



## Impact of international organizations on the institutional development of investment activity

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### ABSTRACT

This study examines the impact of international organizations on the institutional development of investment activity through the lens of foreign direct investment (FDI) flow asymmetry. The paper offers an approach to computing an integrated Financial Asymmetry Index, formalizing the degree and nature of financial imbalances, and presents the geostrategic matrix built by comparing the actual and hypothetical values of the FDI Attraction Efficiency Index. Using a linear regression model, a scenario-based forecast of FDI flows to 32 countries was generated for the years 2025 and 2030. As a result, it was unveiled that the majority of countries experienced a moderate financial imbalance, whilst developed and transition economies such as China and Singapore had a low degree of asymmetry in their financial systems. For less developed nations, one of the major preconditions of asymmetry was the administrative response taken by the government. The generated geostrategic matrix and FDI forecast may serve as FDI boosting tools. In this regard, investment policies of the world states should focus on promoting the efficiency of investment usage. The long-term predictions made suggest that countries will concentrate on improving and developing their investment potential. In turn, the solution offered in the study will help reduce financial asymmetries and balance available financial resources against investment needs.

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### 1. Introduction

Integration processes in the global economy embody a constant contribution to the accelerating pace of globalization. The practice of integration enhances the transnational capital movements, which, in turn, provokes quantitative and qualitative changes in international investment.

A characteristic feature of the current international economic relations is the growth in investment activity. A variety of operations and instruments in the international financial and credit market allows broad investment, regardless of currency and country of origin. Thuswise, the leading place in the investment system belongs to international investments. Without foreign capital, neither structural changes in the national economy nor competitiveness in the world market can be achieved.

Long-term practice of international investment has shown that the policy of foreign investment influx stimulation should represent a cohesive system of interrelated actions integral to the national strategy for socio-economic development, rather than a set of single incentives. On the global scale, the key agents regulating the cross-border investment relationships are international financial

institutions, which not only contribute to the activation of investment processes by economic means but also set trends for the international investment law (Liu & Shestak, 2021). International financial institutions (IFIs) use direct and indirect methods to influence the law-making practice (Sanabria-García & Garrido-Miralles, 2020; Tsindeliani Selyukov, Kikavets, Vershilo, Tregubova, Babayan, 2021). In the case of the first, IFIs oblige participants in the international investment relationship to ratify certain norms and align their national legislations with the standard. Meanwhile, indirect impact involves creating advisory standards that are of a dispositive nature and affect the investment law-making process if accepted. In other words, IFIs only show initiative, whilst the law-making function belongs to member countries. The current institutional mechanism of international cooperation in investment is comprised of numerous IFIs. As the integration processes accelerate, the number and influence of these IFIs grow. Therefore, the ultimate goal of this study is to determine the influence of international organizations on the institutional development of investment activity through the lens of foreign direct investment (FDI) flow asymmetry. The scientific contribution of this article resides in the proposed methodological approach to assessing IFIs' influence as it provides an opportunity to outline the core areas of focus for improving FDI attraction indicators. Apart from this, by virtue of the analysis of FDI inflow dynamics by world regions, the methodology applied allows disclosing the asymmetry

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that forms the trends of this influence. This fact enables forming a geostrategic matrix based on the analysis of investment attractiveness indicators and considering short-term (for 2025) and long-term (for 2030) FDI reorientation forecasts. Overall, this study is useful as it offers a way to find the most influential asymmetries affecting FDI attraction by analyzing three FDI inflow scenarios and building a reliable regression model.

**2. Literature review**

Institutions established for international investment regulation may function at the national, regional, and international levels. The international organizations for investment regulation are the *International Center for the Settlement of Investment Disputes* (ICSID), the *Multilateral Investment Guarantee Agency* (MIGA), the *United Nations Conference on Trade and Development* (UNCTAD), *Organization for Economic Co-operation and Development* (OECD), and the *World Trade Organization* (WTO). The latter has issued a range of agreements that permit the international regulation of investment activity such as *Agreement on Trade-Related Investment Measures* (TRIMS), *General Agreement on Trade in Services* (GATS), *Agreement on Subsidies and Countervailing Measures* (ASCM), and *Agreement on Trade-Related Aspects of Intellectual Property Rights* (TRIPS). The regional regulation is driven by international investment agreements that, depending on the area of regulation, may be bilateral and focused on regional trade (RTAs). The latter also includes *Treaties with Investment Provisions* (TIPs) (Chen, Yu, & Zhang, 2019).

In the grand scheme of things, the world community is divided over the regulation of international investment. The OECD member countries strive to conclude agreements that lay down and protect the rights of investors (Lartey & Danso, 2020), whilst the UNCTAD members focus on rules that govern investor obligations (Bernasconi-Osterwalder, 2020). These two aspects, however, have never been addressed simultaneously, leastwise within the framework of a single document.

Guidelines to assist in designing successful policies for FDI based on the best international practices were published by several international organizations, including the OECD (*Policy Framework for Investment*), MIGA (*Investment Promotion Toolkit*), and UNIDO (*Guidelines for Investment Promotion Agencies*). Investment promotion agencies (IPAs) may be the best public institutions to achieve the government objectives for attracting, creating, retaining, expanding, and linking productive private investments. Typical activities of IPAs include image building, investment generation, expanding linkages between suppliers and foreign investors, information dissemination, and investment facilitation (Kvon et al., 2017). The positive impact of IPAs may also be indirect due to their involvement in the policy campaigns (Nielsen, Asmussen, & Weatherall, 2017) as well as the realization of the strategic intentions of the states (Krunic, 2021). In addition, IPAs

often play a mediating role in the relationship between government and foreign investors and thus hold a unique position, which permits them to guide political reform programs towards the dynamic needs of multinationals (te Velde, 2019). Against this backdrop, it is of critical importance for IPAs to provide investors with relevant high-quality services at different stages of the investment life cycle (Heilbron & Aranda-Larrey, 2020).

At present, there is much research on the influence that the European Union (EU), the World Bank, and the International Monetary Fund (IMF) have on the orientation of the state welfare system (Qejvanaj, 2021). Likewise, many studies offer conceptual models to analyze FDI policies based on the differentiation between quantity and quality, on the one hand, and between FDI attraction and subsidiary development on the other (Reurink & Garcia-Bernardo, 2021). However, today, the field lacks a coordinated approach to FDI policy focused on subsidiary development and linkage facilitation to efficiently compete for high-quality FDI (Khan, Lee, & Bae, 2018). Furthermore, IPAs are recommended to take a closer look at their intellectual capital in order to move towards quality (Guimón & Filippov, 2017; Guimón, Chaminade, Maggi, & Salazar-Elena, 2018) since the “revolving doors” phenomenon (skills and knowledge transfer between private and public sectors) is critical in establishing intellectual capture in how an issue is treated within transnational policy networks (Seabrooke & Tsingou, 2021).

The world states with ambitious views of the United Nations (UN) and seeking to expand their activities had their own incentives to introduce funding rules offering greater flexibility and control to donors. A longitudinal study of funding rule design and change at the UN economic development institutions contributed to the expansion of institutional design literature by integrating funding rules as an important design component (Graham, 2017; Ruzmetov, Jumaeva, & Xudayarova, 2021). In the meantime, an important component of international finance was defined as investment in social projects (Pysmenna & Lubkey, 2021). Precisely these elements are claimed to be handy in IFIs’ promotion of structural adjustment policies and regulatory frameworks that allow less developed countries to implement their national development plan (Ulcuango, Jumbo, & Flores, 2021).

