Original Paper

doi 10.15826/recon.2025.11.4.024
UDC 339.9, 330.322, 330.43
JEL F21, F02, C23

Inbound foreign direct investment in Asia-Pacific countries: the long-term impact of trade and economic agreements

D. A. Izotov ✉
Economic Research Institute, Far Eastern Branch Russian Academy of Sciences, Khabarovsk, Russia;
✉ *izotov@ecrin.ru*

ABSTRACT
Relevance. Over the past three decades, the Asia-Pacific region has attracted more than half of the world's foreign direct investment (FDI), most of it staying within the area. Trade and economic agreements designed to lower barriers have played a key role in attracting FDI across the region. However, research on the effects of these agreements is limited and often focuses on individual economies. Given the area's economic diversity, the long-term impact of such agreements on FDI inflows, as well as how these effects compare with global trends, remains unclear.
Research Objective. The study aims to provide quantitative estimates of the long-term impact of trade and economic agreements on accumulated FDI inflows in the Asia-Pacific region.
Data and Methods. The study uses a structural gravity model with panel data on bilateral FDI flows between Asia-Pacific countries for 1992–2023. The dependent variable was compiled from international and national databases. Estimates were obtained using the Poisson pseudo-maximum likelihood method.
Results. The long-term positive direct effect of agreements came primarily from extended free trade zones (FTA+), which increased FDI inflows by 35 %. Other trade agreements had little direct effect, while bilateral investment agreements actually restrained FDI inflows. The study also found the following accumulated effects: FTA+ and investment agreements boosted FDI inflows by 37 % and 16 %, respectively, whereas trade agreements without provisions to facilitate FDI reduced inflows by 59 %.
Conclusions. In their investment interactions Asia-Pacific countries adopt different long-term strategies. Some promote FDI through FTA+ and investment agreements, in line with global patterns, while others limit foreign capital via trade agreements that lack measures to reduce FDI barriers.

KEYWORDS
foreign direct investment, integration, trade agreements, investment agreements, direct effect of trade and economic agreements, accumulated effect of trade and economic agreements, Asia-Pacific region

FOR CITATION
Izotov, D. A. (2025). Inbound foreign direct investment in Asia-Pacific countries: the long-term impact of trade and economic agreements. *R-Economy*, 11(4), 444–462. doi: 10.15826/recon.2025.11.4.024

Прямые иностранные инвестиции в страны Азиатско-Тихоокеанского региона: долгосрочное влияние торгово-экономических соглашений

Д. А. Изотов ✉
Институт экономических исследований Дальневосточного отделения Российской академии наук, Хабаровск, Россия; ✉ *izotov@ecrin.ru*

АННОТАЦИЯ
Актуальность. За последние три десятилетия Азиатско-Тихоокеанский регион привлек более половины мировых прямых иностранных инвестиций (ПИИ), большая часть которых осталась в регионе. Торгово-экономические соглашения, направленные на снижение барьеров, сыграли ключевую роль в привлечении ПИИ в регион. Однако исследования влияния этих соглашений ограничены и часто сосредоточены на отдельных

КЛЮЧЕВЫЕ СЛОВА
прямые иностранные инвестиции, интеграция, торговые соглашения, инвестиционные соглашения, прямой эффект

экономиках. Учитывая экономическое разнообразие региона, долгосрочное влияние таких соглашений на приток ПИИ, а также сравнение этого влияния с мировыми тенденциями, остаются неясными.
Цель исследования. Цель исследования — дать количественную оценку долгосрочного влияния торгово-экономических соглашений на накопленный приток ПИИ в Азиатско-Тихоокеанском регионе.
Данные и методы. В исследовании используется структурная гравитационная модель с панельными данными о двусторонних потоках прямых иностранных инвестиций (ПИИ) между странами Азиатско-Тихоокеанского региона за 1992–2023 годы. Зависимая переменная была составлена на основе международных и национальных баз данных. Оценки получены с использованием метода псевдомаксимального правдоподобия Пуассона.
Результаты. Долгосрочный положительный прямой эффект соглашений был обусловлен, главным образом, расширением зон свободной торговли (ЗСТ+), что увеличило приток ПИИ на 35 %. Другие торговые соглашения оказали незначительное прямое влияние, в то время как двусторонние инвестиционные соглашения фактически ограничили приток ПИИ. Исследование также выявило следующие кумулятивные эффекты: ЗСТ+ и инвестиционные соглашения увеличили приток ПИИ на 37 % и 16 % соответственно, тогда как торговые соглашения без положений, способствующих привлечению ПИИ, сократили приток на 59 %.
Выводы. В своем инвестиционном взаимодействии страны Азиатско-Тихоокеанского региона придерживаются различных долгосрочных стратегий. Некоторые страны стимулируют ПИИ посредством ЗСТ+ и инвестиционных соглашений, следуя мировым тенденциям, в то время как другие ограничивают иностранный капитал посредством торговых соглашений, в которых отсутствуют меры по снижению барьеров для ПИИ.

торгово-экономических соглашений, кумулятивный эффект торгово-экономических соглашений, Азиатско-Тихоокеанский регион

ДЛЯ ЦИТИРОВАНИЯ
Izotov, D. A. (2025). Inbound foreign direct investment in Asia-Pacific countries: the long-term impact of trade and economic agreements. *R-Economy*, 11(4), 444–462. doi: 10.15826/recon.2025.11.4.024

亚太地区外国直接投资：贸易协定的长期影响

伊佐托夫 ✉
俄罗斯科学院远东分院经济研究所，哈巴罗夫斯克，俄罗斯，邮箱：✉ izotov@ecrin.ru

摘要
现实性：过去三十年间，亚太地区吸引了全球一半以上的外国直接投资（FDI），其中大部分资金留在该地区。旨在降低贸易壁垒的经济贸易协定在吸引FDI方面发挥了关键作用。然而，关于这些协定影响的研究有限，且往往聚焦于单个经济体。鉴于该地区的经济多样性，此类协定对FDI流入的长期影响，以及这种影响与全球趋势的比较情况，仍不明确。
研究目标：该研究的目的是量化贸易经济协定对亚太地区累计外国直接投资流入的长期影响。
数据与方法：本研究采用结构引力模型，利用1992年至2023年亚太地区国家间双边外国直接投资（FDI）流量的面板数据。因变量的构建基于国际和国家数据库。该估值是采用泊松伪最大似然法计算得出的。
研究结果：这些协议的长期积极直接效应主要源于自由贸易区（FTA+）的扩大，这使外国直接投资（FDI）流入增加了35 %。其他贸易协议的直接影响微乎其微，而双边投资协议实际上限制了FDI流入。研究还发现了以下累积效应：FTA+和投资协定分别使外国直接投资流入量增加了37 %和16 %，而未包含促进外国直接投资条款的贸易协定则使流入量减少了59 %。
结论：在投资互动方面，亚太地区各国采取了不同的长期战略。一些国家遵循全球趋势，通过自由贸易协定+和投资协定来刺激外国直接投资，而另一些国家则缺乏降低外国直接投资壁垒的措施，通过贸易协定来限制外国资本。

关键词
外商直接投资、一体化、贸易协定、投资协定、贸易经济协定的直接效应、贸易经济协定的累积效应、亚太地区

供引用
Izotov, D. A. (2025). Inbound foreign direct investment in Asia-Pacific countries: the long-term impact of trade and economic agreements. *R-Economy*, 11(4), 444–462. doi: 10.15826/recon.2025.11.4.024

Introduction

Cross-border investment is central to today's global economy, which makes it essential to examine the factors that shape foreign direct investment (FDI)[1]. Among the various theories of FDI[2], Dunning's paradigm (1981) is the most recognized for its integrative perspective. It suggests that a company's decision to invest abroad rests on three advantages: ownership, location, and internalization. The first advantage entirely depends on the characteristics of the investing company, while the second and third depend on the specific political and economic conditions in the host country (Gastanaga et al., 1998). There are some differences between the economic effects of outgoing (outflow) and incoming (inflow) FDI. Effects of outgoing FDI primarily benefit certain segments of a national economy's corporate sector, allowing companies to access foreign markets, reduce overall costs, and increase the competitiveness of their goods or services (Faeth, 2009). In contrast, incoming FDI produces a wide range of effects: it expands market capacity, encourages the setup of new production facilities with a strong export orientation, enables access to advanced foreign technologies, and helps raise employment and household incomes (Hassan, 2022).

Location and internalization advantages influence the dynamics and structure of FDI through factors such as market size, production costs, and the political and economic risks of host countries (Faeth, 2009). Since capital flows contribute to global welfare and expand international trade (Anderson, 2017), attracting FDI becomes a key objective of national economic policy. In this context, governments, particularly in developing countries, face the task of creating long-term conditions that make their economies more attractive to investors[3]. One effective way to achieve this is by lowering barriers to foreign capital, for example through trade and economic agreements designed to stimulate investment and support economic growth.

