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Evžen Kočenda
Shivendra Rai

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Drivers of Private Equity Activity across Europe: An East-West Comparison

Evžen Kočenda[a]

Shivendra Rai[b]

[a]Institute of Economic Studies, Faculty of Social Sciences, Charles University, Prague; Institute of Information Theory and Automation of the CAS, Prague; CESifo Munich; IOS Regensburg. E-mail: evzen.kocenda@fsv.cuni.cz
[b]Institute of Economic Studies, Charles University, Prague, Czech Republic. E-mail: shivendra.rai@fsv.cuni.cz

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Abstract:

We investigate the key macroeconomic and institutional determinants of fundraising and investment activities and compare them across Europe, covering 13 Central and Eastern European (CEE) and 16 Western European (WE) countries. Five macroeconomic variables and nineteen institutional variables are selected. These variables are studied using panel data analysis with fixed effects and random effects models over an eleven-year observation period (2010–2020). Bayesian Model Averaging (BMA) is applied to select the key variables. Our results suggest that macroeconomic variables have no significant impact on fundraising and investment activity in either region. Investment activity is a significant driver of fundraising across Europe. Similarly, fundraising and divestment activity are significant drivers of investments across Europe. Institutional variables, however, affect fundraising and investment activity differently. While investment freedom has a significant effect on funds raised in the WE and CEE countries, government integrity and trade freedom are both significant determinants of investments in both European regions. In addition, the results demonstrate that, in contrast to the WE region, fundraising in the CEE region is not country specific.

1. Introduction

Public interest in private equity (PE) in Europe has been growing in recent years, and PE has become one of the most significant alternative asset classes. The funds raised and invested by European private equity firms confirm this. According to the most recent data published by Invest Europe (2022), private equity fundraising in Europe reached a record-breaking €118 billion from 841 funds in 2021. In addition, private equity investments totalled €138 billion in European companies, representing 0.76% of the GDP (Invest Europe, 2022a). Still, the topic of what drives the PE across Europe is not sufficiently researched in the literature, and specifically, Central and Eastern Europe seems overlooked. Further, to the best of our knowledge, there is no analysis that would compare the PE fundraising and investment activities between Western Europe (WE) and Central and Eastern Europe (CEE). In our paper, we provide a comprehensive assessment of the key macroeconomic and institutional determinants of fundraising and investment activities in private equity and compare them across Europe.

There has been a tremendous increase in European PE investments over the past decade. But the differences in PE activity across the countries are substantial. And these differences become even more prominent when comparing the WE and CEE regions. Admittedly, the PE industry has a far shorter history in the CEE region than in the WE region. Hence, the amount of funds raised and invested as a proportion of GDP in the CEE region is significantly lower than in the rest of Europe, despite recent rapid growth. Recent data from Invest Europe (2022) shows that CEE region fundraising surpassed €1.75 billion in 2021, up 33% from 2020 and the second-best sum since the 2009 financial crisis. And investment in the same year more than doubled, to €4.15 billion, the largest yearly value on record.

Evidently, Central and Eastern Europe offers attractive investment opportunities due to its rising economic importance, rapidly expanding economies, and long-term trends of convergence and integration. But despite the growing relevance of private equity as an important asset class in the CEE region, the factors that influence PE activity in the region are little understood.

There are two perspectives on the private equity industry. One distinguishes it from venture capital (VC), and the other categorizes it as a subset of private equity. This paper considers the broader definition of private equity, inclusive of venture capital, which is also used in Invest Europe (Invest Europe, 2022). Invest Europe represents the European association of private equity investors.

In light of private equity's significant contribution to economic growth, there's a wealth of scholarly material on the subject, but much of it is skewed toward the American and Western markets. But only a handful of studies have attempted to understand the drivers of private equity fundraising and investment in the CEE region. However, due to their limited scope, these studies do not allow us to draw generalizations about fundraising and investing activities in the CEE region.

Ljumović et al. (2020) examined the drivers of private equity (PE) investment in the CEE region. However, no quantitative methods were utilized to establish the link between the considered drivers and the investment activity. In the study, the attractiveness of Serbia for private equity investments was evaluated using SWOT analysis. Skalická Dušátková et al. (2017) conducted qualitative research to determine the institutional factors of the Czech Republic's PE market. Grzywacz and Jagodzińska-Komar (2019) analyzed the PE industry in Poland and its role in the wider CEE region and highlighted the increasing importance of PE as a source of financing for small and medium-sized enterprises (SMEs).

Stefanova (2015) examined the state of VC investment in the CEE region, with a particular focus on Bulgaria's economic and political environment as well as the state of its entrepreneurial ecosystem.

Wright et al. (2004) studied the impact of EU accession on the development of the PE industry in the CEE region, as well as the factors that have contributed to its growth, using a qualitative approach in three accession countries (Poland, Hungary, and the Czech Republic). Sato (2011) also used a qualitative approach to study the key drivers and challenges of the PE industry in the CEE region and concluded that the lack of institutional and regulatory frameworks is a key challenge for the development of the PE industry, along with a lack of a mature capital market and a limited pool of qualified professionals. Precup (2017) investigated the factors of leveraged buyout and venture capital investment activity in Eastern European nations; however, fundraising activity was not analyzed, and only one institutional determinant was considered.

We contribute to the research in this field by considering (i) the CEE region as a whole with its 13 constituent countries; (ii) both macroeconomic and institutional factors; (iii) fundraising and investment activities; and (iv) juxtaposition with Western Europe. To the best of our knowledge, no such study has ever been conducted before. The focus of this study can be summed up by the following research question: How do the factors driving CEE and WE private equity activity differ?

In this research, we consider 29 countries (13 in Central and Eastern Europe and 16 in Western Europe) during the 11-year period from 2010 to 2020. First, using the literature on private equity, we identify five macroeconomic variables. Then, from the Index of Economic Freedom, we identify thirteen institutional variables and utilize the six Worldwide Governance Indicators. Next, we use Bayesian Model Averaging to choose only the most relevant variables for the panel data analysis, taking into account the posterior probabilities. Subsequently, we use fixed effects and random effects models to isolate the key determinants of private equity activity in each region.

The remainder of the paper is organized as follows: In Section 2, we discuss the relevant literature. In Section 3, we explain the methodology and describe the dataset and variables used to test our hypotheses. In Section 4, we describe the results, followed by a discussion. And in Section 5, we summarize our work with concluding remarks.