Nowadays, studies on the peculiarities of investment policies in different regions rely on analyzing the national models of FDI attraction. The framework employed in the Arab countries, for example, is the most closed to foreign investors and represents a merge of governmental and religious means of economic regulation (Aloui, 2019; Alsmadi & Oudat, 2019). Its sister approach, the American model, involves attracting foreign investment by using economic instruments (Hayat, 2019). Asian and African models stand out with the administrative influence on investor attraction (Bezpalov, Tsvetkova, Shilina, Golovina, & Avtonomova, 2020). And while the national policy in most Asian countries is largely affected by financial and

**Table 1**

Theoretical basis of scientific findings on the impact of international organizations on the institutional development of investment activity.

Study focus	Researchers
International investment agreements on the spheres of regulation of countries’ foreign economic relations	- Bernasconi-Osterwalder (2020), Chen et al. (2019); Krunic (2021); Lartey and Danso (2020)
Achievement of government goals to attract, create, retain, and expand investments with the help of IPAs	- Heilbron and Aranda-Larrey (2020), Kvon et al. (2017); Nielsen et al. (2017); Qejvanaj (2021); Seabrooke and Tsingou (2021); te Velde (2019)
Institutional design with implementation of financing rules as an important design component	- Graham (2017); Guimón and Filippov (2017); Guimón et al. (2018); Khan et al. (2018)
National models based on a conglomerate combination of means of state and religious regulation of investment relations	- Pysmenna and Lubkey (2021); Reurink and Garcia-Bernardo (2021); Ulcuango et al. (2021)
	- Aloui (2019), Alsmadi and Oudat (2019); Galariotis and Karagiannis (2021); Hayat (2019); Ibrahim et al. (2019); Kottaridi et al. (2019); Mishra and Jena (2019); Quazi et al. (2019); Ruzmetov et al. (2021); Vinokurov (2021)

Source: developed by the author.

industrial associations (Mishra & Jena, 2019), in Africa, this role belongs to external stakeholders, overwhelmingly global transnational corporations (Ibrahim, Adam, & Sare, 2019). In Latin American, FDI attraction approaches represent the government effort to achieve the market-based regulation of economic and investment relations in those industries that exist outside the strategic core of economic security. Such a framework has been proven to have a favorable effect on the rate of FDI attraction (Quazi, Ballentine, Bindu, & Blyden, 2019), including for business development (Almodóvar-González, Fernández-Portillo, & Díaz-Casero, 2020). The EU, by contrast, focuses on the national interests and benefits for foreign investors (Kottaridi, Louloudi, & Karkalakos, 2019).

The review of the current literature on the problem at hand made it possible to identify four key areas that form the theoretical framework for this study (Table 1).

Over the past 20 years, the global gross savings rate did not change much, wherein the investment rate in developed and developing countries is around 30% and 10% of the country's GDP, respectively (Okwu, Oseni, & Obiakor, 2020). This results in financial resources excess in developing countries and shortage in developed ones. The local imbalances in savings and investments lead to global imbalances and, consequently, to a global crisis. Under a threat of financial imbalances, mechanisms for their efficient overcoming in order to reach effective economic development became central to the worldwide mainstream research. This study looks at the investment flow asymmetry to determine the impact of international organizations on investment activity. To achieve this aim, the following hypotheses were formed:

Hypothesis 1: International organizations contribute to the redistribution of global foreign investment and the minimization of financial asymmetries at the level of individual economies;

Hypothesis 2: International organizations contribute to the global balancing of investment needs and available financial resources.

### 3. Materials and methods

The study was carried out in several stages.

**Stage I.** The major trends and indicators (more than 30) that define the national economic asymmetries in the context of investment development were identified.

**Stage II.** An approach to building an integrated Financial Asymmetry Index (FAI) was established. The Index formalizes the degree and nature of financial imbalances and is calculated as an arithmetic mean of all sub-indexes, including fiscal, monetary, debt, currency asymmetries. Also, it takes into account the asymmetry measures for stock and money markets as well as for household finance. FAI's sub-indexes are built on the arithmetic mean of normalized indicators and determinants of financial asymmetries, which characterize a specific element of the financial system. Indicators under consideration could take a value in the range from 0 to 1, where "0" represents the lowest degree of asymmetry and "1" is equal to the most critical asymmetry. The current proposal enables the identification of the key points of financial imbalances accumulation and serves as a basic instrument in designing an effective targeted policy for managing financial asymmetries with the help of institutional mechanisms for attracting foreign investment.

To determine financial asymmetries with the integrated Financial Asymmetry Index, a total of 32 countries were exposed to the assessment. Among them are EU members and non-EU countries of Asia, Africa, the Middle East, Latin America and the Caribbean (LAC), North America, as well as the Persian Gulf.

**Stage III.** A geostrategic matrix was built by comparing actual and hypothetical values of the FDI Attraction Efficiency Index across 129 countries. It assumes a reasonable need for redirecting the global FDI flows from countries that attract an excessive volume of FDI, which exceeds the investment potential of the country (EU countries, the

Persian Gulf), to under-invested states of Asia, Africa, and Latin America, where the attracted volume of FDI is less compared to investment potential. The restructuring of FDI movement will help mitigate the negative impact of financial asymmetries and create a precondition for more efficient capital utilization.

**Stage IV.** The forecast of net FDI inflows (% of GDP) in years 2025 and 2030 was generated based on three scenarios: pessimistic (FDI<sub>p</sub>), realistic (FDI<sub>r</sub>), and optimistic (FDI<sub>o</sub>). All predictions were made with regard to financial asymmetries. The scenario likelihood assessment was based on the updated estimates of COVID-19's economic impact and on the revision of revenues of the largest multinational companies (World Economic Forum, 2020). Using the correlation analysis, the most influential asymmetries that affect efficiency in FDI attraction were found. These findings were then integrated within a regression model in order to predict FDI inflows.

The input data were exposed to the Farrar-Glauber test (F-G test) for multicollinearity. The detection procedure included the following steps:

1. Data standardization by the formula:

$$x_{yk}^* = \frac{x_{yk} - x_k}{\sqrt{ns\sigma_k^2}} \tag{1}$$

2. Estimating the mean and variance by the formulas:

$$x_k = \frac{\sum_{i=1}^n x_{ik}}{n}, \tag{2}$$

and

$$\sigma_{xk}^2 = \frac{\sum_{i=1}^n (x_{ik} - x_k)^2}{n}, \tag{3}$$

Where:  $n$  – number of observations;  $m = 17$  – number of explanatory variables;  $x_k$  – arithmetic mean of the  $k$ th explanatory variable; and  $\sigma_{xk}^2$  – variance of the  $k$ th explanatory variable.

3. Calculating a correlation matrix:

$$r = X'X^*, \tag{4}$$

Where:  $X^*$  – matrix of normalized explanatory variables;  $X'^*$  – matrix transposed to  $X^*$ .