It should be noted that the Asia-Pacific region (APR), of which Russia is a part, is the largest sub-global economy, accounting on average for about 60 % of global GDP in 1992–2023, up from 55 % in 1992 (USD 14 trillion) to 63 % in 2023 (USD 66.6 trillion)[4]. The APR includes more than 50 countries and economic territories, including some of the world's largest economies (the USA, China, and Japan)[5]. APR countries have received a significant development boost through bilateral and multilateral integration agreements that reduce barriers to economic interactions. In the context of this study, three major groups of trade and economic agreements can be distinguished: bilateral investment agreements; advanced trade agreements containing provisions to simplify FDI flows; and other trade agreements that do not contain such provisions (Larch et al., 2023). One of the key aspects of economic interactions among APR countries has been the exchange of FDI, a factor that has grown increasingly significant over time. Indeed, over the past three decades, the APR has accounted for more than half of the world's accumulated FDI inflows.

This study aims to provide a long-term assessment of the impact of trade and economic agreements on accumulated FDI inflows in the APR. The research algorithm comprises the following tasks: 1) analyzing the dynamics of accumulated FDI and trade and economic agreements in the APR; 2) compiling the dataset and selecting the evaluation methodology; and 3) assessing the long-term impact of trade and economic agreements

[1] Foreign direct investment (FDI) refers to actions carried out by a resident of a foreign economy (the direct investor or parent company) with the aim of establishing a long-term interest in an enterprise that is a resident of the domestic economy (the enterprise receiving the investment or its foreign subsidiary). A long-term interest implies the existence of sustained relationships between the foreign direct investor and the enterprise. It is generally considered that owning more than 10 % of an enterprise's equity is sufficient for a foreign investor to exert influence over its management. For more on this, see: Foreign direct investment: Inward and outward flows and stock. Retrieved from: https://unctadstat.unctad.org/datacentre/dataviewer/US. FdiFlowsStock (date of access: 01.02.2025).

[2] Neoclassical, monetary, and institutional approaches, transaction cost theory, and others.

[3] Support for FDI outflows is practiced by a small number of relatively large open economies with a developed corporate sector.

[4] World Economic Outlook Database/IMF. Retrieved from: https://www.imf.org/en/Publications/WEO/weo-database/2025/april (date of access: 01.06.2025).

[5] During this period, the contribution of countries to the region's total GDP changed, mainly due to the rapid growth of China, Southeast Asian countries (SEA), and other countries in the APR (including Russia), as well as a recession in Japan's economy. In 1992, China accounted for 4 % of the region's total GDP, Southeast Asian countries 3 %, Japan 29 %, the USA 47 %, and Russia 1 %. By 2023, China's share had risen to 27 %, Southeast Asian countries to 6 %, Japan had fallen to 6 %, the USA accounted for 42 %, and Russia 3 %.

Online ISSN 2412-0731

on FDI inflows in the APR. This study covers the period from 1992 to 2023.

Theoretical Framework

Over the past two decades, structural gravity models have greatly advanced our understanding of the factors driving global trade and investment (Larch et al., 2023; Kleinert et al., 2010). Quantitative estimates of FDI flows, including for the Russian economy (Drapkin et al., 2023), highlight the influence of political and economic risks (Osabuohien-Irabor et al., 2022; Vasilyeva et al., 2021), gravity factors (Aiyar et al., 2024; Ben Belgacem et al., 2024), and trade and economic agreements. Research shows that bilateral investment agreements tend to have a neutral effect on FDI flows worldwide (Osnago et al., 2016; Larch et al., 2023), while advanced trade agreements have a positive, stimulating effect (Kox et al., 2019). Overall, these findings underscore the importance of comprehensive liberalization of trade and economic interactions and the reduction of risks to facilitate seamless global FDI flows.

The study of investment exchange dynamics revealed that a sustained decline in risks, together with broader economic freedoms, promoted FDI inflows into Asia-Pacific countries (Izotov, 2024). Trade growth in the region, driven by FDI and the openness of economies under relevant agreements, points to the link between capital flows and the movement of intermediate goods in "vertical" trade networks in East Asia and between the United States and Mexico (Fukao et al., 2003; Blair, 2017). Outward FDI flows from leading Asia-Pacific countries in East Asia were boosted by capital account liberalization and by higher levels of economic freedom in host economies (Le et al., 2021; Akhtaruzzaman, 2023; Pan et al., 2022). In East Asia, FDI primarily flowed from high-tech to medium-tech economies, consistent with the "flying geese" model, which suggests that technologies and capital move between economies at adjacent, rather than identical, levels of the technological ladder (Petri, 2012).

Research on the influence of trade and economic agreements on FDI inflows in the APR has so far been limited and usually focused on individual countries. For instance, gravity model estimates show that advanced trade and economic agreements with foreign partners increased FDI inflows into China (Yue et al., 2023) and Southeast Asia (Wahyuningsih, 2021; Duong et al., 2020) while bilateral investment treaties encouraged outward FDI from Japan (East…, 2019, p. 31).

A key limitation of these studies is that they overlook the impact of globalization. This omission is important because globalization can significantly distort assessments of how trade and economic agreements actually affect FDI inflows (Izotov, 2023). Another gap is the lack of attention to delayed or accumulated effects, which are particularly relevant in the long term. Given the diversity of APR economies, it remains unclear whether trade and economic agreements ultimately restrain, stimulate, or have little effect on long-term FDI inflows. What is missing is a comprehensive assessment that accounts for economic diversity, delayed effects of agreements, and the distorting role of globalization.

Evidence from the global economy (Larch, 2023) suggests that, over time, investment and advanced trade agreements have generally stimulated FDI inflows in the APR. In contrast, trade agreements without provisions to facilitate FDI tended either to have no effect or to restrain inflows. This study aims to provide a long-term assessment of both the direct and cumulative effects of different types of trade and economic agreements on FDI inflows in the region, taking into account the diversity of its economies and isolating the influence of globalization. The results of such assessments depend on the type of FDI data used — cumulative or flow values (Baltabaev, 2014)[6]. This study relies on cumulative FDI values, which are less volatile and contain far fewer zero or negative entries than flow values, making them more reliable for analysis (Kox et al., 2020; Larch et al., 2023).

FDI and Trade and Economic Agreements in the Asia-Pacific Region

On average over the period, the cumulative value of FDI inflows into Asia-Pacific countries grew 20.8 times in current prices — from USD 1,330 billion in 1992 to USD 27,719 billion in 2023. In the same period, these countries' share of global FDI increased from 53.3 % in 1992 to 56.4 % in 2023 (*Fig. 1*).

[6] FDI flows represent transactions recorded during the reporting period, which consist of equity acquisitions or disposals, reinvested earnings, and intercompany debt. Cumulative FDI refers to the total accumulated value of FDI recorded at the end of the reporting period.

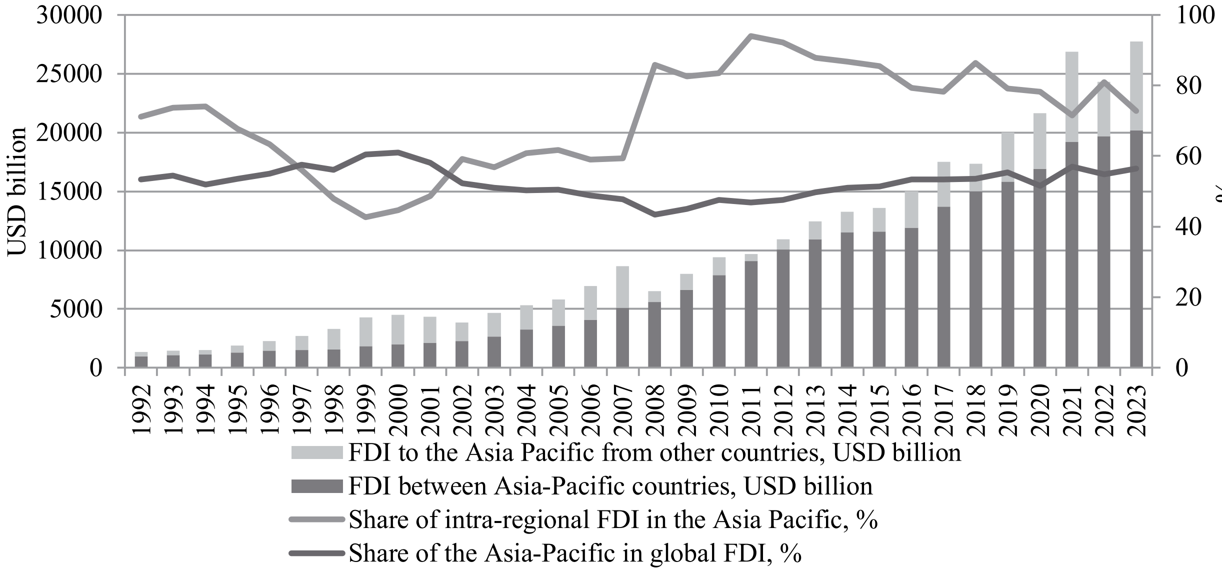

Figure 1. *Accumulated inflows of FDI in Asia-Pacific countries: Absolute and relative indicators*

Source: FDI Bilateral Statistics. UNCTAD. Retrieved from: https://unctad.org/en/Pages/DIAE/FDI%20 Statistics / FDI-Statistics-Bilateral.aspx (date of access: 14.06.2017); FDI database. UNCTAD. Retrieved from: https://unctad.org/fdistatistics (date of access: 01.02.2020); Foreign direct investment: Inward and outward flows and stock. Retrieved from: https://unctadstat.unctad.org/datacentre/dataviewer/US. FdiFlowsStock; OECD FDI Flows. Retrieved from: https://www.oecd.org/en/data/indicators/fdi-flows.html; Foreign Direct Investment Statistics: Data, Analysis and Forecasts. Retrieved from: https://mneguidelines.oecd.org/statistics.htm; OECD International Direct Investment Statistics. Retrieved from: https://www.oecd.org/en/publications/oecd-international-direct-investment-statistics_2307437x.html; IMF Coordinated Direct Investment Survey (CDIS). Retrieved from: http://data.imf.org/?sk=40313609-F037–48C1–84B1-E1F1CE54D6D5; Foreign Direct Investment Trends and Statistics. IMF. Retrieved from: https://www.imf.org/en/Publications/SPROLLs/direct-investment#sort=%40imfdate%20descending; CEIC Database. Retrieved from: https://www.ceicdata.com; Statistics of Foreign Direct Investment in ASEAN. Stocks of Inward Foreign Direct Investment (FDI) at year-end, by source country. Retrieved from: https://data.aseanstats.org/fdi-by-hosts-and-sources-stock (date of access: 01.03.2025).

