is no significant effect of sharing the same border and the compounded annual growth rate. When adding the firm specific control variable 'AVGS' the coefficient of the 'Border' variable stays positive, but becomes more significant and is significant at a 10% level. This indicates that the compounded annual growth rate increases with 3.6% if the country of the investor and the portfolio firm share the same border, compared to deals who do not have this characteristic.

The same testing has been done in the last two models in table 12, but for the multiple of money as the dependent variable. In the first regression and second regression, both the coefficient of the border variable is positive and not significant. Also the explanatory power of the model decreased with a lower r-squared for both regressions with the multiple of money as depended variable, compared to the first two regressions in table 12.

A priori, I predicted that if the host and home countries share the same borders the return of investment should increase. I expected that this effect comes from a decrease in the liabilities of foreignness due to a decrease in information barriers. Countries who share the same border often know more about each other institutions and culture, which should reduce the transaction costs. The results of table 12 are partly in line with my prediction. All the four coefficients of the 'Border' variable in the regressions are positive and controlling for the firm specific control variable 'AVGS' gives a significant positive relationship with the compounded annual growth of return. Nevertheless, I could not reject the alternative explanation of these results; that the positive effect mainly comes from the foreignness of the investor and not from the fact that the country of origin of the investor shares the same borders with the host country. When testing the effect of sharing the same border for only the foreign investments in my dataset there was no significant positive or negative result. Further research has to be done to corner the effect of sharing the same borders on investments.

Table 12: Hypothesis 4 regressions

Variables	CAGRa	CAGRb	MoMa	MoMb
Border	0.036	0.161*	0.136	1.418
	(0.041)	(0.082)	(0.485)	(1.007)
Control variables				
Ln Investment size	-0.125***	-0.142***	-1.796***	-2.010***
	(0.006)	(0.013)	(0.069)	(0.158)
Holding Period	-0.078***	-0.078***	0.224***	0.320***
	(0.003)	(0.008)	(0.040)	(0.100)
Ln GDP per capita	0.032***	0.009	0.333***	0.233
	(0.010)	(.018)	(0.120)	(0.223)
AVGS		0.001*		0.011*
		(0.000)		(0.006)
Constant	1.005***	1.299***	8.374***	10.146***
	(0.101)	(0.177)	(1.197)	(2.170)
Observations	2613	524	2615	524
R^2	0.297	0.334	0.216	0.263

**** p<.01, ** p<.05, * p<.1*

5. LIMITATIONS AND FURTHER RESEARCH

Although this novel dataset gives new insights for the theory on foreignness, it still has his limitations. One of the biggest limitations of this dataset is the number of observations for certain variables. Finding good and complete information on individual deals of PE is hard and it takes a lot of effort to get the information for each variable for each deal in the dataset. Combining/merging a lot of datasets gave me almost complete information on 2719 deals. The variables that were lacking information on these deals were often related to financial information of the portfolio company or information about the exit acquirer. This reduced the observations for certain regressions and is one of the limitations of my research.

Another limitation is the geographical differentiation of the deals in my dataset. Looking at my summary statistics you can see that most of my deals are investments in North America, Europa and Asia. My global dataset contains mostly emerged economies, for a better representation of the world more investments in emerging countries would suit my dataset better and will give my regressions more meaning for global investments.

A possible limitation in my dependent variable could be that I only account of one cash in- and outflow in the portfolio company (the initial investment and the exit value). This lack of information reduced my dependent variable options. For instance, I could not use the, academically popular, Internal Rate of Return (IRR) as the dependent variable to measure deal performance. For this measurement you need multiple cash inflows. My dataset did also not allow for multiple cash outflows. For example, debt restructuring after the initial investment, which is a common phenomenon in PE acquisitions, could not be accounted for.

One of the main findings of my paper, which will be elaborated on in the 'Conclusion' section, is that the assets of foreignness has more effect on foreign investment than the liabilities of foreignness. One of the possible reasons is that foreign investors have a bigger global network to find a better acquirer for the firm, see results hypothesis 2 in the 'Results' section. This finding could be the basis for further research on the assets of foreignness theory, to find out more reasons why foreign investors gain more return on their investment compared to their local competitors.

An extension for this further research could be to look at the effect of time on the assets of foreignness. Did the positive effect of foreignness of investors on the return of investment increased over time? Was the effect lower before or after the financial crisis in 2018? A lot of event studies could be done on this subject.