2. Literature Review

The most pertinent studies on this topic were conducted by Gompers and Lerner (1998), Jeng and Wells (2000), Balboa and Martí (2001), Balboa and Martí (2003), Schertler (2003), Romain and van Pottelsberghe de la Potterie (2004), Cherif and Gazdar (2011), Kelly (2012), Félix et al. (2013), Bernoth and Colavecchia (2014), Precup (2015), Henchiri (2016), and Precup (2017).

Gompers and Lerner (1998) have shown that better GDP growth, higher R&D spending, and a lower capital gains tax led to more venture capital. Jeng and Wells (2000), on the other hand, found that neither GDP growth nor market capitalization were important venture capital drivers. Balboa and Martí (2001) claim that, contrary to the conclusions of Gompers and Lerner (1998), GDP growth was not statistically significant. This result, however, is consistent with Jeng and Wells (2000). Balboa and Martí (2003) enhanced earlier research and concluded that GDP growth and gross domestic savings had a statistically favorable effect.

Schertler (2003) found that investment levels are positively correlated with stock market capitalization, the proportion of employees in R&D, and labor market rigidity. Romain and van Pottelsberghe de la

Potterie (2004) found evidence that an increase in VC activity was supported by both long-term and short-term interest rates and claimed that venture capital financing has become more appealing due to rising interest rates. Concurrently, a positive impact of technological potential (as evaluated by patents, knowledge stock, and R&D growth) was confirmed. In contrast to Jeng and Wells (2000), it was discovered that GDP growth is a significant driver of VC activity, validating Gompers and Lerner's findings (1998).

According to Romain and van Pottelsberghe de la Potterie (2004), increased GDP growth leads to greater venture capital activity. In line with Gompers and Lerner (1998) and Romain and van Pottelsberghe de la Potterie (2004), Cherif and Gazdar (2011) found that market capitalization has a positive effect on VC investments. Their results supported Gompers and Lerner (1998) by demonstrating a positive and statistically significant impact of R&D expenditures on venture capital investments and funds raised.

Kelly (2012) showed that employment protection and R&D spending had little effect on PE activity, which is contrary to the results of Gompers and Lerner (1998), van Pottelsberghe Romain and van Pottelsberghe de la Potterie (2004), and Félix et al. (2013). Kelly cited employment protection, market capitalization, IPO exits, and R&D as drivers for buyout activity. But VC activity was unaffected by market capitalization or IPO exits. Félix et al. (2013) demonstrated that R&D has a beneficial impact on VC activity. This finding is consistent with that of Gompers and Lerner (1998) and van (2004). The correlation between VC activity and market capitalization was negative.

Bernoth and Colavecchio (2014) found a positive effect of equity market capitalization. Reduced corporate tax rates (particularly in CEE) boosted PE flow, supporting Gompers and Lerner (1998). But no evidence suggests that short-term interest rates affect private equity investment. Economic growth had no effect on PE in the CEE region. Western European companies, on the other hand, attracted investment due to real GDP growth, inflation, and market capitalization.

Precup (2015) found that market capitalization and the unemployment rate were statistically significant determinants of PE investment, but R&D expenditures were statistically unimportant. Henchiri (2016) showed that IPOs are the most important factor that positively influences LBO investment, but GDP growth does not show any significant impact. However, the interest rate and the unemployment rate negatively affect the growth of LBO investments. Later, Precup (2017) showed a positive effect of economic growth on VC activity, which supported Gompers and Lerner (1998), Romain and van Pottelsberghe de la Potterie (2004), and Bernoth and Colavecchio (2014). Precup (2017) validated the positive effect of long-term interest rates on VC investments, validating Romain and van Pottelsberghe de la Potterie's findings (2004). Market capitalization was statistically insignificant for VC but substantial for LBO. Neither GDP growth, long-term interest rates, the unemployment rate, nor market capitalization affected LBO. Precup (2017) showed that R&D expenditures positively and dramatically affect VC investments but negatively affect LBOs.

It is evident that there is no consensus among the researchers about the impact of macroeconomic determinants on VC and PE activities. The majority of the research is focused on Western European countries, which consider VC and PE separately and do not study investment and fundraising activities holistically. Hence, these results cannot be used to draw conclusions about PE activity in the CEE region.

There are five criteria that can be used to evaluate the existing literature on private equity and venture capital. Firstly, type of private equity strategy, either venture capital, leveraged buyout, or private equity holistically. Secondly, the type of private equity activity, namely fundraising, investment, and divestment.

Thirdly, geographical regions or the countries chosen as the focus of research. Fourthly, types of dependent variables, such as macroeconomic, institutional, structural, and those directly related to PE. And lastly, the methodology of selecting the variables and the estimation model.

A lot of research is focused on venture capital. Gompers and Lerner (1998) studied venture capital fundraising in the US using multivariate and fixed-effects regression models. Jeng and Wells (2000), Schertler (2003), Romain and van Pottelsberghe de la Potterie (2004), Cherif and Gazdar (2011), and Felix et al. (2013) were also focused on venture capital only. They considered venture capital a separate activity from private equity. This paper, on the other hand, considers VC and PE activities cumulatively.

Secondly, no attempt has been made in the past to compare PE fundraising and investment activities between the WE and CEE regions of Europe. Most of the previous studies focused on analyzing the determinants of venture capital or separately analyzing the determinants of LBOs. Very few studies have tried to use the same methodology to analyze both the VC and the LBO at the same time in order to understand the motivations behind each type of investor.

Furthermore, very few studies cover Eastern European countries. The majority of the research is focused on Western European countries. Only a few other authors considered the countries from the CEE region and only the ones from the European Union: The Czech Republic, Slovakia, Poland, and Hungary. And they are bulked into one European segment. The CEE region is much broader, and this paper fills this gap by comparing 13 CEE countries with 16 WE countries.

Nearly all authors are focused mainly on macroeconomic variables, with a few authors, such as Jeng and Wells (2000) and Schertler (2003), including institutional variables. Only Balboa and Martí (2001) have included variables related directly to the private equity process but focused on WE countries. For the first time, variables related directly to the private equity process are considered for comparing fundraising and investment activity across Europe.

Lastly, no variable selection methodology has been used in the previous studies. We use Bayesian model averaging (BMA), which has never been employed, to select the determinants. It provides a coherent mechanism for accounting for this model uncertainty when deriving parameter estimates.

It is also important to note that almost all past research used a panel data estimation technique (fixed and random effects specifications) to account for time-invariant country characteristics and time trends, and this paper follows suit.

3. Methodology and Data

We use panel data analysis in our research. Panel data permits us to analyze the factors of private equity activities (fundraising and investing) using both spatial and temporal features of the data. Ideally, only those regressors should be included that are robust to the inclusion or exclusion of other regressors. Hence, we use BMA to examine if the variables provided in the existing literature are truly robust drivers of private equity fundraising and investments.