4. Computing  $X^2$  criteria:

$$X^2 = -\left[n - 1 - \frac{1}{6}(2m + 5)\right] \ln|r|. \tag{5}$$

5. Finding an inverse of the correlation matrix:

$$C = r^{-1} = (X'X^*)^{-1} \tag{6}$$

6. Establishing  $F$ -value ( $F_k$ ) with respect to diagonal elements of matrix  $C$ :

$$F_k = (c_{kk} - 1) \frac{n - m}{m - 1}. \tag{7}$$

7. Computing partial correlation coefficients, which describe the strength of the relationship between two variables that are not exposed to external influences:

$$r_{ij} = \frac{-c_{ij}}{\sqrt{c_{ii}c_{jj}}}. \tag{8}$$

8. Calculating Student's  $t$ -value:

$$t_{ij} = \frac{t_{ij} \sqrt{n - m}}{\sqrt{1 - r_{ij}^2}} \tag{9}$$

Since the tabular t-value for  $n - m = 12 - 5 = 7$  degrees of freedom and a significance level of  $\alpha = 0.01$  is equal to  $t_{crit} = 3.499$ , one can infer either on the existence or on the absence of multicollinearity. Within this algorithm, factors  $X_1$ ,  $X_2$ ,  $X_7$  and  $Y_1$ ,  $Y_2$ ,  $Y_3$  were excluded from the original matrix because of multicollinearity detected between them. The linear multiple regression model was composed of indicators that left after the F-G test, namely:

$$Y = a_0 + a_1x_3 + a_2x_4 + a_3x_5 + a_4x_6 + a_5x_8 + a_6y_1 + a_7y_4 + a_8y_5. \quad (10)$$

The regression-correlation model was built using the Regression tool from the Data Analysis tool pack in MS Excel. The resultant equation can be expressed as follows:

$$Y = 118.15 + 0.014x_3 - 0.058x_4 + 0.19x_5 - 1.838x_6 + 0.134x_8 - 0.090y_1 + 0.961y_4 - 0.262y_5. \quad (11)$$

Where:  $Y$  – net FDI inflow (% of GDP);  $x_3$  – GDP per person employed (thousand US dollars);  $x_4$  – gross capital formation (% of GDP);  $x_5$  – external debt interest payments (% of budget spending);  $x_6$  – population aged 15–64 (% of the total population);  $x_8$  – real effective exchange rate index (REER);  $y_1$  – real interest rate (%);  $y_4$  – total gold and foreign currency reserves (months of import);  $y_5$  – unemployment rate (% of the total labor force).

The F-value indicates the acceptability of the given model. As  $F_{cal} (7.14) > F_{crit} (3.92)$ , the hypothesis about the strong relationship between dependent and independent variables of the constructed model is confirmed, and the linear model is thus adequate. Furthermore, this assertion is supported by a coefficient of determination of 0.86 and a multiple correlation coefficient of 0.93. Thus, the linear regression model was built such that it allows predicting FDI inflows in the context of financial asymmetry.

The constructed multiple regression model proved the availability of a strong link between the net international investment position of the country's economy and the internal and external factors. Its coefficients showed that, for example, given all other constant conditions, the independent variable  $x_3$  (GDP per person employed) increase or decrease by 1 will result in a rise or drop in the value of the dependent variable (net FDI inflow) by 0.014 units. Concurrently, if the independent variable  $y_5$  (unemployment rate) lowers by 1 (with all other conditions unchanged), then the dependent variable (net FDI inflow) will increase, as their values are inversely proportional (have inverse dependence). Hence, according to the model formed, the greatest influence on the foreign direct investment indicator is exerted by internal factors. This opens the prospects for a more effective choice of instruments of state regulation and the creation of competitive conditions in the market environment to attract foreign investments.

#### 4. Results

The key finding of this study is the asymmetry of FDI inflows (Fig. 1), which manifests in certain trends. Within the period from 1990 to 2010, the volume of global FDI increased at a 7-fold accelerated pace, but its geographical distribution remained almost unchanged. In the years 1990 and 2010, Europe and North America accounted for 53% and 30% of FDI, respectively, and Latin America witnessed a slight increase in FDI inflows from 4 to 6%. In the meantime, Africa had the smallest share of the world's FDI in 2010 (only 1%).

FDI patterns of the last two decades suggest an ambiguous nature of geospatial localization, including the influence of international organizations. First, the largest recipients of FDI were developed countries with 80% of inflows in 2000, 67% of inflows in 2010, and 50% of inflows in 2019. Second, with the advent of new industrialized

countries and with the recognition of Africa's potential, the geographical distribution of FDI shifted towards developing countries receiving 17% of FDI in 2000, 28% of FDI in 2010, and a 30% share of FDI in 2019. The proportion of developed countries in the global FDI increased from 41% in 2015 to 55% in 2019, changing the five-year trend of inflows to transitive economies. In 2019, the volume of FDI flows to developed countries fell by 37%, wherein developing countries showed a steady upward trend (+2% compared to 2018), and economies in transition, specifically Russia, experienced a sharp drop in FDI inflows (–27% compared to 2016) due to a variety of reasons, sanctions included.

There were FDI imbalances between the real sector (40% of the world's FDI) and the services sector (60% of the world's FDI) of the global economy. Note that sector-specific instruments of FDI attraction employed in developed countries are similar to those used in developing countries. Furthermore, the primary sectors in Africa and LAC received 28 and 22% of FDI, respectively, which is significantly higher than those of developing countries in Asia (2%). The Asian countries, however, direct a considerable part of FDI to their services sectors (40%). A tendency for cross-border mergers and acquisitions (M&A) to take place in the processing industry may entail market monopolization in single countries and, consequently, result in asymmetric sectoral distribution of FDI.

As concerns the developed EU, here FDI fell by 15% to around \$305 billion in 2019. Some of its member countries saw strong volatility in FDI flows as compared to the previous year. The Netherlands experienced a dramatic tumble in FDI, of 98% (from \$114 billion to \$1.9 billion), in part due to a large divestment (a \$36 billion initial public offering of a foreign affiliate of Naspers (South Africa)). FDI to Spain more than doubled in 2018 to a peak of \$44 billion due to net M&A sales of \$71 billion (Six Group, 2020). Its largest deal was the acquisition of the Spanish highway operator Abertis (Spain) by Atlantia (Italy), ACS (Spain), and Hochtief (Germany) for \$23 billion. In 2019, however, FDI inflows to Spain fell to \$6 billion, partly due to debt restructuring in foreign branches. Contrarily, France and Germany saw an increase in FDI from \$37 and \$12 billion in 2018 to \$52 and \$40 billion, respectively, mainly due to the rise in inter-company loans to foreign affiliates.

Over the past five years, FDI from the US investors enhanced by 8%, whereas Spain as a historical partner of Latin America, has reduced its investment portfolio by around 20%, giving way to the Netherlands. These trends are in line with the FAI data (Table 2).