Between 1992 and 2000, the APR's share of global FDI rose, reaching a peak of 61 percent. From 2001 to 2008, however, it declined, reflecting both the accumulation of foreign direct capital within the European Union and growing investment in other economies, including transit hubs. Afterward, the share of Asia-Pacific countries in global FDI tended to grow again, with the exception of episodes tied to the pandemic and heightened geopolitical risks in the early 2020s. The main Asia-Pacific economies accumulating FDI were the United States, China, ASEAN member states[7], Hong Kong, Canada, Australia, and Mexico, which together accounted for more than 90% of the region's inflows[8]. Inward FDI was driven primarily by intra-regional flows, that is, investment within the Asia-Pacific itself. The value of these FDI flows grew 21.3 times in current prices — from USD 946 billion in 1992 to USD 20,156 billion in 2023. On average, over 71% of FDI inflows into the region came from intra-regional sources, although since 2012 the share of extra-regional FDI in the Asia-Pacific has shown an upward trend.

It should be noted that since the early 1970s, the Asia-Pacific region, led by Japan, has pursued the "flying geese" strategy, which encouraged "vertical" trade by directing FDI toward East Asian countries with lower labor costs. From the second half of the 1980s onward, Korea, Taiwan, and Singapore also became important FDI donors in the region through production cooperation[9]. The strategy relied, among other things, on reducing various barriers that had constrained trade in intermediate goods and the

[7] Brunei, Vietnam, Indonesia, Cambodia, Laos, Malaysia, Myanmar, Singapore, Thailand and the Philippines.

[8] The United States and China accounted for more than 60% of the total FDI inflows into the Asia-Pacific.

[9] At the same time, the share of these countries in FDI inflows was small (less than 2%), since their economies relied on the capital of their own corporate sector.

Online ISSN 2412-0731

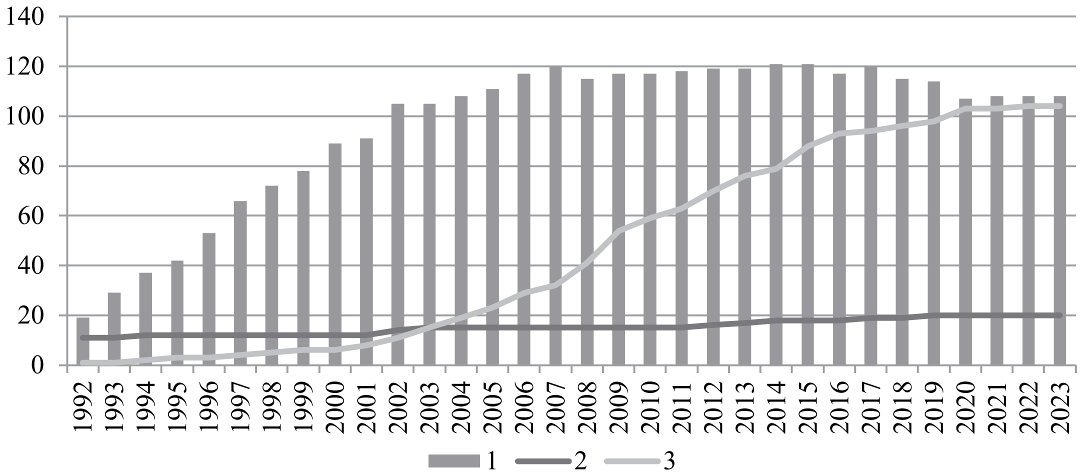

Figure 2. *Number of trade and economic agreements in the Asia-Pacific, cumulative total*

Note: 1 — Bilateral investment treaties; 2 — Trade agreements without provisions on facilitating FDI; 3 — Trade agreements with provisions on facilitating FDI.

Source: Regional trade agreements notified to the GATT/WTO and in force. Retrieved from: https://rtais.wto.org/UI/publicPreDefRepByCountry.aspx; Deep Trade Agreements database 2.0 (vertical depth). Retrieved from: https://datatopics.worldbank.org/dta/table.html; International Investment Agreements Navigator. Retrieved from: https://investmentpolicy.unctad.org/international-investment-agreements/by-economy (date of access: 01.02.2025).

exchange of direct investment between Asia-Pacific countries, often through trade and economic agreements. Other Asia-Pacific economies also entered into bilateral and multilateral agreements of this kind.

As a result, by the early 1990s, two types of trade and economic agreements were in practice in the region: bilateral investment treaties (hereafter investment agreements), and purely trade agreements without provisions facilitating FDI exchange — namely, partial-scope trade agreements (PSAs)[10], free trade areas (FTAs)[11], and customs unions (CUs)[12]. In effect, up to that point, liberalization of trade and investment in the Asia-Pacific region had not been synchronized. After most Asia-Pacific countries joined the WTO in 1995, trade liberalization experienced a brief period of stagnation, even as investment agreements continued to expand. From the early 2000s onward, extended free trade agreements (FTA+) became increasingly common. Alongside liberalizing goods and services, they also encouraged capital market integration, particularly in direct investment. In this respect, the Asia-Pacific saw a comprehensive reduction of barriers, both in trade in goods and services and in the exchange of FDI (*Fig. 2*).

In sum, the Asia-Pacific, like the global economy, featured three main types of trade and economic agreements: investment agreements and trade agreements that either lacked or contained provisions to support FDI exchange. In the second half of the 2010s, the operation of some investment agreements in the region was suspended, as participating countries signed FTA+ agreements that included FDI provisions. Nevertheless, investment agreements in the Asia-Pacific remained quite numerous and were usually concluded between countries that had not established trade agreements with each other.

It should be noted that, within the region, Russia has concluded an advanced trade agreement with FDI facilitation provisions only with Vietnam, which shows the lack of explicit Russian demand for integration with other Asia-Pacific countries. Before large-scale Western sanctions, and assuming interest in sub-global integration, such agreements could have helped maintain investment cooperation with countries the Russian government regards as "friendly". Russia has also signed invest-

[10] Under partial-scope trade agreements (PSAs), countries reduce tariff barriers on specific groups of goods.

[11] Free trade areas (FTAs) involve reducing tariff and non-tariff barriers, while allowing countries to determine their own trade regimes with third countries.

[12] Customs unions (CUs) require member states to introduce a common external tariff and a unified system for regulating non-tariff measures toward third countries.

ment agreements with 12 Asia-Pacific countries[13], most of them friendly, though they mainly serve as recipients of Russian FDI, except for China.

Methods and Data

The general theoretical model of FDI exchange between countries can be presented as follows (Kox et al., 2020):

$$FDI_{ij} = \omega_{ij} \frac{\alpha Y_i}{P_i} \frac{\beta Y_j}{\Pi_j}, \quad (1)$$

where: *FDI* is the value of accumulated foreign direct investment; *i* is the host country of FDI inflows; *j* is the home country of FDI outflows; ω is a parameter reflecting the openness of *i* and *j* to bilateral capital exchange[14]; Y_i is the size of economy (GDP) of *i*; Y_j is the size of economy (GDP) of *j*; $\alpha > 0$ and $\beta > 0$ are proportionality factors of the gravity relationship; $P_{i \text{ and } \Pi j}$ are multilateral resistance terms.

The parameters P_i and Π_j aggregate all bilateral economic barriers (costs) faced by the FDI host and home countries, respectively. Thus, P_i reflects multilateral resistance for the host country *i,* while Π_j reflects multilateral resistance for the home country *j*. P_i and Π_j are expressed using a constant elasticity of substitution function to aggregate and average all costs hindering FDI inflows, after weighting them by the size of the economy. As a result, the multilateral resistance for the host country is represented as follows:

$$P_i = \left[\sum_{j=1}^{N} \left(\frac{z_{ij}}{\Pi_j} \right)^{(1-\sigma)} \frac{Y_j}{Y} \right]^{\frac{1}{1-\sigma}}, \quad (2)$$

where: z_{ij} signifies the costs arising from various barriers in country *i* that affect FDI inflows from country *j*; σ is the constant elasticity of substitution between domestic and foreign investments ($\sigma > 1$); *N* is the number of economic partners; and *Y* is the size of the world economy.