Then, we apply regression models with fixed effects (FE) and random effects (RE). The fixed effects model implies that all panel members have the same variance and that there is no correlation over time, neither between nor among panel members. The random effects model implies that the unobserved effect is independent of the explanatory variables and that both the unobserved effect and the explanatory variables may fluctuate randomly over time and across countries.

We then apply a panel data analysis with both horizontal dimension (i) and temporal dimension (t) in this research paper. We can then construct the model as follows:

$$y_{it} = \beta_0 + \sum_{j=1}^{k} \beta_j x_{itj} + v_{it}$$ (1)

where i = 1...N represents the number of countries and t = 1...T represents the number of years for which empirical simulations are run.

3.1 Data Sources

Private equity activity (fundraising, investments, and divestments) data for this research was supplied by Invest Europe, a trade association representing private equity and venture capital firms and investors in Europe. However, the data comes from the European Data Cooperative (EDC). EDC is a joint initiative developed by Invest Europe and its national association partners to collect Europe-wide industry data on PE activity. The EDC platform acts as a central hub for private equity and venture capital groups across Europe.

Based on the provided data, a balanced panel dataset was constructed. Our dataset consists of annual data spanning from 2010 to 2020 from the following 16 WE countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Norway, Switzerland, United Kingdom, and the following 13 CEE countries: Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Romania, Serbia, Slovakia, and Slovenia.[1]

All variables associated with the private equity industry are normalized by the GDP in order to make the data more comparable. This modification is necessary for at least two reasons. Firstly, as countries have varying economic levels and economic growth rates, the problem of heteroscedasticity may arise, which states that the higher the economic level, the larger the observed variability. Consequently, normalizing data by GDP permits us to address this issue. Secondly, because all variables are initially stated in nominal terms, an observed increase in a variable over time may be solely attributable to a change in price levels. So, varying inflation rates among countries could affect the estimation of parameters. Normalizing variables by GDP circumvents this issue because GDP includes the effect of inflation in each country.

The discrete nature of the PE industry poses a unique analysis issue. Because the database only contains information from private equity firms that opted to submit it willingly, the data may be skewed. A portion of the data may be missing, and its correctness and reliability are unclear; therefore, it may be biased.

In addition, the data for the independent variables were gathered from a wide range of sources, including Eurostat, the International Monetary Fund (IMF), the World Bank, the OECD National Accounts, and the Heritage Foundation. As the market capitalization data for several countries was missing in the above-mentioned data sources, it was manually collected by perusing the websites and monthly and annual reports of the respective stock exchanges. Among these are Nasdaq Nordic (Sweden, Finland, and Denmark), Nasdaq Baltic (Estonia, Latvia, and Lithuania), Belgrade Stock Exchange (Serbia), Zagreb

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[1] Due to unavailability data in the Invest Europe databases, we exclude some CEE countries: Bosnia and Herzegovina, Montenegro, Albania, Kosovo, and North Macedonia.

Stock Exchange (Croatia), Prague Stock Exchange (Czech Republic), Bucharest Stock Exchange (Romania), Bratislava Stock Exchange (Slovakia), London Stock Exchange (United Kingdom), and Borsa Italiana (Italy).

3.2 Target Variables

Fundraising is the amount of money raised by PE funds as a percentage of GDP. And investments are the amount of money invested in private companies based in Europe as a percentage of GDP. Fundraising and investments are commonly used as key indicators of private equity activity because they are strong measures of the PE industry's health and growth.

As demonstrated by Balboa and Martí (2001), Schertler (2003), Kelly (2012), Bernoth and Colavecchio (2014), and Henchiri (2016), most of the research examining the determinants and drivers of PE activity uses funds raised and invested as the target variables. And thus, to study the drivers of private equity, we employ these two target variables as well: **Fundraising** & **Investments**. Fundraising represents investor confidence in PE firms. Investments, on the other hand, represent the PE firms' strategies and decisions for the deployment of capital into private companies.

3.3 Explanatory Variables

Furthermore, we employ the following factors as explanatory variables:
Divestments: the amount of money divested as a percentage of GDP. This variable is directly related to the PE process. The authors Balboa and Martí (2001) and Félix et al. (2007) standardize this variable to the corresponding GDP. And the research conducted by Jeng and Wells (2000) and Félix et al. (2007) indicates a positive relationship between investments and divestments.

GDP growth: annual growth rate of gross domestic product as a percentage obtained from the World Bank. Several authors, including Gompers and Lerner (1998), van Pottelsberghe de la Potterie and Romain (2004), Cherif and Gazdar (2011), and Félix et al. (2012), have concluded that this variable is indicative of economic expansion and thus has a positive impact on PE activity.

Interest rate: three-month money rates in percentage. These short-term rates, at which financial organizations can borrow funds from one another for a short period of time, are obtained from the OECD, with the exception of Serbia, Romania, Bulgaria, and Croatia due to a lack of availability. The money market rates for these countries are obtained from the IMF. Short-term interest rates are the rates at which short-term borrowings are affected between financial institutions or the rate at which short-term government paper is issued or traded in the market. Gompers and Lerner (1998) and van Pottelsberghe de la Potterie and Romain (2004) show that a higher interest rate results in higher fundraising and investment activity.

Unemployment rate: number of unemployed people as a percentage of the total labor force, obtained from the World Bank. Cherif and Gazdar (2011) and Félix et al. (2013) have shown a negative correlation between PE activity and unemployment.

Market capitalization: aggregated market capitalization of listed companies as a percentage of GDP obtained from the World Bank and respective stock exchanges. According to the findings of Félix et al. (2013), this variable acts as a proxy for the liquidity of the stock market, and a positive association between

PE activity and fundraising and investment might be anticipated. This variable, however, has been shown to be statistically insignificant by Jeng and Wells (2000) and Balboa and Martí (2003).

Research and development (R&D) expenditure: the amount of public money spent for research and development as a percentage of GDP. This variable acts as a proxy for innovation and technological advancement. According to research by Gompers and Lerner (1998), the demand and supply of venture capital investments in the United States increased during the 1990s as a result of the country's increased spending on research and development and the resulting technological advancements. It was also proven by Romain and de la Potterie (2004) that technological advancements have a beneficial effect on the development of venture capital investments.

Index of economic freedom: The Heritage Foundation's index (Beach and Kane, 2007) reflects the degree of economic freedom annually in countries as a measure of institutional quality. The index takes into account the following aspects scored on a scale from 0 to 100 and weighted equally: (1) rule of law (property rights, judicial effectiveness, and government integrity); (2) government size (tax burden, government spending, and fiscal health); (3) regulatory efficiency (business freedom, labor freedom, and monetary freedom); and (4) market openness (trade freedom, investment freedom, and financial freedom). The 12 Economic Freedoms, defined by Beach and Kane (2007), are described in Appendix Table (7).