As can be seen from the above, the majority of chosen countries encounter a moderate financial imbalance (score 0.40–0.50). Ukraine (0.592) and Brazil (0.581) were found to have a high degree of financial asymmetry, whilst Qatar and Switzerland scored the lowest. The highest sub-scores are debt and monetary asymmetries (Brazil), household finance asymmetry, and stock market imbalances (more than 0.87 in Africa; 0.75 in Indonesia and Argentina). As it turned out, developed countries and transition economies such as China and Singapore have a low degree of asymmetry in their financial systems, perhaps due to a higher level of development and adherence to economic instruments of regulation. For less developed economies, one of the major asymmetry preconditions is the interference by authorities, as it may result in the disruption of the self-balancing function of the economy and diminish the influence of international organizations. That aside, UNCTAD supports developing countries in their efforts to combat poverty by facilitating trade through mechanisms such as the African Continental Free Trade Area, under which trading began in July 2020. Besides, UNCTAD has stepped up strong efforts in helping countries to attract investment in the Sustainable Development Goals while advising governments on the implications of a changing climate on trade and development (Zhan, 2020).

A geostrategic matrix built to assess FDI reorientation is a display of recipients established for years 2025 and 2030 by comparing actual and hypothetical FDI Attraction Efficiency Index values (Fig. 2).

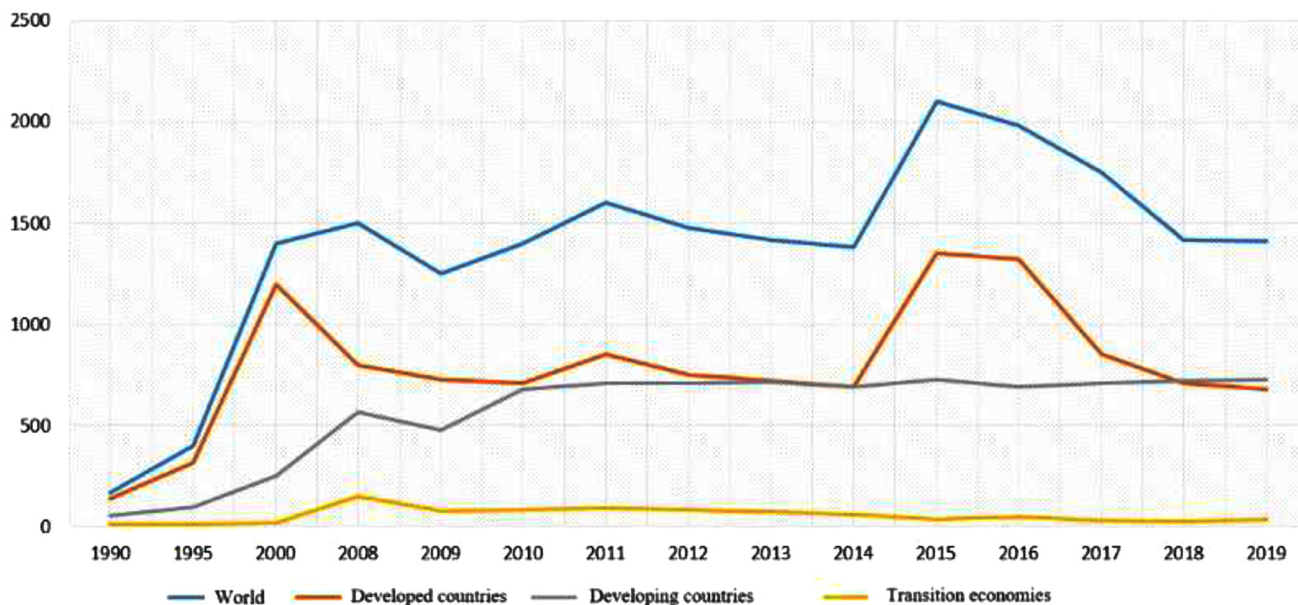


Fig. 1. The Behavioral Pattern of FDI Inflows for the Period 1990–2019, Global and by Region. Data Adapted from Statistical Reports from IMF (2020), OECD (2020), The World Bank Group (2020), and Zhan (2020).

**Table 2**  
Integrated Financial Asymmetry Index and Its Components by Country. Data Adapted from Statistical Reports from IMF (2020), OECD (2020), The World Bank Group (2020), and Zhan (2020).

No.	Country	I <sub>fisc</sub>	I <sub>mon</sub>	I <sub>cur</sub>	I <sub>debt</sub>	I <sub>hf</sub>	I <sub>stm</sub>	FAI
European Union								
1	Germany	0.541	0.281	0.406	0.062	0.406	0.832	0.426
2	France	0.724	0.275	0.398	0.082	0.490	0.775	0.459
3	Spain	0.745	0.357	0.357	0.194	0.428	0.765	0.479
4	Netherlands	0.673	0.275	0.235	0.092	0.398	0.704	0.398
5	Switzerland	0.490	0.398	0.255	0.133	0.286	0.469	0.337
Non-EU Countries of Europe								
6	Belarus	0.224	0.337	0.408	0.357	0.459	0.867	0.439
7	Georgia	0.479	0.265	0.337	0.479	0.592	0.877	0.500
8	Russia	0.653	0.398	0.306	0.357	0.469	0.785	0.490
9	Ukraine	0.724	0.449	0.428	0.500	0.571	0.877	0.592
Asia								
10	Bangladesh	0.337	0.418	0.398	0.255	0.704	0.847	0.490
11	India	0.428	0.398	0.357	0.265	0.561	0.714	0.449
12	Indonesia	0.500	0.265	0.581	0.439	0.561	0.765	0.520
13	Cambodia	0.602	0.173	0.388	0.214	0.459	0.887	0.459
14	China	0.408	0.428	0.306	0.265	0.439	0.377	0.367
15	South Korea	0.622	0.418	0.428	0.143	0.377	0.592	0.428
16	Singapore	0.632	0.367	0.408	0.153	0.224	0.663	0.408
17	Japan	0.520	0.326	0.306	0.275	0.459	0.622	0.418
Africa								
18	Equatorial Guinea	0.347	0.112	0.428	0.010	0.551	0.887	0.388
19	Ethiopia	0.367	0.398	0.367	0.439	0.592	0.887	0.510
20	Egypt	0.388	0.459	0.377	0.347	0.653	0.826	0.510
21	Morocco	0.449	0.398	0.367	0.214	0.602	0.816	0.479
22	Mozambique	0.643	0.500	0.194	0.337	0.755	0.898	0.551
Middle East and Persian Gulf								
23	Iran	0.204	0.581	0.418	0.153	0.551	0.826	0.459
24	Qatar	0.337	0.449	0.388	0.051	0.041	0.673	0.326
25	United Arab Emirates	0.337	0.347	0.418	0.051	0.163	0.775	0.347
26	Saudi Arabia	0.683	0.275	0.214	0.041	0.377	0.643	0.367
Latin America and the Caribbean								
27	Argentina	0.530	0.316	0.398	0.581	0.551	0.765	0.520
28	Brazil	0.561	0.694	0.296	0.663	0.510	0.734	0.581
29	Colombia	0.316	0.357	0.408	0.520	0.530	0.796	0.490
30	Mexico	0.541	0.286	0.388	0.316	0.520	0.755	0.469
North America								
31	Canada	0.541	0.316	0.408	0.031	0.388	0.459	0.357
32	United States	0.592	0.265	0.408	0.245	0.357	0.337	0.367

Note: I<sub>fisc</sub> – fiscal asymmetry; I<sub>mon</sub> – monetary asymmetry; I<sub>cur</sub>– currency asymmetry; I<sub>debt</sub>– debt asymmetry; I<sub>hf</sub> – household finance asymmetry; I<sub>stm</sub>– the sum of asymmetry measures for stock and money markets.