Thus, the multilateral resistance for the home country is represented by the following expression:

$$\Pi_j = \left[\sum_{i=1}^{N} \left(\frac{z_{ji}}{P_i} \right)^{(1-\sigma)} \frac{Y_i}{Y} \right]^{\frac{1}{1-\sigma}}, \quad (3)$$

where z_{ji} signifies the costs arising from various barriers that affect capital outflows from *j* to *i*. The costs reflected in the parameters z_{ij} and z_{ji} may be either symmetric (e. g., physical distance, language differences, etc.) or country-specific. All cost elements increase the expenses of cross-border capital exchange, with a key factor being the presence or absence of alternative options for FDI[15].

Other things being equal, the inflow of accumulated FDI into country *i* from country *j* is positively influenced by the size of the interacting economies. The larger the national economy, the more it invests abroad, and the greater the number of consumers, firms, and industries that generate demand for foreign capital and related technologies brought in through FDI. Free FDI inflows into the national economy are hindered by barriers. However, even when such barriers are relatively low, investors' decisions on whether to undertake FDI in a given country are determined by alternative costs, which are weighed when choosing the geographical direction of capital outflows. Relative costs of capital outflows also arise in the home country *j*, for example, through the introduction or abolition of special economic rules for firms undertaking FDI abroad.

It should be noted that in structural gravity models, which differ from traditional ones by explicitly incorporating unobservable indicators of multilateral resistance, the estimation of dummy variables reflecting countries' participation (or non-participation) in trade and economic agreements controls for inward and outward multilateral resistance through exporter/importer-time fixed effects, while all time-invariant bilateral costs are captured by country-pair fixed effects (Yotov et al., 2016). These provisions have greatly simplified estimating the effects of trade and investment

[13] Canada, Korea, Japan, Singapore, Vietnam, Mongolia, Laos, China, Indonesia, Nicaragua, Cambodia and North Korea

[14] If $\omega_{ij} = 1$, then market *i* is fully open to capital inflows from *j*; if $\omega_{ij} = 0$, then market *i* is completely closed to capital inflows from *j*. In theoretical model (1), this parameter is introduced for simplicity. It captures how national borders act as barriers to capital inflows, ranging from fully open to fully closed. The degree of this barrier can be assessed either through expert judgment or by analyzing the influence of both restrictive and supportive factors affecting FDI inflows.

[15] If, within the theoretical model, $\frac{z_{ji}}{P_i} < 1$ and $\frac{z_{ij}}{\Pi_j} < 1$, then the relative costs are below the global average and do not hinder bilateral capital flows; otherwise, they impede FDI. In the theoretical model, the combination of these costs and the sizes of the economies determines whether country *i* is a preferred destination for FDI inflows.

Online ISSN 2412-0731

agreements between countries (Larch et al., 2023), as they eliminate the need to include economic size as a dependent variable, thereby avoiding endogeneity issues. This approach also accounts for heterogeneity in the size of interacting economies, as well as multilateral resistance and other measures of symmetric and country-specific costs.

Since cross-country investment interactions often include a significant number of "zero" values, the relationship between accumulated FDI and the conclusion of trade and economic agreements was estimated using the Poisson pseudo-maximum likelihood (PPML) method. This approach allows inclusion of zero values in the dataset and avoids problems of heteroskedasticity and model misspecification due to an incorrectly chosen functional form (Kox et al., 2020). Empirical estimates for trade (Larch et al., 2025; Santos Silva et al., 2011) and investment (Kox et al., 2020; Larch et al., 2023) show that this method provides asymptotically unbiased estimates even when there are many zero observations, compared to the log-linear form.

It is essential to include each country's domestic accumulated investments in the panel to obtain accurate effect estimates. First, this allows us to control for the diversion of investment flows from partner countries toward their own domestic markets (Kox et al., 2020). Second, it helps eliminate the distorting influence of globalization on FDI inflows by incorporating dummy variables that capture the presence of barriers between countries for each year[16]—something that cannot be achieved by considering only bilateral interactions (Yotov, 2022).

Since the effects of trade and economic agreements on investment flows can be lagged, both the direct and cumulative impacts of these agreements on FDI inflows in the Asia-Pacific were estimated following the methodology used for trade flows (Yotov et al., 2016). The *direct effect* of trade and economic agreements on FDI inflows in the Asia-Pacific was estimated as follows:

$$FDI_{ijt} = \exp\,[\beta_0 + \beta_1 AGREEMENTj_{ijt} + \\ + \sum_{T=1}^{T=n} \beta_T INTL\,(T)_{ij} + \pi_{it} + \chi_{jt} + \mu_{ij} + \varepsilon_{ijt}], \qquad (4)$$

where: FDI_{ij} stands for accumulated FDI inflows into country i from country j (in USD); $AGREEMENT_{ijt}$ is the dummy variable indicating the presence (1) or absence (0) of a trade and economic agreement between countries i and j; $INTL(T)_{ij}$ is the dummy variable equal to 1 for FDI flows between countries in year T and 0 for domestic investments; β_0 is a constant; β_1 is the direct effect of the trade and economic agreement; β_T stands for the cumulative barriers in investment interactions between countries; t is the time period; π_i signifies fixed effects for the FDI home country, controlling for the year; χ_j, fixed effects for the FDI host country, controlling for the year; μ_{ij}, fixed effects for country pairs; and ε is the error term.

The *cumulative effect of trade and economic agreements* was evaluated using the following specification:

$$FDI_{ijt} = \exp\,[\beta_0 + \sum_{n=0}^{n=5} \beta_n AGREEMENTj_{ijt-n} + \\ \sum_{T=1}^{T=n} \beta_T INTL\,(T)_{ij} + \pi_{it} + \chi_{jt} + \mu_{ij} + \varepsilon_{ijt}], \qquad (5)$$

where: $\Sigma\beta_n$ is the value of the cumulative effect of trade and economic agreements and n is the time lag (5 years).

Variable $AGREEMENTj_{ij}$ represented the following types of trade and economic agreements among APEC countries: first, *PSAFTACU*, which included PSAs, FTAs, FTA+, and CUs. These were further divided into *INV_PSAFTACU*, i.e., trade agreements containing provisions that facilitate FDI exchange (FTA+), and *PSAFTACUsimple*, i.e., *BIT* — bilateral investment treaties.

Data

Compiling the dataset on mutual cumulative FDI among Asia-Pacific countries over the long term was a labor-intensive task. The main challenge in constructing the dependent variable was the lack of a unified statistical database showing the value of mutual cumulative FDI in current prices. Most sources were incomplete, both in terms of the time periods covered and the countries included. To address this, the dataset was assembled from multiple sources, primarily international databases such as the UN[17],

[16] The most recent of these was excluded from the set of variables, serving as the reference category for the others.

[17] FDI Bilateral Statistics. UNCTAD. Retrieved from: https://unctad.org/en/Pages/DIAE/FDI %20Statistics/FDI-Statistics-Bilateral.aspx (date of access: 14.06.2017); FDI database. UNCTAD. Retrieved from: https://unctad.

OECD[18], World Bank (Steenbergen et al., 2022), IMF[19], and CEIC[20]. When gaps in the data were identified, missing values were either filled using alternative sources (CEPII[21]; ASEAN[22]; central banks, statistical offices, relevant ministries, and investment agencies of Asia-Pacific countries and territories; as well as other international organizations and analytical agencies[23]) or, in some cases, estimated using a moving average. Occasional negative values in cumulative FDI were treated as zero (Kox et al., 2020).

To obtain unbiased estimates, it is necessary to account for the deviation of FDI flows in favor of domestic markets. Therefore, the dependent variable dataset included data on the value of accumulated fixed capital investments in APEC countries, net of accumulated FDI, following the methodological recommendations for estimating gravity models in trade (Yotov et al., 2016). For the period under review, statistics on domestic accumulated fixed capital investments were compiled both from specialized databases[24] and from the statistical agencies of APEC countries. Since data on domestic accumulated fixed capital investments were unavailable for several APEC countries[25], these economies were excluded from the estimated panel. This exclusion is not critical, as their share of total accumulated FDI inflows in APEC was only 0.05 % in 1992 and 0.07 % in 2023. As a result, consistent with an earlier study (Izotov, 2023), the panel comprised 36 APEC economies[26].

To construct the dataset of dummy variables for trade and economic agreements among APEC countries, information on the presence or absence of ratified PSAs, FTAs, FTA+, CUs, and investment agreements was drawn from the WTO[27], World Bank[28], and UN[29] databases. If an agreement entered into force in the first half of a given year, it was attributed to that year; if in the sec-

org/fdistatistics (date of access: 01.02.2020).

[18] OECD FDI Flows. Retrieved from: https://www.oecd.org/en/data/indicators/fdi-flows.html; Foreign Direct Investment Statistics: Data, Analysis and Forecasts. Retrieved from: https://mneguidelines.oecd.org/statistics.htm; OECD International Direct Investment Statistics. Retrieved from: https://www.oecd.org/en/publications/oecd-international-direct-investment-statistics_2307437x.html (date of access: 01.02.2025).

[19] IMF Coordinated Direct Investment Survey (CDIS). Retrieved from: http://data.imf.org/?sk=40313609-F037–48C1–84B1-E1F1CE54D6D5; Foreign Direct Investment Trends and Statistics. IMF. Retrieved from: https://www.imf.org/en/Publications/SPROLLs/direct-investment#sort= %40imfdate %20descending (date of access: 01.02.2025).