Worldwide governance indicators (WGI): these indicators measure how well countries run their governments. It is a World Bank research initiative and is based on surveys of public and private sector specialists, non-governmental organizations, and other international organizations. WGI is composed of the following six indicators: (1) control of corruption; (2) government effectiveness; (3) political stability and absence of violence; (4) regulatory quality; (5) rule of law; and (6) voice and accountability. These indicators determine the effectiveness of governance systems in promoting economic growth, eliminating poverty, and promoting social welfare. They are described in Appendix Table (8).

3.4 Descriptive Statistics

The summary of the descriptive statistics for all the variables (target and explanatory) is presented in Table (1). Given that more than 60% of the data is missing for judicial effectiveness and fiscal health, we eliminated these institutional variables from our study. Similar data gaps exist for interest rates, market capitalization, and research and development expenditure (highlighted in gray). We impute these values using a predictive mean-matching algorithm.[2]

3.5 Stationarity Tests

The stationarity of the series data is analyzed using the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test. The KPSS test is a unit root test that checks whether a certain series is stationary.

The outcomes of the stationarity tests are displayed in Appendix Table (9). According to the KPSS test, the variables market capitalization, R&D expenditure, and financial freedom are non-stationary. Therefore, using differencing, these variables are transformed into stationary series. The temporal

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[2] Predictive mean matching (PMM) is a technique used to address missing data. The PMM method is especially helpful when the missing data are neither missing completely at random (MCAR) nor missing at random (MAR), but rather missing not at random (MNAR).

component of the panel data is shortened from 11 years (2010–2020) to 10 years (2011–2020) due to differencing. Only stationary series are considered in this research.

3.6 Correlation

We examine correlations among potential private equity fundraising and investing determinants. Table (2) shows the correlation matrix. By observing the correlation matrix, we notice several strong correlations (greater than 0.7), which are highlighted in gray. And to account for multicollinearity, we exclude the following variables from our analysis: economic freedom index, property rights, government spending, control of corruption, government effectiveness, regulatory quality, rule of law, and voice and accountability.

3.7 Bayesian Model Averaging

We employ a Bayesian model averaging (BMA) approach to decrease the model uncertainty associated with the selection of variables. BMA is a robust statistical technique with a solid theoretical background. To account for model uncertainty, BMA performs a marginalization over models to derive posterior densities on model parameters (Hoeting et al., 1999).

However, the empirical outcomes of such processes might be highly sensitive to prior assumptions. Five macroeconomic factors and nineteen institutional variables are used as a starting point for our analysis. Because of the lack of data indicated in subsection 3.1, we eliminate two of the institutional variables (judicial effectiveness and fiscal health). Now we apply BMA to six subsets of our panel data to find the best explanatory variable for each region and PE activity combination: CEE fundraising, WE fundraising, Europe fundraising, CEE investments, WE investments, and Europe investments. In our research, we treat the combined CEE and WE regions as a single European one.

A summary of the BMA results is shown in Appendix Table (10), with **X** denoting the variables with a Posterior Inclusion Probability (PIP) of more than 0.8. The Appendix Tables (11) – (12) present the complete results of the BMA. And since the economic freedom index, property rights, and government spending, control of corruption, government effectiveness, regulatory quality, rule of law, and voice and accountability all have low PIP, removing them from our analysis to eliminate multicollinearity has no major effect on our results.

4. Results

Fixed-effects regression is used to control for unobserved heterogeneity in panel data analysis. This allows for the estimation of within-group effects while controlling for time-invariant factors. This approach is used to investigate the impact of country-specific events. Random effects regression, on the other hand, assumes that the country-specific effects are randomly generated from a normal distribution. This allows for the estimation of between-group effects. This approach is used to investigate the variance of country-specific effects. We run FE and RE regressions for the CEE, WE, and European regions. And the dependent variables selected for the regressions are determined by the BMA results presented in Appendix Tables (10) – (12). It is important to note that based on the results of the BMA, only a subset of the different dependent variables is chosen for the estimations of fundraising and investments, respectively.

The Hausman (1978) specification test compares FE and RE under the null hypothesis that unobserved heterogeneity (individual effects) has no correlation with any explanatory variable.[3] WE and Europe Fundraising are the only regressions where the Hausman test rejects the null hypothesis. Hence, FE estimators are consistent. RE estimators are consistent and efficient for the other 4 cases: CEE Fundraising, CEE Investments, WE Investments, and Europe Investments. The results of Hausman specification test are shown in Appendix Table (13).

4.1 Fundraising

For all 3 regions considered (CEE, WE, and Europe), the FE estimation results for fundraising are presented in Table (3) and the RE estimation results are presented in Table (4). The target variable of fundraising is regressed against the following dependent variables: investments and investment freedom. Based on the results of the Hausman test, the RE estimator is consistent for fundraising in the CEE region. And FE estimators are consistent for fundraising in the WE and European regions.

As presented in Table (4), for the CEE region, investments and investment freedom are both statistically significant variables. Similarly, it is shown in Table (4) that for the WE and European regions, investments and investment freedom are also statistically significant. As anticipated, both coefficients are positive, which means that high levels of investment and higher investment freedom result in more fundraising. The importance of investment is greater in the WE region than in the CEE region. But the importance of investment freedom is greater in the CEE region in comparison to the WE region.

It is clear that the institutional factor that plays an important role in raising funds in both regions is investment freedom. But the ability of a PE firm to deploy funds is a stronger determinant of its ability to raise funds. Thus, a PE firm's investments and investment freedom in the country are key factors that investors consider when deciding whether to commit capital to the PE firm's fund.

4.2 Investments

For all 3 regions considered (CEE, WE, and Europe), the FE estimation results for investments are presented in Table (5), and the RE estimation results are presented in Table (6). The target variable is regressed against the dependent variables: fundraising, divestments, government integrity, and trade freedom. Based on the results of the Hausman test, the RE estimator is consistent and efficient for investments in all three regions: CEE, WE, and Europe.

As presented in Table (6), fundraising, divestments, government integrity, and trade freedom are all robustly associated with investment and are statistically significant at the 1% level. As expected, the variables directly related to PE activity, i.e., fundraising and divestments, have a positive relationship with investments. The amount of funds raised by PE firms can influence their investment decisions. If PE firms can raise more capital, they can pursue larger deals or invest in more companies. Conversely, if fundraising is limited, firms may need to be more selective in their investment choices. Divestments provide evidence of a PE firm's ability to generate returns for its investors. If a PE firm can sell its portfolio companies at a significant profit, it can help build investor confidence and increase the likelihood of raising funds.