6. CONCLUSION

This paper addresses the question of whether the foreignness of a PE firm has a positive or negative effect on the return of investments. A theoretical framework is developed by combining literature on foreignness (AOF and LOF theory), information asymmetry and PE returns. This paper examines return performances of cross-border and domestic PE investments. My results provide evidence towards that the foreignness of a PE firm is significantly positively related to deal performance.

One of the main findings of my paper is that the positive effect of foreignness is significantly related to the foreignness of the exit acquirer. If the exit acquirer is foreign for the target company than the deal performance increases significantly for cross-border investments. This is in line with the AOF theory, which suggests that most of the positive effect of the foreignness of investors comes from their global network of possible exit acquirers. The most surprising findings of this research is that differences in institutions between the home countries of PE firms and target companies is significantly positive related to deal performance. Which is not in line with the LOF theory, which suggests that the bigger the institutional and cultural differences are between countries the bigger the costs are for PE firms. However, this is in line with the AOF theory which argues that PE firms can benefit from the differences in institutions and cultural differences and use the lack of association with local idiosyncrasies to their benefit at the exit phase of the investment. The practical implication of these findings is that, even against the background of a decrease in PE deal volume in 2022 worldwide, PE firms should not back away from economies who differ cultural and institutional with their home country. According to my findings, they even can change these, at first sight, liabilities in to a valuable asset.

The results of this paper can have relevance for both investors and target companies. Investors can use these findings to see if they have enough capabilities to make a good return from a possible cross-border investment. For example, questioning themselves if they have a big enough global network of exit acquirers to use that to their advantage and overcome the costs of foreignness. Also, for target companies my results can be useful for choosing between a domestic or foreign investor. The limitations of my paper have already been explained in the previous section, but I hope my theoretical framework and findings can be a stepping stone for further research.

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8. APPENDIX

Hypothesis 3 results

Table 13

Linear regression

CAGR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Cultural disparity	.004	.002	1.79	.073	0	.009	*
Ln Investment Size	-.12	.007	-18.13	0	-.133	-.107	***
Holding Period	-.074	.004	-19.75	0	-.081	-.066	***
Ln GDP per capita	.065	.014	4.49	0	.036	.093	***
Constant	.604	.149	4.05	0	.311	.896	***

Mean dependent var	0.382	SD dependent var	0.560
R-squared	0.277	Number of obs	2044
F-test	195.323	Prob > F	0.000
Akaike crit. (AIC)	2774.804	Bayesian crit. (BIC)	2802.917

*** p<.01, ** p<.05, * p<.1*

Table 14

Linear regression

CAGR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Cultural disparity	.009	.006	1.41	.159	-.003	.021	
Ln Investment Size	-.141	.014	-9.89	0	-.169	-.113	***
Holding Period	-.068	.009	-7.26	0	-.086	-.049	***
Ln GDP per capita	.07	.027	2.58	.01	.017	.123	**
AVGS	.001	.001	0.87	.386	-.001	.003	
Constant	.586	.278	2.10	.036	.038	1.133	**

Mean dependent var	0.375	SD dependent var	0.559
R-squared	0.309	Number of obs	383
F-test	33.727	Prob > F	0.000
Akaike crit. (AIC)	511.402	Bayesian crit. (BIC)	535.090

*** p<.01, ** p<.05, * p<.1*

Table 15

Linear regression

Multiple of Money	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Cultural disparity	.175	.076	2.32	.021	.027	.324	**
Ln Investment Size	-1.84	.175	-10.49	0	-2.185	-1.496	***
Holding Period	.421	.115	3.68	0	.196	.646	***
Ln GDP per capita	1.222	.333	3.67	0	.567	1.876	***
AVGS	.007	.011	0.59	.559	-.016	.029	
Constant	-1.786	3.425	-0.52	.602	-8.521	4.949	

Mean dependent var	5.123	SD dependent var	6.552
R-squared	0.238	Number of obs	383
F-test	23.524	Prob > F	0.000
Akaike crit. (AIC)	2433.854	Bayesian crit. (BIC)	2457.542

*** p<.01, ** p<.05, * p<.1*

Table 16

Linear regression

Multiple of Money	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Cultural disparity	.048	.028	1.74	.082	-.006	.103	*
Ln Investment Size	-1.728	.077	-22.49	0	-1.878	-1.577	***
Holding Period	.284	.043	6.57	0	.199	.368	***
Ln GDP per capita	.651	.167	3.90	0	.323	.979	***
Constant	4.232	1.729	2.45	.014	.84	7.623	**

Mean dependent var	4.913	SD dependent var	6.202
R-squared	0.208	Number of obs	2045
F-test	134.149	Prob > F	0.000
Akaike crit. (AIC)	12798.826	Bayesian crit. (BIC)	12826.942