[20] CEIC Database. Retrieved from: https://www.ceicdata.com (date of access: 01.06.2012).

[21] FDI Map. CEPII. Retrieved from: https://www.cepii.fr/cepii/en/bdd_modele/bdd_modele_item.asp?id=4 (date of access: 01.02.2025).

[22] Statistics of Foreign Direct Investment in ASEAN. Stocks of Inward Foreign Direct Investment (FDI) at year-end, by source country. Retrieved from: https://data.aseanstats.org/fdi-by-hosts-and-sources-stock (date of access: 01.03.2025).

[23] Central Bank of Russia; Australian Bureau of Statistics; Brunei Darussalam Department of Economic Planning and Statistics; Vale Columbia Center on Sustainable International Investment; Foreign Investment Committee of Chile; Kingdom of Cambodia Ministry of Foreign Affairs and International Cooperation; Canada Department of Foreign Affairs and International Trade; Canada Department of Statistics; Singapore Department of Statistics; Central Bank of Malaysia; Malaysia Department of Statistics; Bank of Japan; JETRO; Japan Ministry of Finance; Central Bank of Ecuador; Ministry of Commerce People's Republic of China; Taiwan Ministry of Economic Affairs; Central Bank of Philippines; Bank of Thailand; Thailand Board of Investment; Bureau of Economic Analysis; Export-Import Bank of Korea; New Zealand Department of Statistics; Myanmar Directorate of Investment and Company Administration; National Statistical Office of Mongolia; Macau Statistics and Census Service; Laos Investment Promotion Department; Indonesia Investment Coordinated Board; Hong Kong Census and Statistics Department; Vietnam General Statistical Office; Statista; Institute for International Political Economy; Bank for International Settlements, etc.

[24] United States International Trade Commission (USITC). Retrieved from: https://www.usitc.gov/data/gravity/mreid.htm (date of access: 01.02.2025); CEIC Database. Retrieved from: https://www.ceicdata.com (date of access: 01.06.2012).

[25] Vanuatu, East Timor, Kiribati, North Korea, Marshall Islands, Nauru, New Caledonia, Palau, Cook Islands, Samoa, Solomon Islands, Tuvalu, Wallis and Futuna, Federated States of Micronesia, French Polynesia.

[26] Australia, Brunei, Vietnam, Guatemala, Honduras, Hong Kong, Indonesia, Cambodia, Canada, China, Colombia, Costa Rica, Laos, Macau, Malaysia, Mexico, Mongolia, Myanmar, Nicaragua, New Zealand, Panama, Papua New Guinea, Peru, Korea, Russia, El Salvador, Singapore, USA, Thailand, Taiwan, Tonga, Fiji, Philippines, Chile, Ecuador and Japan.

[27] Regional trade agreements notified to the GATT/WTO and in force. Retrieved from: https://rtais.wto.org/UI/publicPreDefRepByCountry.aspx (date of access: 01.02.2025).

[28] Deep Trade Agreements database 2.0 (vertical depth). Retrieved from: https://datatopics.worldbank.org/dta/table.html (date of access: 01.02.2025).

[29] International Investment Agreements Navigator. Retrieved from: https://investmentpolicy.unctad.org/international-investment-agreements/by-economy (date of access: 01.02.2025).

Online ISSN 2412-0731

Table 1

Evaluation results (4)

Variable	1	2	3	4	5	Δ, %
PSAFTACU	0,26*** (0,07)	–	–	–	–	30
INV_PSAFTACU	–	0,30*** (0,07)	–	–	0,30*** (0,07)	35
PSAFTACUsimple	–	–	−0.15 (0,14)	–	–	–
BIT	–	–	–	−0,18*** (0,06)	−0,17*** (0,06)	−17
$INTL_{1992}$	1,64*** (0,12)	1,67*** (0,12)	1,47*** (0,11)	1,42*** (0,11)	1,63*** (0,12)	–
$INTL_{1995}$	0,33*** (0,09)	0,36*** (0,08)	0,23** (0,09)	0,18* (0,09)	0,32*** (0,09)	–
$INTL_{1999}$	−0.08 (0,10)	−0.10 (0,10)	−0.04 (0,10)	−0.09 (0,10)	−0.06 (0,10)	–
$INTL_{2003}$	−0,15* (0,07)	−0,13* (0,07)	−0,20** (0,08)	−0,25** (0,08)	−0,17** (0,07)	–
$INTL_{2007}$	−0.06 (0,08)	−0.06 (0,08)	−0.03 (0,09)	−0.01 (0,08)	−0.02 (0,07)	–
$INTL_{2011}$	−0.05 (0,07)	−0.05 (0,07)	−0.02 (0,07)	−0.02 (0,06)	−0.01 (0,06)	–
$INTL_{2015}$	−0,13** (0,05)	−0,13** (0,05)	−0,14** (0,05)	−0,18*** (0,05)	−0,17*** (0,05)	–
$INTL_{2019}$	−0.03 (0,06)	−0.03 (0,06)	−0.03 (0,06)	−0.03 (0,05)	−0.03 (0,05)	–
Constant	12,50*** (0,33)	19,58*** (0,24)	21,99*** (0,19)	19,96*** (0,23)	22,92*** (0,22)	–
Pseudo log-likelihood	−3,05e+12	−3,02e+12	−3,09e+12	−3,06e+12	−2,99e+12	–
Pseudo R^2	0.99	0.99	0.99	0.99	0.99	–
RESET-test	0.01	0.01	0.01	0.01	0.02	–

Notes. 1–5 are different dependencies within Model (4). Here and below: *** — $p < 0.01$; ** — $p < 0.05$; * — $p < 0.10$; autocorrelation was accounted for using the Newey–West estimator; standard errors are reported in parentheses; *INTL* reflects border effect values, with 2023 as the baseline year; fixed effects estimates are not reported for brevity; $\Delta = (e^{\beta}-1)\times 100\,\%$ represents the impact of the independent variable on the dependent variable.

Source: calculated by the author.

ond half, it was assigned to the following year. As noted earlier, from the *PSAFTACU* dataset (PSAs, FTAs, FTA+, and CUs), two variables were distinguished: *INV_PSAFTACU* — trade agreements containing provisions facilitating FDI exchange[30], and *PSAFTACUsimple* — all other agreements[31]. Based on UN data, a separate dummy variable dataset was created for *BIT*[32].

To facilitate quantitative estimation, this study evaluated interval values of panel data with a five-year lag: 1992[33], 1995, 1999, 2003, 2007, 2011, 2015, 2019, and 2023. As a result, the study covered 11,502 observations.

Results

The calculations showed that the positive long-term direct effect of trade and economic agreements on FDI inflows into Asia-Pacific countries was achieved through agreements con-

[30] Appendix, Table 1A.

[31] Appendix, Table 2A.

[32] Appendix, Table 3A.

[33] *Note*: this is the only exception, since the interval between 1992 and 1995 is four years. This year was included to account for the impact of agreements concluded prior to the establishment of the WTO.

taining provisions that facilitate the exchange of FDI (*INV_PSAFTACU*) (*Table 1*).

In the period under review, advanced trade agreements liberalizing investment between Asia-Pacific countries increased FDI inflows to the region by 35 %. In contrast, other trade agreements (*PSAFTACUsimple*) had no significant direct effect, indicating their focus solely on trade within the region. Investment agreements (*BITs*) were found to constrain FDI inflows.

Furthermore, the estimated cumulative effects suggested that the overall impact of trade agreements (*PSAFTACU*) on FDI inflows to APR countries was statistically insignificant, as other trade agreements (*PSAFTACUsimple*) had a long-term negative effect on the dependent variable, effectively offsetting the positive impact of advanced trade agreements that included the liberalization of investment interactions (*Table 2*).

Over the long term, Asia-Pacific countries that used trade agreements to lower investment barriers and promote FDI saw their inflows rise by an average of 37 %, whereas countries that concluded trade agreements without FDI-facilitating provisions experienced a 59 % decline in FDI inflows from the region relative to domestic investment. Additionally, the cumulative effect of bilateral investment treaties (*BITs*) on FDI inflows into APR countries was positive, contributing to an average increase of 16 %, in contrast to the estimates for their direct effect.