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[3] When the Hausman test fails to reject the null hypothesis that the individual effects are uncorrelated with the explanatory factors, the RE model is the most appropriate estimation. But when the null hypothesis is rejected, the FE model is the most suitable.

In comparison to fundraising, different institutional factors play an important role in determining the funds invested in both regions. It is evident that government integrity is more important in the CEE region than in the WE region. Trade freedom, on the other hand, is a negative determinant of investment activity in both regions. Although government integrity has a stronger influence in the CEE region in comparison to the WE region, the impact of trade freedom is stronger in the WE region in comparison to the CEE region.

4.3 Discussion

Based on the above results, there are three important findings from this study that provide the answer to our research question: "How do the factors driving CEE and WE private equity activity differ?"

Firstly, contrary to all prior research, macroeconomic factors, including GDP growth rate, unemployment rate, interest rate, market capitalization, and R&D expenditure, have no statistically significant effect on the funds raised and invested in Europe (both CEE and WE regions) by private equity firms. Our findings support Cherif and Gazdar's (2011) finding that interest rates have no impact on the amount of funds deployed. Our results are also consistent with Kelly's (2012) conclusion that R&D expenditures are insignificant. We also confirm Jeng and Wells' (2000) conclusion that GDP growth rate and market capitalization have no significant influence on the amount of funds raised. Our results contradict the findings of Gompers and Lerner (1998), Romain and de la Potterie (2016), and Bernoth and Colavecchio (2014) about GDP growth rates. Our findings agree with Precup (2017) on the insignificance of the unemployment rate but disagree on the positive impact of R&D expenditure on investments.

Secondly, variables directly related to the private equity process are statistically significant drivers of fundraising and investment activities. According to the results, the funds raised in both the WE and CEE regions are dependent on investments made in the respective regions. This is in line with Balboa and Martí (2001) and Balboa and Martí (2003). Similarly, investment in both the WE and CEE regions is dependent on funds raised and divestment in the respective regions.

In addition to the similarities stated above, there are differences in the drivers of PE activity in the two European regions as well. While investment freedom (positive effect) is the only significant institutional determinant of funds raised in the WE and CEE countries, government integrity (positive effect) and trade freedom (negative effect) are both significant determinants of investments in both European regions. This asymmetric effect of institutional variables can be explained by the investors' sensitivity to protection and the institutional environment that "guarantees" investor protection via law and its enforcement.

And the last notable finding of this paper is the distinction in fundraising activity between the WE and CEE regions. The FE estimator is consistent for WE fundraising, implying that the funds raised differ across the countries in Western Europe. However, fundraising in the CEE region is not country-specific, as demonstrated by the consistency of the RE estimator. This conclusion is backed by the fact that the vast majority of PE funds intended for the CEE region are raised outside the region. In the last eleven years, only 30.72% of the money raised for the CEE area was raised in CEE countries (Invest Europe, 2022b).

5. Conclusion

Research in private equity is relatively limited due to the confidential nature of the transactions. Very limited information about the activities of fund managers is available from private sources, and even that

information is only updated once a year. Furthermore, the fund managers may choose not to share some information, or the information they do give may not be independently verified.

Consequently, even the researchers focused on Western Europe and the United States faced challenges in finding relevant factors for which trustworthy data is readily available. In general, they focused on macroeconomic and structural factors such as GDP growth, market capitalization, interest rate, capital gains tax, level of initial public offerings, labor market rigidity, and productivity, among others. But most of the past researchers did not consider the variables that are directly related to the PE process, which are included in this research. And our results demonstrate a strong and positive relationship between PE activity and the variables directly related to PE. Funds invested in both the CEE and WE regions are positively related to funds divested and funds raised in those regions. Likewise, funds raised in both regions are positively related to funds divested. In addition, institutional factors have no influence on the funds raised in both regions. But government integrity and trade freedom are important drivers of the funds invested.

Interestingly, contrary to the majority of the previous studies, we discovered that the most researched macroeconomic indicators, including GDP growth, interest rate, unemployment rate, market capitalization, and R&D expenditure, have no significant influence on funds raised and invested in both regions. However, an important observation is that there is still no widespread consensus on the macroeconomic determinants of PE fundraising and investments.

The results offer direct policy implications for three parties involved in European PE: (1) general partners (GPs) of PE firms; (2) limited partners (LPs) investing in the funds offered by such firms; and (3) the government. GPs seeking to raise funds in Europe must demonstrate a successful track record of investments. LPs interested in investing in PE firms must critically assess the amount of funds raised and divested by the prospective firms. Lastly, to encourage private investments in their respective countries, governments must engage in activities aimed at enhancing integrity, reducing corruption, and eliminating constraints on the movement and usage of investment money within and beyond the national borders.

Current research considers a country-level cross-section and can be extended by conducting a similar study on a firm-level dataset to get a deeper understanding of the determinants of PE activity. The analysis can also be further developed to incorporate the track record of the PE firms in these regions by employing lagged variables of fundraising and investment activity. Furthermore, the impact of the COVID-19 crisis on fundraising and investment activities in the two regions can be examined and compared.

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TABLE 1: DESCRIPTIVE STATISTICS

Statistic	N	Mean	St. Dev.	Min	Max
Investments	319	0.299	0.303	0.000	2.540
Fundraising	319	0.292	0.666	0.000	8.130
Divestments	319	0.175	0.206	0.000	1.470
GDP Growth Rate	319	1.480	3.254	-10.820	25.180
Interest Rate[(m)]	311	0.691	1.747	-0.820	12.880
Unemployment Rate	319	8.901	4.997	2.010	27.470
Market Capitalization[(m)]	306	59.015	63.149	0.520	393.040
R&D Expenditures[(m)]	312	1.680	0.853	0.380	3.710
Property Rights	319	72.379	17.471	30.000	95.000
Government Integrity	319	64.322	19.015	33.000	96.100
Judicial Effectiveness[(m)]	116	64.522	14.855	37.200	93.800
Tax Burden	319	66.466	14.691	35.900	94.000
Government Spending	319	37.667	18.294	0.000	78.800
Fiscal Health[(m)]	116	82.124	17.963	6.100	99.900
Business Freedom	319	78.020	10.122	53.600	99.700
Labor Freedom	319	60.497	13.243	31.000	93.700
Monetary Freedom	319	80.691	4.281	64.500	91.700
Trade Freedom	319	86.635	2.310	75.200	90.000
Investment Freedom	319	79.091	9.990	50.000	95.000
Financial Freedom	319	68.339	11.357	40.000	90.000
Economic Freedom Index	319	69.610	6.218	53.200	82.000
Control of corruption	319	78.646	17.313	38.460	100.000
Government effectiveness	319	81.657	14.220	42.310	100.000
Political stability and absence of violence	319	72.125	15.370	31.280	99.050
Regulatory quality	319	83.605	11.629	50.710	99.530
Rule of law	319	81.693	15.213	41.230	100.000
Voice and accountability	319	83.070	13.751	40.580	100.000

Note: This table provides descriptive statistics for the target and explanatory variables analyzed in this study. Variables with missing values are marked with superscript (m).

