Foreign Direct Investment in Retreat

Policies to Turn the Tide

WORLD BANK GROUP

Amat Adarov and Hayley Pallan

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Executive Summary

Foreign direct investment (FDI) inflows to emerging market and developing economies (EMDEs) have weakened steadily as a share of their GDP since the global financial crisis. During the boom years of the 2000s, FDI inflows to EMDEs grew fivefold in nominal terms, equivalent to nearly 5 percent of their GDP in the typical economy at the peak in 2008. Since then, FDI inflows have declined, settling at around 2 percent of GDP in recent years (figure ES.A). In nominal terms, EMDEs received $435 billion in FDI in 2023, the lowest level since 2005. The trend has been broad based across economies: about 60 percent of all EMDEs and four out of six EMDE regions had lower FDI-to-GDP ratios in 2012-23 than in 2000-11. Recent project announcements suggest a decline in greenfield FDI, the predominant form of FDI to EMDEs, by about 25 percent year-on-year in 2024.

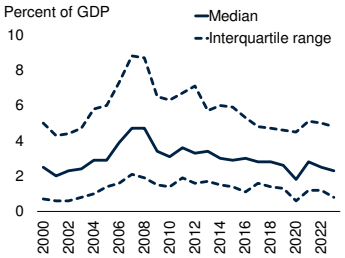
The sectoral composition of FDI inflows to EMDEs has shifted notably since the early 2000s, from manufacturing to services, while FDI to EMDEs has become somewhat more concentrated in the largest economies. Nearly 65 percent of FDI inflows to EMDEs went to the services sector in 2019-23, about the same proportion of FDI to advanced economies directed to services, up from 45 percent in the early 2000s. As the share of services-related FDI to EMDEs has risen, the share of manufacturing-related FDI has fallen, to less than 30 percent in 2019-23, down from about 45 percent in the early 2000s. The three largest EMDEs—China, India, and Brazil—jointly received almost half of total FDI inflows to EMDEs, on average, during 2012-23, about 10 percentage points more than in 2000-11. China received nearly one-third of inflows to EMDEs during 2012-23, while Brazil and India received 10 percent and 6 percent, respectively.

FDI inflows have a positive impact on economic output in EMDEs, but the magnitude of the impact depends on country characteristics. In the average EMDE, a 10-percent increase in FDI inflows is estimated to increase GDP by

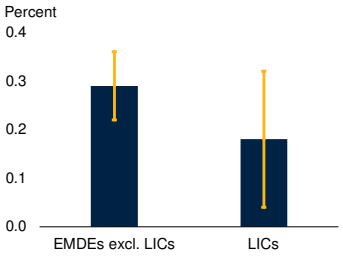
FIGURE ES FDI in EMDEs

FDI inflows to the typical EMDE have dropped to around 2 percent of GDP in recent years—less than half their peak level in 2008. FDI inflows have a positive impact on economic growth, but the magnitude of the effects varies substantially across EMDEs, with much larger effects in countries with conducive structural conditions. Persistently weak economic growth, the slowing pace of trade and investment integration, and the loss of momentum in advancing reforms to improve the investment climate were all significant factors that weakened FDI inflows to EMDEs.

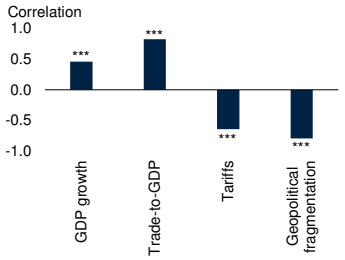
A. FDI inflows to EMDEs



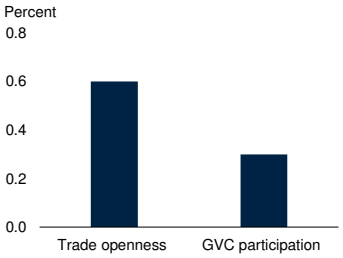
B. Impact of FDI on output



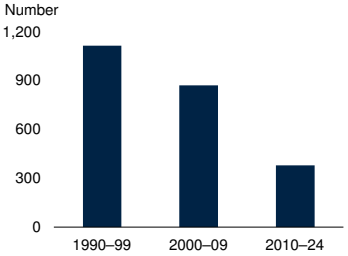
C. Correlates of FDI inflows to EMDEs



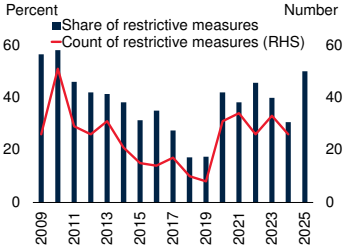
D. Impact of 1-percentage-point increase in trade integration on FDI inflows



E. Number of investment agreements



F. Announced FDI policy measures in EMDEs



Sources: CEPII; Fernández-Villaverde, Mineyama, and Song (2024); Global Trade Alert (database); UNCTAD; World Bank; World Development Indicators (database).

Note: EMDEs = emerging market and developing economies; GVC = global value chain; LICs = low-income countries; PVAR = panel vector autoregression.

A. Median and interquartile range of the FDI-to-GDP ratio. Balanced sample of 134 EMDEs.

B. Impact after three years of a 10-percent increase in net FDI inflows on real GDP level (in percent), based on heterogenous PVAR model estimations. Bars show the response for the average economy in each group. Whiskers show 90 percent confidence intervals. Sample includes 74 EMDEs, 11 of which are LICs.