By using the *INTL* variable to control for the distorting effects of global economic conditions,

Table 2

Evaluation results (5)

Variable	1	2	3	4	5	Δ, %
PSAFTACU	0.08 (0,10)	–	–	–	–	–
INV_PSAFTACU	–	0,32*** (0,09)	–	–	0,32*** (0,05)	37
PSAFTACUsimple	–	–	−0,89*** (0,16)	–	–	−59
BIT	–	–	–	0,16** (0,04)	0,15** (0,06)	16
$INTL_{1992}$	1,50*** (0,12)	1,68*** (0,12)	1,44*** (0,11)	1,46*** (0,11)	1,67*** (0,11)	–
$INTL_{1995}$	0,19* (0,10)	0,37*** (0,09)	0,19* (0,09)	0,22** (0,09)	0,39*** (0,08)	–
$INTL_{1999}$	−0.03 (0,10)	−0.12 (0,11)	−0.03 (0,10)	−0.04 (0,09)	−0.12 (0,08)	–
$INTL_{2003}$	−0,26*** (0,08)	−0,12* (0,06)	−0,18** (0,07)	−0,22*** (0,07)	−0,11* (0,06)	–
$INTL_{2007}$	−0.05 (0,06)	−0.07 (0,07)	−0.06 (0,08)	−0.01 (0,08)	−0.08 (0,08)	–
$INTL_{2011}$	−0.01 (0,06)	−0.06 (0,06)	−0.05 (0,06)	−0.01 (0,06)	−0.05 (0,06)	–
$INTL_{2015}$	−0,17*** (0,05)	−0,13** (0,05)	−0,12** (0,05)	−0,16*** (0,05)	−0,15*** (0,05)	–
$INTL_{2019}$	−0.04 (0,06)	−0.03 (0,06)	−0.01 (0,06)	−0.02 (0,06)	−0.02 (0,05)	–
Constant	20,01*** (0,22)	19,58*** (0,24)	21,81*** (0,30)	12,77*** (0,31)	12,11*** (0,17)	–
Pseudo log-likelihood	−3,03e+12	−3,02e+12	−3,95e+12	−3,02e+12	−2,99e+12	–
Pseudo R^2	0.99	0.99	0.99	0.99	0.99	–
RESET-test	0.01	0.02	0.05	0.01	0.02	–

Note. 1–5 are different dependencies within Model (5). Given the large number of semi-elasticity estimates with a 5-year lag over the 32-year period, their values are presented in aggregated form for brevity.

Source: calculated by the author.

Online ISSN 2412-0731

the study identified cumulative barriers affecting investment interactions between APR countries relative to their domestic capital markets. The assessment of these barriers indicated an increase compared to the early 1990s, reflecting that the size of most Asia-Pacific economies, which determines the scale of domestic investments, was not comparable to current levels at that time.

Discussion

The assessment of direct effects has shown that FDI inflows into Asia-Pacific countries were driven primarily by extended trade agreements that included provisions on liberalizing investment relations among member states. This finding is consistent with results reported for the global economy (Kox et al., 2020; Larch et al., 2023).

The evaluation of cumulative effects showed that reducing barriers to trade in goods, including intermediates, is only part of the solution. Sustaining production cooperation through FDI depends primarily on further development of integration frameworks. Otherwise, when Asia-Pacific countries conclude trade and economic agreements focused solely on trade liberalization, such a strategy may actually hinder FDI inflows. A closer look revealed that the positive impact of BITs on FDI became visible only about a decade after they came into force. This delay can be explained by the fact that countries signing such treaties later developed other integration frameworks relying on the mechanisms established in the BITs, which generated positive outcomes. Another factor may have been the long adjustment period that businesses required to adapt to the new opportunities, especially since these treaties were typically signed in the absence of deeper integration formats between economies.

Estimates of overall barriers to investment showed that, for most Asia-Pacific countries, greater trade and investment openness encouraged domestic capital investment in fixed assets. Over time, these domestic investments came to far exceed accumulated FDI compared to the early 1990s. By 2023, FDI barriers had eased somewhat relative to the early 2000s and mid-2010s, indicating a gradual convergence of Asia-Pacific economies in investment relations, despite ongoing trade, economic, and foreign policy challenges.

In this study, the Asia-Pacific is viewed as a sub-global economic space that is not homogeneous, yet is assumed to operate under common "rules of the game." By following these rules, national economies either facilitated or restricted FDI inflows, thus shaping their own strategies of investment interaction. Given the uneven development of Asia-Pacific countries, the varying impacts of different trade and economic agreements reveal general patterns in FDI attraction across the region.

Overall, the estimates of the impact of trade and economic agreements on FDI inflows into Asia-Pacific countries indicated the effectiveness of FTA+ in attracting foreign direct capital, a finding also confirmed in global assessments (Larch et al., 2023). However, in recent years, large-scale FDI inflows into Russia have become virtually impossible due to restrictions on capital account operations, increased risks associated with secondary sanctions, and the loss of opportunities for cooperation with Western countries, which had been the main investors in the Russian economy before the sanctions[34].

Under current conditions, only selective and largely non-public FDI enters the Russian economy, coming exclusively from countries considered friendly by the Russian government, including some Asia-Pacific states. Integration frameworks could be developed with these countries, primarily China, as well as with several Southeast Asian and Latin American nations. FDI inflows from Asia-Pacific countries are particularly important for supporting both traditional and emerging sectors of the Russian economy, especially in macro-regions such as the Far East, which is geographically part of the Asia-Pacific.

Despite strict sanctions, FDI has continued to enter the Russian Far East from "unfriendly" countries such as Japan, alongside a notable increase in capital linked to Chinese businesses, partly facilitated by existing investment agreements. Easing sanctions and expanding integration frameworks with selected Asia-Pacific countries could stimulate renewed FDI flows into Russia, particularly into the Far East. At the same time, the composition of foreign investors is likely to shift toward countries considered friendly by the Russian government, which could then engage in advanced FTA+ trade agreements with Russia.

[34] This also includes FDI into Russia from Western countries routed through offshore jurisdictions. A significant portion of these investments was undoubtedly fictitious, that is, funds moved out of the national economy to offshore accounts and then returned under the appearance of capital.

Online ISSN 2412-0731

Conclusion

The exchange of FDI has been a central aspect of economic interactions among Asia-Pacific countries. Accounting for over 60 % of the global economy, the region received, on average, more than half of the world's accumulated FDI between 1992 and 2023, with over 70 % of these flows occurring within the region. Until the mid-1990s, the liberalization of trade and investment interactions was largely unsynchronized, particularly in the expansion of bilateral investment agreements. From the early 2000s onward, the region saw a rapid growth in advanced FTA+ trade agreements, which reduced barriers to both the trade of goods and services and the exchange of FDI within this sub-global region. Thus, three main types of trade and economic agreements have facilitated regional integration in the Asia-Pacific: bilateral investment agreements, trade agreements with provisions easing FDI flows, and trade agreements without such provisions.

This study contributes to the field by providing a long-term assessment of how trade and economic agreements influence FDI inflows within the Asia-Pacific region, distinguishing between direct and accumulated effects of regional integration. Because the impact of such agreements on investment flows may be delayed, both the immediate and long-term accumulated effects on FDI inflows were estimated using a structural gravity model. The results show that the long-term positive direct effect was achieved exclusively through advanced FTA+ agreements, which increased FDI inflows by 35 % relative to domestic investment. Other trade agreements in the region had no statistically significant direct effect, indicating their focus on promoting trade rather than investment, while bilateral investment agreements actually restrained FDI inflows.

Estimates of the accumulated effects reveal a similar pattern: FTA+ agreements and investment agreements contributed to average increases in FDI inflows of 37 % and 16 %, respectively, whereas trade agreements without FDI-facilitating provisions led to a 59 % decline.

The study also found that countries in the Asia-Pacific pursued various long-term strategies when interacting with the sub-global economy. Some countries sought to stimulate FDI inflows through the conclusion of advanced FTA+ agreements as well as investment agreements. The delayed positive impact of investment agreements on FDI inflows into Asia-Pacific countries can be explained both by the long adaptation period required for national businesses in the absence of deeper integration formats and by the simultaneous development of advanced FTA+ agreements. Yet other countries sought to restrain the attraction of foreign direct capital by implementing trade agreements without provisions to reduce barriers to FDI.

References

Aiyar, S., Malacrino, D. & Presbitero, A. F. (2024). Investing in friends: The role of geopolitical alignment in FDI flows. *European Journal of Political Economy*, 83, 102508. https://doi.org/10.1016/j.ejpoleco.2024.102508

Akhtaruzzaman, M. (2023). Does institutional quality matter to Korean outward FDI? A gravity model analysis. *World Economy Brief*, 12 (47), 1–13. http://dx.doi.org/10.2139/ssrn.4379007

Anderson, J. E., Larch, M. & Yotov, Y. V. (2017). *Trade and investment in the global economy*. National Bureau of Economic Research. Working Paper Series 23757. Retrieved from: http://www.nber.org/papers/w23757 (date of access: 01.02.2025).

Baltabaev, B. (2014). Foreign direct investment and total factor productivity growth: New macro-evidence. *The World Economy*, 37 (2), 311–334. https://doi.org/10.1111/twec.12115

Ben Belgacem, S., Younsi, M., Bechtini, M., Alzuman, A. & Khalfaoui, R. (2024). Do financial development, institutional quality and natural resources matter the outward FDI of G7 countries? A panel gravity model approach. *Sustainability*, 16, 2237. https://doi.org/10.3390/su16062237

Blair, A. R. (2017). United States manufacturing direct investment and trade: The case of Canada and Mexico under NAFTA and earlier trade liberalization measures. *Review of Economics & Finance*, 7, 50–65.

Drapkin, I. M., Fedyunina, A. A. & Simachev, Y. V. (2023). Unrealized opportunities: Exploring Russia's untapped OFDI potentials amidst economic sanctions. *Russian Journal of Economics*, 9 (2), 134–157. https://doi.org/10.32609/j.ruje.9.104661

Dunning, J. (1981). Explaining the international direct investment position of countries: Towards a dynamic or developmental approach. *Review of World Economics (Weltwirtschaftliches Archiv)*, 117 (1), 30–64. https://doi.org/10.1007/BF02696577

Duong, M., Holmes, M.J. & Strutt, A. (2020). The impact of free trade agreements on FDI inflows: the case of Vietnam. *Journal of the Asia Pacific Economy*, 26 (3), 483–505. https://doi.org/10.1080/13547860.2020.1765717

East Asian integration goods, services and investment/Ed. by L.Y. Ing, M. Richardson, S. Urata. Routledge-ERIA Studies in Development Economics. Routledge, 2019. 264 p.