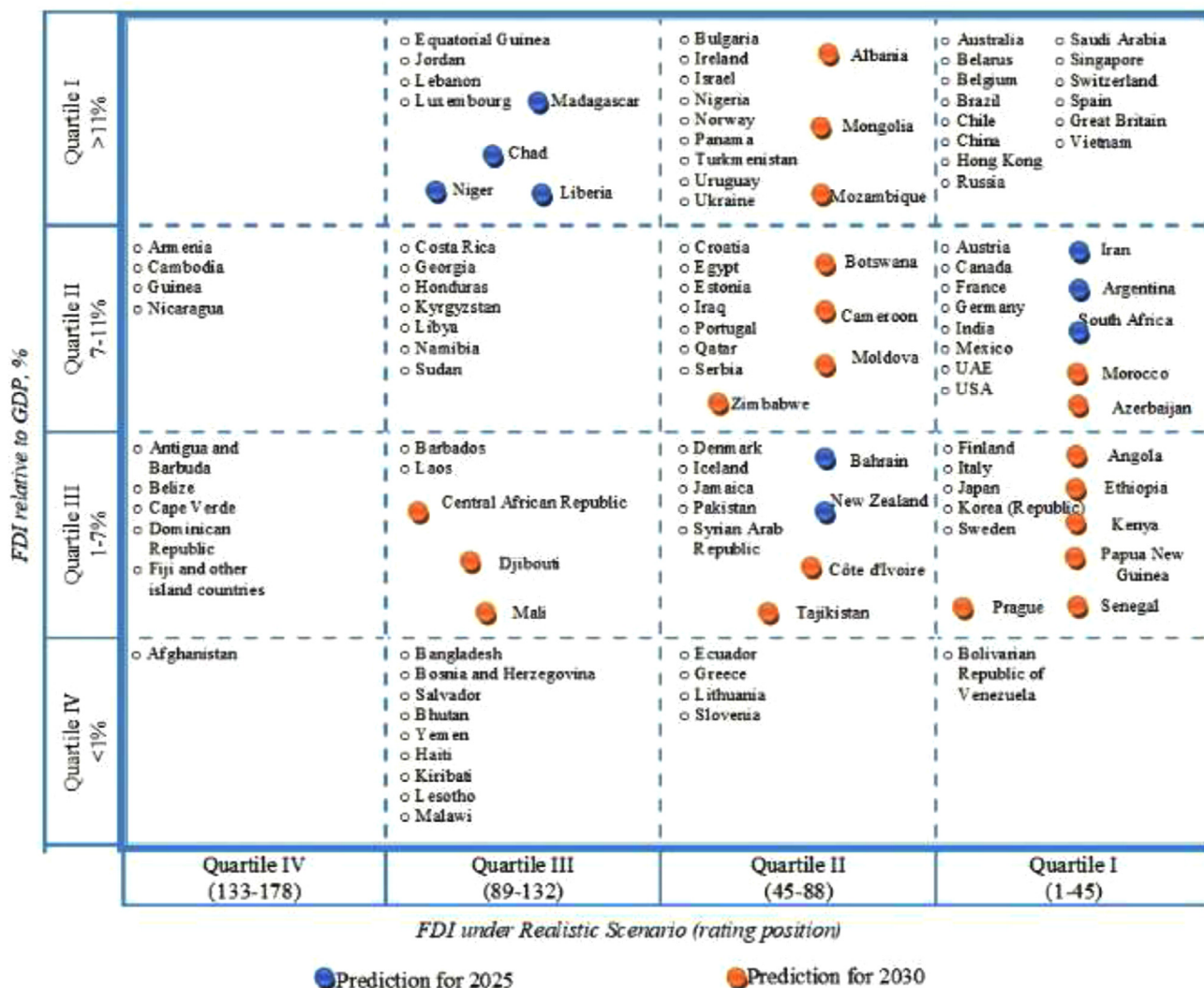


Fig. 2. FDI Reorientation Forecast (developed by the author by using data from Zhan (2020)).

The given countries are projected to shortly gain the ability to increase their FDI inflows. In this regard, the investment policy will focus on boosting the efficiency of investment usage. The long-term predictions suggest that countries will concentrate on improving and developing their investment potential.

Reviewing the updated estimates of COVID-19's economic impact and earnings of the largest multinational companies, one may suggest that the downward pressure on FDI flows could range from -30 to -40% during 2020-2021, much more than the previous predictions of 5% to -15%. Therefore, the current forecasts laid the foundation for the following assumption. International organizations need to redirect their investments from countries that attract FDI exceeding their investment potential (North America, Europe, Japan, and China) to under-invested countries (Middle East, Africa, and Latin America). This will increase the efficiency of investment activity and balance the distribution of investment. The financial asymmetry forecast incorporating this decision was generated using the regression model (Fig. 3).

After the reorientation of FDI, countries such as Chad, Liberia, Madagascar, Niger, Bahrain, and New Zealand are expected to bring their investment potential in line with the FAI by 2025. Concurrently, Iran, Argentina, and South Africa will be able to climb up the FDI ladder by making use of the high investment potential. Predictions for 2030 suggest that Albania, Mongolia, Mozambique, Botswana, Cameroon, Moldova, Zimbabwe will improve their FDI attraction efficiency.

Countries of Central Africa (e.g., Kenya, Ethiopia, Angola, etc.), Central Asia (Azerbaijan and Tajikistan), as well as Paraguay will gain the ability to attract more FDI and enhance their investment potential. In such a manner, the hypotheses of this study are accepted. International investors will contribute to minimizing financial imbalances of single countries by redirecting their investments. This will help balance the global investment needs against the available financial resources.

### 5. Discussion

The results obtained in this study confirm the findings of other researchers arguing that attempts to attract institutional investors by offering high returns tend to impair the transfer of resources between developing and developed states (Kaur, Krushali, Accamma, & Cheryan, 2019). A constructed geostrategic matrix can help address these risks if developing countries, especially those having ineffective investment promotion and persistent account deficits (i.e., need additional sources of sustainable external financing), reduce their reliance on capital flows, and improve their IPAs (Heilbron & Aranda-Larrey, 2020). No less important here is that developing nations can take advantage of capital control mechanisms by influencing the size and structure of their external balances.