TABLE 2: CORRELATION MATRIX

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
(1) Investments	1																								
(2) Fundraising	0.38***	1																							
(3) Divestments	0.45***	0.27***	1																						
(4) GDP Growth Rate	-0.05	-0.02	0.04	1																					
(5) Inerest Rate	-0.14**	-0.12**	-0.09	0.03	1																				
(6) Unemployment Rate	-0.25***	-0.18***	-0.18***	-0.16***	0.28***	1																			
(7) Market Capitalization	0.05	-0.07	-0.07	-0.15***	-0.03	0	1																		
(8) R&D Expenditures	-0.02	-0.1*	-0.05	-0.1*	0.03	0.06	0.09	1																	
(9) Property Rights	0.47***	0.31***	0.4***	0.01	-0.34***	-0.53***	0.02	-0.11*	1																
(10) Government Integrity	0.52***	0.33***	0.45***	-0.05	-0.29***	-0.47***	0.04	-0.14**	0.88***	1															
(11) Tax Burden	-0.36***	-0.21***	-0.39***	0.21***	0.26***	0.1*	0	0.03	-0.57***	-0.61***	1														
(12) Government Spending	-0.17***	-0.03	-0.24***	0.18***	0.07	-0.14**	-0.02	0	-0.24***	-0.28***	0.72***	1													
(13) Business Freedom	0.32***	0.14**	0.32***	0.02	-0.26***	-0.2***	0.01	-0.13**	0.61***	0.71***	-0.58***	-0.42***	1												
(14) Labor Freedom	-0.06	-0.12**	-0.07	0.19***	0.08	-0.23***	0.04	-0.01	0.07	0.04	0.17***	0.2***	0.04	1											
(15) Monetary Freedom	0.1*	0.09	0.03	0.2***	-0.57***	-0.37***	-0.03	-0.03	0.29***	0.21***	-0.11*	0.07	0.09	0.1	1										
(16) Trade Freedom	-0.04	0.04	0.06	0.19***	-0.43***	-0.42***	-0.05	-0.08	0.29***	0.3***	-0.05	0.22***	0.25***	0.09	0.37***	1									
(17) Investment Freedom	0.4***	0.32***	0.36***	0.17***	-0.3***	-0.39***	0.01	-0.14**	0.64***	0.6***	-0.28***	0	0.35***	0.16***	0.27***	0.41***	1								
(18) Financial Freedom	-0.09	0.02	-0.01	0.02	0.03	-0.16***	-0.05	-0.09	0	0.01	0.04	0.08	-0.03	-0.01	-0.01	0.03	-0.02	1							
(19) Economic Freedom Index	0.37***	0.28***	0.27***	0.18***	-0.3***	-0.6***	0.02	-0.13**	0.73***	0.73***	-0.07	0.28***	0.46***	0.42***	0.34***	0.47***	0.71***	0.05	1						
(20) Control of Corruption	0.5***	0.34***	0.44***	0.02	-0.35***	-0.45***	0.01	-0.13**	0.9***	0.95***	-0.65***	-0.31***	0.72***	-0.01	0.24***	0.36***	0.62***	0.03	0.7***	1					
(21) Government Effectiveness	0.44***	0.3***	0.41***	0.03	-0.42***	-0.41***	0.01	-0.13**	0.86***	0.89***	-0.64***	-0.31***	0.71***	0	0.28***	0.39***	0.61***	0.03	0.67***	0.95***	1				
(22) Political Stability	0.18***	0.18***	0.24***	0.12**	-0.23***	-0.54***	0.01	-0.07	0.59***	0.62***	-0.25***	0	0.3***	0.05	0.27***	0.51***	0.41***	0.11***	0.58***	0.63***	0.68***	1			
(23) Regulatory Quality	0.46***	0.32***	0.42***	0.12**	-0.39***	-0.54***	0.02	-0.13**	0.86***	0.88***	-0.45***	-0.13**	0.69***	0.14***	0.26***	0.46***	0.7***	0.04	0.83***	0.91***	0.91***	0.64***	1		
(24) Rule of Law	0.44***	0.3***	0.42***	0.04	-0.38***	-0.47***	0.01	-0.14**	0.9***	0.91***	-0.6***	-0.28***	0.71***	0.04	0.26***	0.4***	0.63***	0.03	0.72***	0.96***	0.96***	0.67***	0.92***	1	
(25) Voice and Accountability	0.45***	0.3***	0.42***	0	-0.38***	-0.4***	0	-0.11*	0.87***	0.91***	-0.67***	-0.3***	0.7***	-0.02	0.24***	0.39***	0.59***	0.02	0.66***	0.96***	0.93***	0.66***	0.9***	0.94***	1

*$p<0.1$; **$p<0.05$; ***$p<0.01$

Note: This table displays the correlation matrix between the target and explanatory variables (except for judicial effectiveness and fiscal health). Correlation values higher than 0.7 are highlighted in gray.

TABLE 3: FE MODEL - FUNDRAISING

Statistic	CEE Fundraising	WE Fundraising	Europe Fundraising
Investments	0.089*** (0.034)	0.156** (0.264)	0.118** (0.130)
Investment freedom	0.002 (0.002)	0.002* (0.017)	0.002* (0.009)
Observations	130	160	290
R^2	0.065	0.003	0.004
Adjusted R^2	-0.049	-0.117	-0.112
F Statistic	3.986** (df = 2; 115)	0.190* (df = 2; 142)	0.456* (df = 2; 259)

*$p<0.1$; **$p<0.05$; ***$p<0.01$*
(Standard errors in parentheses)
Note: This table presents the results of the fixed effects estimation for the target variable, fundraising, for each of the three regions.