Faeth, I. (2009). Determinants of foreign direct investment — a tale of nine theoretical models. *Journal of Economic Surveys*, 23 (1), 165–196. https://doi.org/10.1111/j.1467–6419.2008.00560.x

Fukao, K., Ishido, H. & Ito, K. (2003). Vertical intra-industry trade and foreign direct investment in East Asia. *Journal of the Japanese and International Economies*, 17 (4), 468–506. https://doi.org/10.1016/j.jjie.2003.09.004

Gastanaga, V.M., Nugent, J.B. & Pashamova, B. (1998). Host country reforms and FDI inflows: How much difference do they make? *World Development*, 26 (7), 1299–1314. https://doi.org/10.1016/s0305–750x (98)00049–7

Hassan, A.S. (2022). Does country risk influence foreign direct investment inflows? A case of the Visegrád Four. *Economies*, 10, 1–22. https://doi.org/10.3390/economies10090221

Izotov, D.A. (2023). WTO participation and trade of the Asia-Pacific region: Long-term effects. *International Organizations Research Journal*, 18 (3), 48–73. (In Russ.). https://doi.org/10.17323/1996-7845-2023-03-03

Izotov, D.A. (2024). FDI inflow to Pacific Rim countries: Impact of political and economic risks. *Ojkumena. Regional researches*, 4, 136–150. (In Russ.). https://doi.org/10.29039/1998–6785/2024-4/136-150

Kleinert, J. & Toubal, F. (2010). Gravity for FDI. *Review of International Economics*, 18 (1), 1–13. https://doi.org/10.1111/j.1467-9396.2009.00869.x

Kox, H.L.M. & Rojas-Romagosa, H. (2019). *Gravity estimations with FDI bilateral data: Potential FDI effects of deep preferential trade agreements*. EUI Working Paper RSCAS 2019/70. Retrieved from: https://cadmus.eui.eu/handle/1814/64229 (date of access: 01.05.2025).

Kox, H.L.M. & Rojas-Romagosa, H. (2020). How trade and investment agreements affect bilateral foreign direct investment: Results from a structural gravity model. *The World Economy*, 43, 3203–3242. https://doi.org/10.1111/twec.13002

Larch, M. & Yotov, Y.V. (2023). *Deep trade agreements and FDI in partial and general equilibrium: A structural estimation framework*. The World Bank Policy Research Working Papers. https://doi.org/10.1596/1813-9450-10338

Larch, M., Shikher, S. & Yotov, Y.V. (2025). *Estimating gravity equations: theory implications, econometric developments, and practical recommendations*. Center for Global Policy Analysis. LeBow College of Business. Drexel University. CGPA Working Paper 2025–01. Retrieved from: https://www.lebow.drexel.edu/sites/default/files/2025–01/wp2025001-gravity-equations.pdf (date of access: 01.05.2025).

Le, A.H. & Kim, T. (2021). The impact of institutional quality on FDI inflows: The evidence from capital outflow of Asian economies. *Journal of Asian Finance, Economics and Business*, 8 (8), 335–343. https://doi.org/10.13106/jafeb.2021.vol8.no8.0335

Osabuohien-Irabor, O. & Drapkin, I.M. (2022). FDI escapism: the effect of home country risks on outbound investment in the global economy. *Quantitative Finance and Economics*, 6 (1), 113–137. https://doi.org/10.3934/QFE.2022005

Osnago, A., Rocha, N. & Ruta, M. (2016). Do deep trade agreements boost vertical FDI? *The World Bank Economic Review*, 30, S119–S125. http://doi.org/10.1093/wber/lhw020

Pan, H.-I., Suriya, K. & Pastpipatkul, P. (2022). An analysis of determinants of foreign direct investment in banking industry from Taiwan to ASEAN countries with gravity model. *Asia-Pacific Financial Markets*, 29, 631–649. https://doi.org/10.1007/s10690-022-09363-x

Petri, P.A. (2012). The determinants of bilateral FDI: Is Asia different? *Journal of Asian Economics*, 23 (3), 201–209. https://doi.org/10.1016/j.asieco.2011.01.003

Online ISSN 2412-0731

Santos Silva, J.M.C. & Tenreyro, S. (2011). Further simulation evidence on the performance of the Poisson pseudo-maximum likelihood estimator. *Economics Letters*, 112, 220–222. https://doi.org/10.1016/j.econlet.2011.05.008

Steenbergen, V., Liu, Y., Latorre, M.P. & Zhu, X. (2022). *The World Bank's harmonized bilateral FDI databases: Methodology, trends, and possible use cases*. The World Bank, 2022/05/31. Retrieved from: https://documents.worldbank.org/pt/publication/documents-reports/documentdetail/099800006252213235 (date of access: 01.02.2025).

Vasilyeva, R.I. & Mariev, O.S. (2021). Determinants of foreign direct investment in developed and developing countries: impact of political stability. *Ekonomika regiona [Economy of region]*, 17 (4), 1390–1404. https://doi.org/10.17059/ekon.reg.2021–4-24

Wahyuningsih, D. (2021). Trade flow of manufacturing sector and foreign direct investment in ASEAN economic integration: the gravity model of trade. *Jurnal Perspektif Pembiayaan dan Pembangunan Daerah*, 8 (6), 619–630. https://doi.org/10.22437/ppd.v8i6.10289

Yotov, Y.V. (2022). *Gravity at Sixty: The workhorse model of trade*. CESifo Working Paper, No. 9584, Center for Economic Studies and ifo Institute (CESifo), Munich. https://doi.org/10.2139/ssrn.4037001

Yotov, Y.V., Piermartini, R., Monteiro, J.-A. & Larch, M. (2016). *An advanced guide to trade policy analysis: The structural gravity model*. United Nations and World Trade Organization. Retrieved from: https://www.wto.org/english/res_e/booksp_e/advancedwtounctad2016_e.pdf (date of access: 01.02.2025).

Yue, W., Lin, Q. & Xu, S. (2023). Investment effect of regional trade agreements: an analysis from the perspective of heterogeneous agreement provisions. *Humanities and Social Sciences Communications*, 10, 1–13. https://doi.org/10.1057/s41599–023–01792-x

Information about the author

Dmitrii A. Izotov — Doctor of Economics, Leading Research Fellow of the Economic Research Institute, Far Eastern Branch of the Russian Academy of Sciences (153 Tikhookeanskaya Str., Khabarovsk 680042, Russia); ORCID 0000-0001-9199-6226; e-mail: izotov@ecrin.ru

Информация об авторах

Изотов Дмитрий Александрович — доктор экономических наук, ведущий научный сотрудник Института экономических исследований Дальневосточного отделения Российской академии наук (ул. Тихоокеанская, 153, Хабаровск, Россия 680042); ORCID 0000-0001-9199-6226; e-mail: izotov@ecrin.ru

作者信息

伊佐托夫·德米特里·亚历山德罗维奇——经济学全博士，俄罗斯科学院远东分院经济研究所首席研究员（太平洋路153号，哈巴罗夫斯克，俄罗斯，邮编：680042）；ORCID 0000-0001-9199-6226；邮箱：izotov@ecrin.ru

Appendix

Table 1A

List of trade agreements containing provisions to facilitate FDI flows between Asia-Pacific countries (*INV_PSAFTACU*)[35]

INV_PSAFTACU	Year
Australia and New Zealand	1989
North American Free Trade Agreement (NAFTA) (USA, Mexico, Canada)	1994–2020
Colombia — Mexico	1995
Canada — Chile	1997
ASEAN Free Trade Zone (AFTA)	1998
Chile — Mexico	1999

[35] In the FTA+ format, unless another format is specified.