The significance of this study lies in the theoretical implications of a methodological approach formed on the basis of a built geostrategic

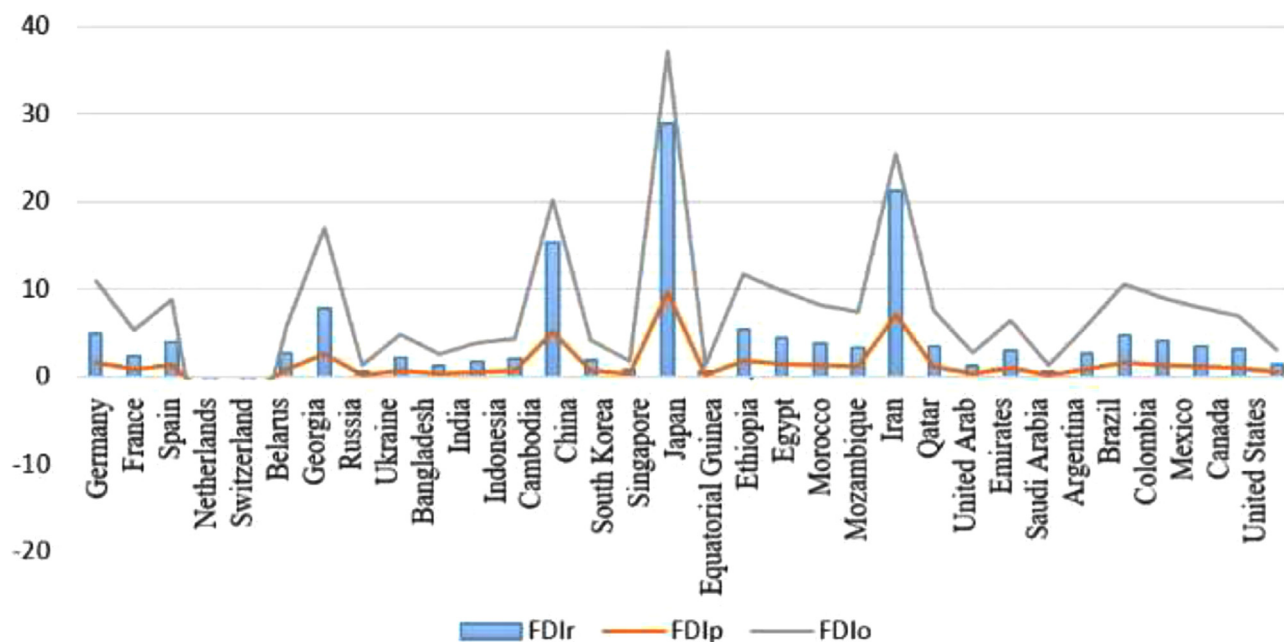


Fig. 3. Realistic (FDIr), Pessimistic (FDIp), and Optimistic Forecasts of Net FDI Inflow, % of GDP (developed by the author by using data from OECD (2020) and Zhan (2020)).

matrix, comparison of actual and potential investment attraction indices, and short- and long-term FDI reorientation forecasts. Its scientific value stems from the proposed integrated Financial Asymmetry Index offering a comprehensive approach to determining the degree and nature of financial imbalances. The elements included in the Index have been actively explored by other scholars in the context of institutional design, presupposing funding rules as an important component of the assessment of international organizations' influence on investment activity development (Pysmenna & Lubkey, 2021; Reurink & Garcia-Bernardo, 2021; Ulcuango et al., 2021). At a fundamental level, the suggested Index has many in common with studies on fiscal (Ocampo, 2018; Odugbesan & Adebayo, 2020), monetary (Economou, 2019), currency (Lipsky & Lee, 2019), and debt asymmetry (Li, Pervaiz, Asif Khan, Ur Rehman, & Oláh, 2019). However, the current work concentrated upon the integration of these aspects to allow for a comprehensive analysis of the financial platform for the development of investment activity.

The practical implications of this research stem from its theoretical contribution. The collected data can be taken advantage of when forming policies directed at increasing the investment activity of countries and regions. Likewise, the method of determination of investment attractiveness development asymmetries considered in this study can become an additional tool in studying the effect of COVID-19 on the investment sector. The fact that the coronavirus pandemic contributes to significant financial asymmetries and FDI redistribution as some countries are likely to respond immediately is proved by many studies. The confirmation of this can be, for example, the European Commission Guidelines of March 25, 2020, calling upon the Member States to implement rigid foreign investment screening "in a time of public health crisis and related economic vulnerability" to protect EU critical companies and assets from foreign acquisitions (European Commission, 2020). In the same fashion, the Royal Decree-Law 11/2020 adopted by Spain on March 31, 2020, can be viewed. It delivers additional measures to deal with the consequences of the coronavirus pandemic and special provisions on the foreign investment regime (Baker McKenzie, 2020). Similar endeavors can be noted in many world countries (Kowalski, 2020; Stubbs, Kring, Lasarikidis, Kentikelenis, & Gallagher, 2021). In view of this, the practical results of the current research can be used in forming policies to

attract international organizations in the context of institutional development of investment activity amid the pandemic situation.

Since the effect of COVID-19 on investment policymaking may well be long-term, the current trend toward more restrictive FDI policies in sectors that are considered key to receiving countries may be exacerbated. At the same time, the pandemic may provoke increased competition for investment in other sectors as economies seek to recover from the crisis and rebuild disrupted supply chains. As regards the promotion of investment in a pandemic, the conclusions made within this paper are similar to those suggesting that the crisis may stimulate the use of online administrative approval procedures for investors (Jankowska, Di Maria, & Cygler, 2021; Sauvart, 2020). In this environment, financial asymmetries can be quite pronounced. On the one hand, this fact confirms the adequacy of the study to the current conditions of investment activity development, but on the other, it limits the application of the proposed approach. The primary limitations here are the difficulty of forecasting in a situation of uncertainty and abrupt capital flow movements – each of them increases volatility and deviations. In line with this, the conducted investigation also has a number of limitations that may affect the deviations from the forecasted indicators. First, institutional investments are procyclical. Second, they often transmit shocks (Beaino, Lombardi, & Siklos, 2019). The reason for this is that institutional investors are likely to adhere to passive investing. In doing so, their asset holdings coincide with either emerging market liabilities or the MSCI Emerging and Frontier Markets Index (Rehman & Apergis, 2020). Hence, when constructing a geostrategic matrix for FDI reorientation forecasting, sensitivity to global financial cycles and their drivers, such as global risk appetite, changes in US monetary policy, and US dollar trends, should be considered.

## 6. Conclusions

The uneven distribution of FDI across countries is heavily influenced by financial asymmetries that result from the performance of international organizations. Significant changes were found in the geostrategic priorities for FDI. For instance, FDI flows to Europe, Latin America, and Africa increased, whereas North America experienced a decline in FDI. The major paradox that arises from FDI flows is the

increased capital flight from developing states that are short of investment resources. This capital flow to developed countries offers guarantees for foreign investors and has lower risks. What is more, an intensive shift in sectoral FDI flows, in particular, towards the services sector was noted.

The evidence from this study also suggests that the majority of chosen countries encounter a moderate financial imbalance. Meanwhile, the highest sub-scores were debt and monetary asymmetries (Brazil), household finance asymmetry, and stock market imbalances in Africa, Indonesia, and Argentina.

The generated geostrategic matrix and FDI forecast may further be taken advantage of as instruments to boost FDI. After FDI reorientation, countries such as Chad, Liberia, Madagascar, Niteroi, Bahrain, and New Zealand are expected to bring their investment potential in line with the FDI Attraction Efficiency Index by 2025. The redistribution of FDI will help minimize financial asymmetries of single economies and balance the available financial resources against the global investment needs.