*** $p<.01$, ** $p<.05$, * $p<.1$

Table 17

Linear regression

CAGR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Regulatory quality	.003	.001	3.16	.002	.001	.004	***
Ln Investment Size	-.128	.006	-21.71	0	-.14	-.117	***
Holding Period	-.077	.003	-22.91	0	-.084	-.071	***
Ln GDP per capita	.054	.012	4.41	0	.03	.078	***
Constant	.779	.124	6.28	0	.536	1.023	***

Mean dependent var	0.401	SD dependent var	0.574
R-squared	0.300	Number of obs	2613
F-test	279.294	Prob > F	0.000
Akaike crit. (AIC)	3592.549	Bayesian crit. (BIC)	3621.890

*** $p<.01$, ** $p<.05$, * $p<.1$

Table 18

Linear regression

CAGR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Regulatory quality	.003	.002	1.91	.057	0	.006	*
Ln Investment Size	-.147	.013	-11.33	0	-.172	-.121	***
Holding Period	-.076	.008	-9.17	0	-.092	-.059	***
Ln GDP per capita	.038	.023	1.65	.099	-.007	.084	*
AVGS	.001	0	2.10	.036	0	.002	**
Constant	1.003	.236	4.24	0	.538	1.467	***

Mean dependent var	0.422	SD dependent var	0.595
R-squared	0.333	Number of obs	524
F-test	51.832	Prob > F	0.000
Akaike crit. (AIC)	742.113	Bayesian crit. (BIC)	767.682

*** $p<.01$, ** $p<.05$, * $p<.1$

Table 19

Linear regression

Multiple of Money	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Regulatory quality	.045	.019	2.43	.015	.009	.082	**
Ln Investment Size	-2.069	.158	-13.08	0	-2.38	-1.759	***
Holding Period	.354	.101	3.51	0	.156	.552	***
Ln GDP per capita	.672	.283	2.38	.018	.117	1.227	**
AVGS	.011	.006	1.97	.05	0	.023	**
Constant	5.514	2.889	1.91	.057	-.161	11.189	*

Mean dependent var	5.552	SD dependent var	6.942
R-squared	0.268	Number of obs	524
F-test	38.004	Prob > F	0.000
Akaike crit. (AIC)	3364.951	Bayesian crit. (BIC)	3390.520

*** p<.01, ** p<.05, * p<.1

Table 20

Linear regression

Multiple of Money	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Regulatory quality	.039	.01	4.02	0	.02	.058	***
Ln Investment Size	-1.843	.07	-26.43	0	-1.98	-1.706	***
Holding Period	.232	.04	5.84	0	.154	.31	***
Ln GDP per capita	.659	.144	4.57	0	.376	.943	***
Constant	4.962	1.466	3.39	.001	2.088	7.837	***

Mean dependent var	5.083	SD dependent var	6.428
R-squared	0.221	Number of obs	2615
F-test	185.295	Prob > F	0.000
Akaike crit. (AIC)	16507.755	Bayesian crit. (BIC)	16537.100

*** p<.01, ** p<.05, * p<.1

Table 21

Linear regression

CAGR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Political stability	.002	.001	2.80	.005	.001	.003	***
Ln Investment Size	-.127	.006	-21.65	0	-.139	-.116	***
Holding Period	-.077	.003	-22.88	0	-.084	-.071	***
Ln GDP per capita	.049	.012	4.16	0	.026	.072	***
Constant	.83	.119	6.95	0	.596	1.064	***

Mean dependent var	0.401	SD dependent var	0.574
R-squared	0.299	Number of obs	2613
F-test	278.524	Prob > F	0.000
Akaike crit. (AIC)	3594.711	Bayesian crit. (BIC)	3624.052

*** p<.01, ** p<.05, * p<.1

Table 22

Linear regression

CAGR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Political stability	.002	.001	1.87	.062	0	.005	*
Ln Investment Size	-.146	.013	-11.30	0	-.171	-.12	***

Holding Period	-.076	.008	-9.29	0	-.092	-.06	***
Ln GDP per capita	.036	.023	1.59	.111	-.008	.08	
AVGS	.001	0	2.12	.035	0	.002	**
Constant	1.023	.231	4.43	0	.569	1.478	***

Mean dependent var	0.422	SD dependent var	0.595
R-squared	0.333	Number of obs	524
F-test	51.792	Prob > F	0.000
Akaike crit. (AIC)	742.249	Bayesian crit. (BIC)	767.818