Online ISSN 2412-0731

INV_PSAFTACU	Year
Central America (Honduras, Costa Rica, Nicaragua, El Salvador, Panama); New Zealand — Singapore	2001
Chile — Costa Rica; Chile — El Salvador; Japan — Singapore	2002
China — Hong Kong; China — Macau; Panama — El Salvador; Singapore — Australia	2003
Panama — Taiwan; Korea — Chile; USA — Chile; USA — Singapore	2004
USA — Australia; Thailand — Australia; Thailand — New Zealand; Japan — Mexico	2005
Central America — USA; Guatemala — Taiwan; Japan — Malaysia; Panama — Singapore; Korea — Singapore; Trans-Pacific Strategic Economic Partnership (Brunei, New Zealand, Singapore, Chile)	2006
Japan — Thailand; ASEAN — China; Chile — Japan	2007
Brunei — Japan; Chile — Honduras; China — New Zealand; El Salvador — Honduras — Taiwan; Japan — Indonesia; Japan — Philippines; Nicaragua — Taiwan; Panama — Costa Rica; Panama — Chile	2008
Peru — Chile; Peru — Singapore; Panama — Guatemala; Panama — Honduras; Panama — Nicaragua; Japan — Vietnam; USA — Peru; China — Singapore; Colombia — Northern Triangle countries (El Salvador, Guatemala, Honduras); ASEAN — Korea; Australia — Chile; Canada — Peru; Chile — Colombia	2009
ASEAN — Australia — New Zealand; Chile — China; Chile — Guatemala; New Zealand — Malaysia; Peru — China	2010
Peru — Korea; Canada — Colombia; China — Costa Rica; Hong Kong — New Zealand	2011
Japan — Peru; Chile — Nicaragua; Panama — Peru; Peru — Mexico; Korea — USA; USA — Colombia; USA — Panama	2012
Malaysia — Australia; Mexico — Central America; New Zealand — Taiwan; Canada — Panama; Costa Rica — Peru; Costa Rica — Singapore	2013
Canada — Honduras; Korea — Australia; Singapore — Taiwan	2014
Korea — New Zealand; Korea — Vietnam; Mexico — Panama; Australia — China; Canada — Korea; Chile — Thailand; China — Korea; Hong Kong — Chile; Japan — Australia	2015
Costa Rica — Colombia; Russia[36] — Vietnam; Japan — Mongolia; Korea — Colombia; Pacific Alliance (Colombia, Mexico, Peru, Chile)	2016
Peru — Honduras	2017
Comprehensive and Progressive Trans-Pacific Partnership (Australia, Brunei, Vietnam, Canada, Malaysia, Mexico, New Zealand, Peru, Singapore, Chile, Japan); Hong Kong — Macau	2018
ASEAN — Hong Kong; Korea — Central America	2019
Peru — Australia; ASEAN — Japan; Hong Kong — Australia; Indonesia — Australia; Pacific Agreement on Close Economic Relations (Australia, New Zealand, Tonga); USA — Mexico — Canada (USMCA)	2020
Comprehensive Regional Economic Partnership (Australia, Brunei, Vietnam, Indonesia, Cambodia, China, Korea, Laos, Malaysia, Myanmar, New Zealand, Singapore, Thailand, Philippines, Japan)	2022

Source: compiled by the author based on: Deep Trade Agreements database 2.0 (vertical depth). Retrieved from: https://datatopics.worldbank.org/dta/table.html; Regional trade agreements notified to the GATT/WTO and in force. Retrieved from: https://rtais.wto.org/UI/publicPreDefRepByCountry.aspx (date of access: 01.02.2025).

Table 2A

List of other trade agreements between Asia-Pacific countries (*PSAFTACUsimple*)

PSAFTACUsimple	Year
CU — Central American Common Market (Guatemala, Honduras, Nicaragua, El Salvador)	1961
PSA Trade Negotiation Protocol (Korea, Mexico, Peru, Chile, Philippines)	1973
PSA Asia-Pacific Trade Agreement (Korea, Laos)	1976
FTA Australia– Papua New Guinea	1977
PSA Latin American Integration Association (Colombia, Mexico, Peru, Chile, Ecuador); PSA South Pacific Agreement on Regional Trade and Economic Cooperation (Australia, New Zealand, Papua New Guinea, Tonga, Fiji)	1981
PSA Ecuador — Mexico	1983
CU — The Andean Community of Nations (Colombia, Peru, Ecuador).	1988

[36] As a member state of the Eurasian Economic Union.

Online ISSN 2412-0731

PSAFTACUsimple	Year
PSA Global System of Trade Preferences (Vietnam, Indonesia, Colombia, Korea, Malaysia, Mexico, Nicaragua, Peru, Singapore, Thailand, Philippines, Chile, Ecuador)	1989
PSA Laos — Thailand	1991
FTA ASEAN	1992–1998
PSA Melanesian Initiative Group (Papua New Guinea, Fiji)	1994
PSA Asia-Pacific Trade Agreement — China; Canada–Costa Rica FTA	2002
FTA Trade agreement between Pacific Island countries (Papua New Guinea, Tonga, Fiji)	2003
FTA Chile — Malaysia	2012
CU Central America — Panama	2013
FTA Chile — Vietnam	2014
PSA El Salvador — Ecuador	2017
FTA Chile — Indonesia	2019

Source: compiled by the author based on: Deep Trade Agreements database 2.0 (vertical depth). Note: FTA — Free Trade Area; PSA — Partial-Scope Trade Agreement; CU — Customs Union. Retrieved from: https://datatopics.worldbank.org/dta/table.html; Regional trade agreements notified to the GATT/WTO and in force. Retrieved from: https://rtais.wto.org/UI/publicPreDefRepByCountry.aspx (date of access: 01.02.2025)

Table 3A

List of BITs between Asia-Pacific countries

BIT	Year
China — Singapore	1985–2019
Indonesia — Singapore	1990–2006
China — Russia	1990–2009
Indonesia — Vietnam	1991–2016
Australia — Vietnam	1991–2019
Panama — Taiwan	1992–2004
China — Korea	1992–2007
Nicaragua — Taiwan	1992–2010
Australia — Indonesia	1992–2020
Korea — Vietnam	1993–2004
Korea — Peru	1993–2011
Ecuador — USA; Chile — Ecuador	1993–2018
Australia — Hong Kong	1993–2020
Ecuador — El Salvador	1994–2008
Colombia — Peru	1994–2010
Chile — China	1994–2014
China — Indonesia; Indonesia — Malaysia; Indonesia — Laos	1994–2015
China — Ecuador	1994–2018
Australia — Peru	1995–2020
Chile — Korea	1996–2004
El Salvador — Taiwan; Honduras — Taiwan	1996–2008
Australia — Chile	1996–2009
Canada — Ecuador	1996–2018
El Salvador — Korea	1998–2020
El Salvador — Nicaragua	1999–2008
Cambodia — Indonesia	1999–2016
Ecuador — Peru	1999–2017

 doi 10.15826/recon.2025.11.4.024

BIT	Year
Ecuador — Honduras; Ecuador — Nicaragua	2000–2008
Chile — Peru	2000–2009
Costa Rica — Korea; Honduras — Korea; Guatemala — Korea; Korea — Nicaragua	2000–2019
Japan — Mongolia	2001–2016
Korea — Panama	2001–2021
Ecuador — Guatemala	2002–2008
Peru — Singapore	2003–2009
Mexico — Panama	2005–2015
Indonesia — Singapore	2005–2016
Australia — Mexico	2005–2018
Panama — USA	1982
China — Thailand	1985
Australia — China; China — New Zealand; Korea — Malaysia; China — Japan; China — Malaysia	1988
Korea — Thailand; Canada — Russia	1989
Laos — Thailand; Korea — Russia; Australia — Papua New Guinea	1990
Korea — Mongolia; Peru — Thailand; Thailand — Vietnam; China — Papua New Guinea; China — Mongolia; Indonesia — Korea	1991
Malaysia — Vietnam; Singapore — Vietnam; Philippines — Vietnam; Laos — Malaysia; China — Vietnam; Chile — Malaysia; China — Philippines	1992
Taiwan — Vietnam; China — Laos	1993
Laos — Mongolia; China — Peru; Australia — Laos; Russia — Vietnam; Korea — Philippines; Mongolia — USA	1994
Hong Kong — New Zealand; Australia — Philippines; Mongolia — Singapore; Malaysia — Mongolia; Philippines — Thailand; Canada — Philippines; Cambodia — Thailand; Chile — Philippines; Malaysia — Peru; Honduras — USA; Mongolia — Russia	1995
Korea — Laos; Laos — Vietnam; El Salvador — Peru; Canada — Panama; Chile — El Salvador; Chile — Panama; Cambodia — China; Cambodia — Singapore; Chile — Costa Rica; Chile — Nicaragua; Laos — Russia; Chile — Guatemala	1996
Cambodia — Korea; Hong Kong — Japan; Hong Kong — Korea; Laos — Singapore; Canada — Thailand; Indonesia — Mongolia	1997
Myanmar — Philippines; Indonesia — Thailand; Canada — Costa Rica; Japan — Russia	1998
Guatemala — Taiwan; Costa Rica — Taiwan	1999
Korea — Mexico; Mongolia — Vietnam; Mongolia — Philippines; Brunei — Korea	2000
Cambodia — Vietnam; China — Myanmar	2001
Japan — Korea	2002
Japan — Vietnam; Korea — Vietnam; Laos — Myanmar	2003
Hong Kong — Thailand	2005
Canada — Peru; China — Russia	2006
Indonesia — Russia; Colombia — Peru; China — Costa Rica; China — Korea; Cambodia — Japan	2007
China — Mexico; Japan — Laos; China — Colombia; Myanmar — Thailand; Japan — Peru	2008
Mexico — Singapore	2009
Russia — Singapore	2010
Japan — Papua New Guinea; Colombia — Japan	2011
Canada — China; Nicaragua — Russia	2012
Japan — Myanmar	2013
Korea — Myanmar	2014
Cambodia — Russia	2015
Canada — Hong Kong; Chile — Hong Kong; Canada — Mongolia	2016
Indonesia — Singapore	2018

Online ISSN 2412-0731

BIT	Year
Myanmar — Singapore	2019
Hong Kong — Mexico	2020

Source: compiled by the author based on: International Investment Agreements Navigator. Retrieved from: https://investmentpolicy.unctad.org/international-investment-agreements/by-economy (date of access: 01.02.2025)

ARTICLE INFO: received July 15, 2025; accepted September 16, 2025
ИНФОРМАЦИЯ О СТАТЬЕ: дата поступления 15 июля 2025 г.; дата принятия к печати 16 сентября 2025