The theoretical contribution of this paper resides in the methodological approach formed on the basis of the geostrategic matrix, comparison of the actual and potential indices of investment attraction, as well as short-term and long-term forecasts on FDI reorientation. It provides an opportunity to identify priorities for improving the actual FDI attraction rates. In practical terms, this study contributes to the identification of financial asymmetries and redistribution of foreign investment flows. It is very timely in the context of the COVID-19 as the findings obtained are able to facilitate the assessment of countries' responses to the on-the-ground situation. One of the consequences of the varying behaviors of institutional investors when flattening asymmetries may be the increased sensitivity of gains and losses from capital transactions in developing countries. The tendency of institutional investors to engage in dynamic trading will probably intensify their participation in developing countries' capital flows, thereby exacerbating the volatility of asset prices and exchange rates in these states. At the same time, attempts to attract such investors by offering high yields may exacerbate the transfer of resources from developing to developed economies. To minimize these risks, developing countries need to reduce their exposure to capital flows and improve their IPAs.

Given that the pandemic may provoke intensified competition for investment in other sectors as countries strive to recover from the recession, crisis conditions in which financial asymmetries can be particularly pronounced are intensifying. From the one side, this actualizes the results of the conducted research, though, from the other, creates limitations in the application of the proposed methodological approach. The main reason for this is the difficulty of long-term forecasting in an unstable external environment and possible abrupt movements of capital, which may lead to increased volatility and possible deviations from the intended results.

Future research in the field may concentrate on examining a policy mix and a new approach to assessing the effectiveness and efficiency of shifting from quantity to quality in FDI promotion. A key focus may be set on the search for a solution to challenges that quality-targeted IPAs face from the intellectual capital management perspective.

## Declaration on Competing Interest

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## References

- Almodóvar-González, M., Fernández-Portillo, A., & Díaz-Casero, J. C. (2020). Entrepreneurial activity and economic growth. A multi-country analysis. *European Research on Management and Business Economics*, 26(1), 9–17. doi:10.1016/j.edeen.2019.12.004.
- Aloui, Z. (2019). Governance and foreign direct investment: Comparative study between Arab Maghreb countries and ASEAN. *MPRA Paper* (p. 95835). Tunisia: Faculty of Economic and Management of Sousse University of Sousse.
- Alsmadi, A. A., & Oudat, M. S. (2019). The effect of foreign direct investment on financial development: Empirical evidence from Bahrain. *Ekonomski Pregled*, 70(1), 22–40. doi:10.32910/ep.70.1.2.
- Beaino, G. C., Lombardi, D., & Siklos, P. L. (2019). The transmission of financial shocks on a global scale: Some new empirical evidence. *Emerging Markets Finance and Trade*, 55(7), 1634–1655. doi:10.1080/1540496X.2018.1481046.
- Bernasconi-Osterwalder, N., Chaisse, J., Choukroune, L., & Jusoh, S. (2020). Inclusion of investor obligations and corporate accountability provisions in investment agreements. *Handbook of international investment law and policy* (pp. 1–20). Springer. doi:10.1007/978-981-13-5744-2\_56-1.
- Bezpalov, V. V., Tsvetkova, A. B., Shilina, M. G., Golovina, V. V., & Avtonomova, S. A. (2020). PR support in strategic investor relations at retail companies. *Journal of Advanced Pharmacy Education and Research*, 10(2), 84–90.
- Chen, D., Yu, X., & Zhang, Z. (2019). Foreign direct investment comovement and home country institutions. *Journal of Business Research*, 95, 220–231. doi:10.1016/j.jbusres.2018.10.023.
- Economou, F. (2019). Economic freedom and asymmetric crisis effects on FDI inflows: The case of four south European economies. *Research in International Business and Finance*, 49, 114–126. doi:10.1016/j.ribaf.2019.02.011.
- European Commission. (2020). Coronavirus: Commission issues guidelines to protect critical European assets and technology in current crisis. *An Official Website of the European Union*. Retrieved from <https://trade.ec.europa.eu/doclib/press/index.cfm?id=2124> Accessed August 15, 2020.
- Galioti, E., & Karagiannis, K. (2021). Cultural dimensions, economic policy uncertainty, and momentum investing: International evidence. *The European Journal of Finance*, 27(10), 976–993. doi:10.1080/1351847X.2020.1782959.
- Graham, E. R. (2017). The institutional design of funding rules at international organizations: Explaining the transformation in financing the United Nations. *European Journal of International Relations*, 23(2), 365–390. doi:10.1177/1354066116648755.
- Guimón, J., Chaminade, C., Maggi, C., & Salazar-Elena, J. C. (2018). Policies to attract R&D-related FDI in small emerging countries: Aligning incentives with local linkages and absorptive capacities in Chile. *Journal of International Management*, 24(2), 165–178. doi:10.1016/j.intman.2017.09.005.
- Guimón, J., & Filipov, S. (2017). Competing for high-quality FDI: Management challenges for investment promotion agencies. *Institutions and Economics*, 4(2), 25–44.
- Hayat, A. (2019). Foreign direct investments, institutional quality, and economic growth. *The Journal of International Trade & Economic Development*, 28(5), 561–579. doi:10.1080/09638199.2018.1564064.
- Heilbron, A., & Aranda-Larrey, Y. (2020). *Strengthening service delivery of investment promotion agencies*. World Bank.
- Ibrahim, M., Adam, I. O., & Sare, Y. A. (2019). Networking for foreign direct investment in Africa. *Journal of Economic Integration*, 34(2), 346–369. doi:10.11130/jei.2019.34.2.346.
- IMF. (2020). *IMF annual report 2019*. Retrieved from <http://www.imf.org/external/pubs/ft/ar/2019/eng/assets/pdf/imf-annual-report-2019.pdf> Accessed August 15, 2020
- Jankowska, B., Di Maria, E., & Cygler, J. (2021). Do clusters matter for foreign subsidiaries in the Era of industry 4.0? The case of the aviation valley in Poland. *European Research on Management and Business Economics*, 27(2), 100150. doi:10.1016/j.edeen.2021.100150.
- Kaur, S., Krushali, S., Accamma, C. G., & Cheriyan, N. K. (2019). Modeling the impact of political risk components on major macroeconomic variables. *Asian Economic and Financial Review*, 9(9), 1032–1042. doi:10.18488/journal.aefr.2019.99.1032.1042.
- Khan, M., Lee, H. Y., & Bae, J. H. (2018). Inward foreign direct investment: A case study of Pakistan. *Mediterranean Journal of Social Sciences*, 9(5). doi:10.36941/mjss 63–63.
- Kottaridi, C., Louloudi, K., & Karkalakos, S. (2019). Human capital, skills and competencies: Varying effects on inward FDI in the EU context. *International Business Review*, 28(2), 375–390. doi:10.1016/j.ibusrev.2018.10.008.
- Kowalski, P. (2020). *10 Will the post-COVID world be less open to foreign direct investment? COVID-19 and trade policy: Why turning inward will not work* (pp. 131–150). London: Centre for Economic Policy Research.
- Krunić, M. (2021). Conflict of strategies—Bosnia and Herzegovina development strategy and support strategies of international financial institutions. *Acta Economica*, 19(34), 187–204. doi:10.7251/ACE2134187K.
- Kvon, G. M., Lushchik, I. V., Karpenko, M. A., Zaitseva, N. A., Kulkov, A. A., Galushkin, A. A., et al. (2017). Regional investment policy: Analysis and assessment of the investment environment state. *Eurasian Journal of Analytical Chemistry*, 12(5), 835–853. doi:10.12973/ejac.2017.00215a.
- Lartey, T., & Danso, A. (2020). Globalization, free markets and investor protection. *Economics and Business Letters*, 9(1), 8–13. doi:10.17811/eb1.9.1.2020.8-13.
- Li, C., Pervaiz, K., Asif Khan, M., Ur Rehman, F., & Oláh, J. (2019). On the asymmetries of sovereign credit rating announcements and financial market development in the European region. *Sustainability*, 11(23), 6636. doi:10.3390/su11236636.
- Lipsky, P. Y., & Lee, H. N. K. (2019). The IMF as a biased global insurance mechanism: Asymmetrical moral hazard, reserve accumulation, and financial crises. *International Organization*, 73(1), 35–64. doi:10.1017/S0020818318000371.