TABLE 4: RE MODEL - FUNDRAISING

Statistic	CEE Fundraising	WE Fundraising	Europe Fundraising
Investments	0.104*** (0.033)	0.502** (0.254)	0.281** (0.127)
Investment freedom	0.003** (0.001)	0.017 (0.012)	0.013** (0.006)
Constant	-0.164 (0.101)	-1.143 (0.964)	'-0.803* (0.475)
Observations	130	160	290
R^2	0.126	0.042	0.04
Adjusted R^2	0.113	0.03	0.033
F Statistic	18.358***	6.892**	12.003***

*$p<0.1$; **$p<0.05$; ***$p<0.01$*
(Standard errors in parentheses)
Note: This table presents the results of the random effects estimation for the target variable, fundraising, for each of the three regions.

TABLE 5: FE MODEL - INVESTMENTS

Statistic	CEE Investments	WE Investments	Europe Investments
Divestments	0.591*** (0.201)	-0.005 (0.111)	0.173* (0.104)
Fundraising	0.758*** (0.233)	0.009 (0.029)	0.043 (0.031)
Government integrity	0.011*** (0.004)	-0.005 (0.005)	0.005* (0.003)
Trade freedom	-0.039* (0.021)	-0.058*** (0.020)	-0.046*** (0.014)
Observations	130	160	290
R^2	0.199	0.059	0.064
Adjusted R^2	0.085	-0.069	-0.052
F Statistic	7.004*** (df = 4; 113)	2.183* (df = 4; 140)	4.403*** (df = 4; 257)

*$p<0.1$; **$p<0.05$; ***$p<0.01$*
(Standard errors in parentheses)
Note: This table presents the results of the fixed effects estimation for the target variable, investments, for each of the three regions.

TABLE 6: RE MODEL - INVESTMENTS

Statistic	CEE Investments	WE Investments	Europe Investments
Divestments	0.538*** (0.179)	0.284*** (0.081)	0.296*** (0.078)
Fundraising	0.837*** (0.192)	0.078*** (0.021)	0.083*** (0.023)
Government integrity	0.010*** (0.002)	0.004*** (0.001)	0.007*** (0.001)
Trade freedom	-0.028*** (0.008)	-0.033*** (0.012)	-0.026*** (0.007)
Constant	2.012*** (0.672)	2.902*** (0.993)	2.070*** (0.607)
Observations	130	160	290
R^2	0.315	0.27	0.338
Adjusted R^2	0.293	0.252	0.329
F Statistic	57.411***	57.465***	145.682***

*$p<0.1$; **$p<0.05$; ***$p<0.01$*
(Standard errors in parentheses)
Note: This table presents the results of the random effects estimation for the target variable, investments, for each of the three regions.

APPENDIX

TABLE 7: TWELVE ECONOMIC FREEDOMS

#	Economic Freedom	Definition
1	Property rights	are the legal rights which specify legal and intellectual ownership of assets and resources, as well as how they might be utilised. Property rights contribute to the accumulation of capital for production and investment.
2	Judicial effectiveness	is a crucial part of the rule of law since it relies on efficient and just judicial systems to make sure that the law is upheld. Effective judicial systems are necessary to ensure that laws are fully upheld and that the proper legal action is taken when infractions occur.
3	Government integrity	is the adherence to moral ideals and norms of behaviour by the government and public institutions, which helps to protect the public interest while preventing corruption. Thus, the effectiveness of a nation's law and regulatory enforcement can be used to determine the integrity of its government.
4	Tax burden	is the imposition of financial costs on economic activity through taxation and borrowing. Higher tax rates make it more difficult for people and businesses to pursue their objectives in the market, which in turn lowers the level of overall private-sector activity.
5	Government spending	is the amount of money that the government spends on the purchase of products and the delivery of services like defence, social protection, and healthcare.
6	Fiscal health	comprises the tax burden in terms of the tax rate on individual and corporate income and the total amount of tax revenue as a proportion of GDP.
7	Business freedom	is the capacity to establish, operate, and terminate a business swiftly and easily. The biggest obstacles to business freedom are excessive and costly regulatory requirements.
8	Labor freedom	is a metric that takes into account the freedom of people and enterprises to collaborate without interference from the government.
9	Monetary freedom	is a measure of price stability and price controls. Inflation and price regulations both impair economic behaviour. The best-case scenario for a free market is one in which prices are stable but there is no governmental or private interference in the economy.
10	Trade freedom	is lack of tariff and non-tariff restrictions impacting imports and exports of goods and services.
11	Investment freedom	is a measurement of the unrestricted movement of capital, including capital from abroad.
12	Financial freedom	reflects both banking security and independence from government control. State ownership of banks and other financial institutions, including insurance companies and capital markets, is inefficient, and political favouritism has no place in a free capital market.

Note: The twelve economic freedoms from the Heritage Foundation are described in this table.

TABLE 8: SIX WORLDWIDE GOVERNANCE INDICATORS

#	Indicator	Definition
1	Control of corruption	measures the degree to which public authority is used for personal gain, including both minor and major corruption, as well as the "control" of the state by vested interests.
2	Government effectiveness	captures the quality of public services, civil service independence, policy formulation and implementation, and government credibility in executing such policies.
3	Political stability and absence of violence	measures the likelihood of political unrest and violence, such as terrorism, riots, insurrection etc.
4	Regulatory quality	reflects the government's ability to develop and enforce effective policies and legistlations that promote the growth of private sector.
5	Rule of law	measures people's and businesses' trust in law enforcement, property rights, contract enforcement, and the justice system, including the risk of crime and violence.
6	Voice and accountability	guages the ability of a country's citizens to choose their government, along with their freedom of speech, association, and media.

Note: The six worldwide governance indicators are described in this table.

TABLE 9: STATIONARITY TESTS

KPSS Test		
Variable	**p-value**	**Result**
Investments	0.06903	Stationary
Fundraising	0.1	Stationary
Divestments	0.1	Stationary
GDP Growth Rate	0.05514	Stationary
Interest Rate	0.06007	Stationary
Unemployment Rate	0.1	Stationary
Market Capitalization	0.01	Non-stationary
R&D Expenditures	0.01	Non-stationary
Property Rights	0.04006	Stationary
Government Integrity	0.04299	Stationary
Tax Burden	0.1	Stationary
Government Spending	0.1	Stationary
Business Freedom	0.0458	Stationary
Labor Freedom	0.01008	Stationary
Monetary Freedom	0.1	Stationary
Trade Freedom	0.0972	Stationary
Investment Freedom	0.09334	Stationary
Financial Freedom	0.01	Non-stationary
Economic Freedom Index	0.04359	Stationary
Control of corruption	0.0424	Stationary
Government effectiveness	0.03935	Stationary
Political stability and absence of violence	0.1	Stationary
Regulatory quality	0.02939	Stationary
Rule of law	0.0507	Stationary
Voice and accountability	0.06212	Stationary

Note: This table presents the results of the KPSS stationarity test at the significance level of 1%.