****p<.01, **p<.05, *p<.1*

Table 23

Linear regression

Multiple of Money	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Political stability	.041	.015	2.66	.008	.011	.071	***
Ln Investment Size	-2.059	.158	-13.07	0	-2.369	-1.75	***
Holding Period	.346	.1	3.45	.001	.149	.543	***
Ln GDP per capita	.683	.276	2.48	.014	.141	1.225	**
AVGS	.011	.006	1.98	.048	0	.023	**
Constant	5.342	2.821	1.89	.059	-.2	10.883	*

Mean dependent var	5.552	SD dependent var	6.942
R-squared	0.270	Number of obs	524
F-test	38.321	Prob > F	0.000
Akaike crit. (AIC)	3363.779	Bayesian crit. (BIC)	3389.348

****p<.01, **p<.05, *p<.1*

Table 24

Linear regression

Multiple of Money	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Political stability	.025	.008	3.23	.001	.01	.041	***
Ln Investment Size	-1.826	.069	-26.29	0	-1.963	-1.69	***
Holding Period	.232	.04	5.82	0	.154	.31	***
Ln GDP per capita	.559	.138	4.04	0	.287	.83	***
Constant	5.96	1.41	4.23	0	3.194	8.726	***

Mean dependent var	5.083	SD dependent var	6.428
R-squared	0.219	Number of obs	2615
F-test	183.477	Prob > F	0.000
Akaike crit. (AIC)	16513.436	Bayesian crit. (BIC)	16542.781

****p<.01, **p<.05, *p<.1*

Table 25

Linear regression

CAGR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Legal system difference	.073	.029	2.57	.01	.017	.129	**
Ln Investment Size	-.128	.006	-21.39	0	-.14	-.116	***
Holding Period	-.077	.003	-22.76	0	-.084	-.071	***
Ln GDP per capita	.031	.011	2.90	.004	.01	.052	***
Constant	1.021	.108	9.49	0	.81	1.232	***

Mean dependent var	0.402	SD dependent var	0.576
R-squared	0.300	Number of obs	2567
F-test	274.684	Prob > F	0.000
Akaike crit. (AIC)	3542.138	Bayesian crit. (BIC)	3571.391

*** p<.01, ** p<.05, * p<.1

Table 26

Linear regression

CAGR	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Legal system difference	.128	.069	1.86	.064	-.008	.263	*
Ln Investment Size	-.15	.013	-11.22	0	-.176	-.124	***
Holding Period	-.077	.008	-9.21	0	-.093	-.06	***
Ln GDP per capita	.003	.02	0.15	.879	-.036	.042	
AVGS	.001	0	1.90	.058	0	.002	*
Constant	1.394	.194	7.18	0	1.012	1.775	***

Mean dependent var	0.427	SD dependent var	0.602
R-squared	0.340	Number of obs	508
F-test	51.832	Prob > F	0.000
Akaike crit. (AIC)	725.868	Bayesian crit. (BIC)	751.251

*** p<.01, ** p<.05, * p<.1

Table 27

Linear regression

Multiple of Money	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Legal system difference	.826	.849	0.97	.331	-.842	2.494	
Ln Investment Size	-2.055	.165	-12.49	0	-2.378	-1.731	***
Holding Period	.328	.103	3.19	.002	.126	.53	***
Ln GDP per capita	.159	.243	0.65	.513	-.319	.638	
AVGS	.011	.006	1.89	.06	0	.023	*
Constant	11.11	2.39	4.65	0	6.414	15.806	***

Mean dependent var	5.601	SD dependent var	7.013
R-squared	0.263	Number of obs	508
F-test	35.790	Prob > F	0.000
Akaike crit. (AIC)	3276.697	Bayesian crit. (BIC)	3302.079

*** p<.01, ** p<.05, * p<.1

Table 28

Linear regression

Multiple of Money	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Legal system difference	.714	.337	2.12	.034	.054	1.373	**
Ln Investment Size	-1.814	.071	-25.68	0	-1.953	-1.676	***
Holding Period	.231	.04	5.78	0	.153	.31	***
Ln GDP per capita	.348	.126	2.76	.006	.101	.596	***
Constant	8.164	1.268	6.44	0	5.678	10.649	***

Mean dependent var	5.070	SD dependent var	6.416
R-squared	0.217	Number of obs	2569
F-test	177.890	Prob > F	0.000
Akaike crit. (AIC)	16220.440	Bayesian crit. (BIC)	16249.696

*** p<.01, ** p<.05, * p<.1