- Liu, Z., & Shestak, V. (2021). Issues of crowdsourcing and mobile app development through the intellectual property protection of third parties. *Peer-to-Peer Networking and Applications*, 14(5), 2618–2625. doi:10.1007/s12083-020-00976-5.
- McKenzi, B. (2020). Royal Decree-Law 11/2020, of March 31, adopting additional urgent measures in the areas of employment and economics to deal with the COVID-19 crisis. Retrieved from <https://www.bakermckenzie.com/en/insight/publications/2020/04/royal-decree-11-2020-spain#:~:Text=In%20the%20context%20of%20the,to%20deal%20with%20COVID%2D19>. Accessed August 15, 2020
- Mishra, B. R., & Jena, P. K. (2019). Bilateral FDI flows in four major Asian economies: A gravity model analysis. *Journal of Economic Studies*, 46(1), 71–89. doi:10.1108/JES-07-2017-0169.
- Nielsen, B. B., Asmussen, C. G., & Weatherall, C. D. (2017). The location choice of foreign direct investments: Empirical evidence and methodological challenges. *Journal of World Business*, 52(1), 62–82. doi:10.1016/j.jwb.2016.10.006.
- Ocampo, J. A., & Ocampo, J. A. (2018). International asymmetries and the design of the international financial system 1. *Critical issues in international financial reform* (pp. 45–74) Routledge.
- Odugbesan, J. A., & Adebayo, T. S. (1982). The symmetrical and asymmetrical effects of foreign direct investment and financial development on carbon emission: Evidence from Nigeria. *SN Applied Sciences*, 2(12). doi:10.1007/s42452-020-03817-5.
- OECD. (2020). *FDI flows*. Retrieved from <https://data.oecd.org/fdi/fdi-flows.htm> Accessed August 15, 2020
- Okwu, A. T., Oseni, I. O., & Obiakor, R. T. (2020). Does foreign direct investment enhance economic growth? Evidence from 30 leading global economies. *Global Journal of Emerging Market Economies*, 20(2), 217–230. doi:10.1177/0974910120919042.
- Pysmenna, T., & Lubkey, N. (2021). Financial aspects of social projects implementation in the context of the social risks spread. *World of Finance*, 4(65), 56–68. doi:10.35774/ssf2020.04.056.
- Qejvanaj, G. (2021). International organizations lending policy, are there strings attached? A case study from the latest wave of reforms in the Albanian social security system. *SAGE Open*, 11(3) 21582440211037662 10.1177%2F21582440211037662.
- Quazi, R. M., Ballentine, W. E., Bindu, F., & Blyden, L. (2019). Multilateral foreign aid, bilateral foreign aid, and foreign direct investment in Latin America. *International Journal of Economics and Financial Issues*, 9(2), 284–290. doi:10.32479/ijefi.7520.
- Rehman, M. U., & Apergis, N. (2020). Do global sentiment shocks spillover towards emerging and frontier markets? *Journal of Economic Studies*, 47(3), 433–465. doi:10.1108/JES-12-2018-0418.
- Reurink, A., & García-Bernardo, J. (2021). Competing for capitals: The great fragmentation of the firm and varieties of FDI attraction profiles in the European Union. *Review of International Political Economy*, 28(5), 1274–1307. doi:10.1080/09692290.2020.1737564.
- Ruzmetov, B., Jumaeva, Z. K., & Xudayarova, M. (2021). International experience in attracting foreign direct investment. *International Journal on Economics, Finance and Sustainable Development*, 3(4), 38–43. doi:10.31149/ijefsd.v3i4.1706.
- Sanabria-García, S., & Garrido-Miralles, P. (2020). Impact of IFRS on non-cross-listed Spanish companies: Financial analysts and volume of trade. *European Research on Management and Business Economics*, 26(2), 78–86. doi:10.1016/j.iemeen.2020.04.001.
- Sauvant, K. P. (2020). Enabling the full participation of developing countries in negotiating an investment facilitation framework for development. *Columbia FDI Perspectives*, 275, April 6, 2020, Available at SSRN: <https://ssrn.com/abstract=3568208>
- Seabrooke, L., & Tsingou, E. (2021). Revolving doors in international financial governance. *Global Networks*, 21(2), 294–319. doi:10.1111/glob.12286.
- Six Group. (2020). *SIX successfully completes acquisition of controlling stake in BME*. Retrieved from <https://www.six-group.com/en/newsroom/media-releases/2020/20200611-completion-acquisition-controlling-stake-bme.html> Accessed August 15, 2020
- Stubbs, T., Kring, W., Laskaridis, C., Kentikelenis, A., & Gallagher, K. (2021). Whatever it takes? The global financial safety net, COVID-19, and developing countries. *World Development*, 137, 105171. doi:10.1016/j.worlddev.2020.105171.
- te Velde, D. W. (2019). Enhancing spillovers from foreign direct investment. *Supporting Economic Transformation Report* Overseas Development Institute (ODI).
- The World Bank Group. (2020). *Foreign direct investment, net inflows*. Retrieved from <https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD> Accessed August 15, 2020
- Tsindeliani, I., Selyukov, A., Kikavets, V., Vershilo, T., Tregubova, E., Babayan, O., et al. (2021). Transformation of the legal mechanism of taxation as a factor of influence on strategic planning of budgetary policy: Russia case study. *Journal of Transnational Management*, 26(3), 179–200. doi:10.1080/15475778.2021.1989565.
- Ulcuango, O. M. R., Jumbo, M. A. P., & Flores, C. O. G. (2021). Dependence of the Ecuadorian state with international financial organizations in the presidential period 2017–2020. *Universidad Ciencia y Tecnología*, 25(110), 65–76. doi:10.47460/uct.v25i110.477.
- Vinokurov, E. (2021). Interaction of Eurasian and international financial institutions. *Post-Communist Economies*, 33(2–3), 265–282. doi:10.1080/14631377.2020.1793588.
- World Economic Forum. (2020). *Foreign investment is drying up thanks to COVID-19*. But there may be a silver lining. WEFForum. Retrieved from <https://www.weforum.org/agenda/2020/04/foreign-investment-covid19-economy-winners/> Accessed August 15, 2020
- Zhan, J. (2020). *FDI Statistics*. UNCTAD. Retrieved from <https://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics.aspx> Accessed August 15, 2020