TABLE 10: SELECTED VARIABLES

Variable	CEE Fundraising	WE Fundraising	Europe Fundraising	CEE Investments	WE Investments	Europe Investments
Fundraising				X	X	X
Investments	X	X	X			
Divestments				X	X	X
GDP Growth Rate						
Interest Rate						
Unemployment Rate						
Market Capitalization						
R&D Expenditures						
Government Integrity				X	X	X
Tax Burden						
Business Freedom						
Labor Freedom						
Monetary Freedom						
Trade Freedom				X		X
Investment Freedom		X	X			
Financial Freedom						
Political Stability						

Note: The summary of the BMA results for the two target variables, fundraising & investments, for each of the three regions are presented in this table. Variables with a PIP higher than 0.8 are marked X.

TABLE 11: BMA RESULTS - FUNDRAISING

Statistic	CEE FUND			WE FUND			Europe FUND		
	PIP	EV	SD	PIP	EV	SD	PIP	EV	SD
Intercept	100	-5.42E-02	0.198	100	-1.48E+00	0.878	100	-7.86E-01	0.523
Investments	100	1.34E-01	0.035	100	1.11E+00	0.259	100	6.58E-01	0.138
Diverstments	16.6	-3.07E-02	0.076	0	0.00E+00	0.000	5.9	1.58E-02	0.079
GDP Growth Rate	0	0.00E+00	0.000	0	0.00E+00	0.000	3.1	-2.34E-04	0.002
Interest Rate	0	0.00E+00	0.000	0	0.00E+00	0.000	2.6	-1.58E-04	0.004
Unemployment Rate	39.5	-1.73E-03	0.002	0	0.00E+00	0.000	3.8	-2.81E-04	0.002
Market Capitalization	0	0.00E+00	0.000	0	0.00E+00	0.000	7.7	-1.31E-02	0.055
R&D Expenditures	0	0.00E+00	0.000	0	0.00E+00	0.000	5.5	-2.31E-02	0.124
Government Integrity	0	0.00E+00	0.000	0	0.00E+00	0.000	12.4	7.05E-04	0.002
Tax Burden	0	0.00E+00	0.000	0	0.00E+00	0.000	3.3	-6.81E-05	0.001
Business Freedom	0	0.00E+00	0.000	0	0.00E+00	0.000	4.5	-2.50E-04	0.002
Labor Freedom	11.5	-2.32E-04	0.001	51	-5.80E-03	0.007	53.2	-3.74E-03	0.004
Monetary Freedom	12.6	6.10E-04	0.002	0	0.00E+00	0.000	1.4	4.03E-05	0.001
Trade Freedom	0	0.00E+00	0.000	0	0.00E+00	0.000	3.2	-4.23E-04	0.004
Investment Freedom	38.6	1.19E-03	0.002	84.1	2.20E-02	0.013	93.5	1.41E-02	0.006
Financial Freedom	0	0.00E+00	0.000	0	0.00E+00	0.000	3.6	3.31E-02	0.266
Political stability	0	0.00E+00	0.000	0	0.00E+00	0.000	3.4	7.46E-05	0.001

Note: The BMA results for the target variable, fundraising, for each of the three regions are presented in this table. Variables with a PIP higher than 0.8 are highlighted in gray.

TABLE 12: BMA RESULTS – INVESTMENTS

Statistic	CEE INV			WE INV			Euro INV		
	PIP	EV	SD	PIP	EV	SD	PIP	EV	SD
Intercept	100	2.01E+00	0.696	100	1.90E+00	1.436	100	1.99E+00	0.687
Fundraising	100	7.92E-01	0.198	100	8.16E-02	0.021	100	7.87E-02	0.022
Divestments	93.5	4.90E-01	0.217	100	3.12E-01	0.082	100	2.91E-01	0.077
GDP Growth Rate	8.9	7.75E-04	0.003	5.5	-3.12E-04	0.002	1.5	-2.47E-05	0.001
Interest Rate	3.1	-1.51E-04	0.002	4.3	-1.13E-03	0.008	4	-4.49E-04	0.003
Unemployment Rate	4.1	-1.21E-04	0.001	10.9	-8.01E-04	0.003	12.2	-6.93E-04	0.002
Market Capitalization	3.9	1.24E-03	0.012	5.3	4.33E-03	0.024	2.3	9.71E-04	0.009
R&D Expenditures	8.9	2.05E-02	0.086	2.3	2.53E-03	0.030	7.1	1.30E-02	0.058
Government Integrity	100	9.28E-03	0.002	89.5	4.18E-03	0.002	100	6.01E-03	0.001
Tax Burden	27.1	1.22E-03	0.002	2.2	-2.40E-05	0.000	1.4	1.29E-06	0.000
Business Freedom	3.8	-6.03E-05	0.001	1.8	6.52E-06	0.000	1.5	-9.32E-06	0.000
Labor Freedom	3.8	4.44E-06	0.001	3.2	-1.94E-05	0.000	2.4	-2.76E-05	0.000
Monetary Freedom	4.2	-1.52E-04	0.001	12.7	1.06E-03	0.003	5.9	2.93E-04	0.001
Trade Freedom	100	-3.04E-02	0.009	71.1	-2.19E-02	0.017	97.3	-2.79E-02	0.009
Investment Freedom	32	1.91E-03	0.003	2.4	4.41E-05	0.000	72	3.80E-03	0.003
Financial Freedom	27	-2.51E-01	0.489	1.8	-9.48E-04	0.087	14.3	-1.05E-01	0.301
Political Stability	3.3	-3.97E-05	0.000	32.2	-1.18E-03	0.002	25.7	-7.23E-04	0.001

Note: The BMA results for the target variable, investments, for each of the three regions are presented in this table. Variables with a PIP higher than 0.8 are highlighted in gray.

TABLE 13: HAUSMAN SPECIFICATION TEST

Region - Target variable	Chi-square statistic	p-value	Result	Efficient estimation
CEE Investments	1.7581	0.7801297	Rejected Ho	Random effects
WE Investments	9.0931	0.0588153	Rejected Ho	Random effects
Europe Investments	6.4467	0.1681786	Rejected Ho	Random effects
CEE Fundraising	3.7899	0.1503264	Rejected Ho	Random effects
WE Fundraising	24.177	5.62E-06	Fail to reject Ho	Fixed effects
Europe Fundraising	31.832	1.22E-07	Fail to reject Ho	Fixed effects

Note: The results of the Hausman specification test for each combination of target variable and region are presented in this table.
Ho is Null hypothesis and Ha is Alternative hypothesis.

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