C. Correlation coefficients between annual average FDI-to-GDP ratio and the following variables: real GDP growth, sum of exports and imports as a share of GDP, import tariff rate, and the geopolitical fragmentation index from Fernández-Villaverde, Mineyama, and Song (2024). *** denotes statistical significance at the 1 percent level.

D. Bars show marginal effects on FDI inflows of a 1-percentage-point increase in trade openness (sum of exports and imports as a percent of GDP) and GVC participation (value-added trade as a percent of exports).

E. Data include new international investment agreements in force as of April 2025.

F. Sample includes 83 EMDEs. The line shows the number of announced restrictive FDI measures, and bars show the share of announced restrictive FDI measures in all announced FDI policy measures. 2025 includes announcements between January and April 2025.

0.3 percent after three years (figure ES.B). However, the effect is much stronger—up to 0.8 percent—in economies with greater trade openness, stronger institutions, better human capital development, and lower informality. Low-income countries (LICs) lag other EMDEs in many of these dimensions. Accordingly, the impact of FDI growth on GDP is weaker in LICs.

Macroeconomic, trade, and institutional conditions matter for the ability of EMDEs to attract FDI. FDI inflows to EMDEs are strongly correlated with economic growth and international trade (figure ES.C). Indeed, the last two global recessions, in 2009 and 2020, were associated with a large decline in FDI flows to EMDEs. Economies with higher trade integration receive more FDI inflows—an extra 0.6 percent for each percentage-point increase in the trade-to-GDP ratio and an extra 0.3 percent for each percentage-point increase in value-added trade as a share of exports, a measure of participation in global value chains (figure ES.D). An investment treaty tends to raise FDI flows between signatory states by more than 40 percent.

Current conditions are not conducive for generating robust FDI flows to EMDEs. Global economic policy uncertainty and geopolitical risk have soared to the highest level since the turn of the century. The formation of investment and trade agreements has slowed sharply. Between 2010 and 2024, just 380 new investment treaties came into force, less than half of the approximately 870 treaties between 2000 and 2009 (figure ES.E). There has also been a change in domestic policy in EMDEs. Following a trend toward less restrictiveness in the 2010s, newly announced FDI policy measures in EMDEs have become more restrictive in the 2020s (figure ES.F). Trade-distorting policy measures have proliferated. At the same time, progress on improving the quality of institutions conducive to investment climate in these economies has stalled.

EMDEs should follow a three-pronged strategy to attract FDI, amplify the benefits of FDI, and advance global cooperation to support FDI flows. Attracting FDI and maximizing its benefits depends on reforms that foster a favorable investment climate, macroeconomic stability, human capital development, financial deepening, and removal of international trade and investment barriers. Global cooperation is essential to uphold a rules-based international system for cross-border investment and trade flows. By providing technical and financial assistance to EMDEs, international organizations can support structural reform efforts that will boost FDI inflows and enhance their impact. These policies are now more important as EMDEs face rising global economic fragmentation and elevated uncertainty. The World Bank Group, the world's largest development bank, plays an active role in mobilizing private capital—by creating instruments that lower financial risks for investors, by helping to improve market conditions in developing economies, and by scaling up its engagement with the private sector.

Foreign direct investment (FDI) inflows to emerging market and developing economies (EMDEs) have steadily weakened, to about 2 percent of GDP in the last several years—less than half the share at the peak in 2008. This trend jeopardizes economic development. FDI inflows are a vital source of funding to catalyze economic growth, facilitate domestic private capital mobilization, and create jobs. FDI inflows are especially critical for low-income countries (LICs), where domestic capital resources are scarce and infrastructure gaps are vast. In the average EMDE, a 10-percent increase in net FDI inflows is associated with a GDP boost of 0.3 percent after three years. The effects rise to 0.8 percent in countries with greater trade openness, stronger institutions, better human capital development, and lower informality. FDI inflows to EMDEs—composed mostly of greenfield investment—are strongly correlated with economic growth and international trade. Because of elevated trade tensions, policy uncertainty, and heightened macroeconomic and geopolitical risks, the outlook for FDI flows remains subdued. Policy makers in EMDEs need to accelerate domestic reforms that will help attract FDI and amplify its benefits. All countries need to work to advance global cooperation to uphold a rules-based system that promotes cross-border investment and trade flows.

Introduction

Investment growth across the world has trended down since the 2008-09 global financial crisis.[1] In emerging market and developing economies (EMDEs), the average annual investment growth rate halved, dropping from about 10 percent in the 2000s to 5 percent in the 2010s—the slowest pace in three decades, reflecting weakness in both public and private investment growth (World Bank 2024a). The slowdown occurred in all EMDE regions and income groups, and in commodity-exporting and commodity-importing countries (Kose and Ohnsorge 2023).

The prolonged and widespread investment weakness in EMDEs has contributed to a large backlog of unmet infrastructure needs. Weak investment growth is undermining efforts to achieve key development goals, including tackling climate change and accelerating the energy transition, and reducing poverty and inequality. By some estimates, EMDEs need to invest at least an additional 1.4 percent of GDP through 2030 just to address climate change and the energy transition. These needs are especially large in low-income countries (LICs), which are estimated to require an additional annual investment of 8 percent of GDP through 2030 (World Bank 2022a).

Foreign direct investment (FDI), which has averaged almost $2 trillion per year globally during the past decade, can be an important source of financing investment needs in EMDEs, especially in countries with scarce domestic capital and large infrastructure gaps. For instance, over the period 2012-23, net FDI inflows in the median EMDE averaged about 3 percent of GDP—similar to the average levels of remittance inflows or net official development assistance (ODA) inflows—while portfolio inflows amounted to less than 1 percent of GDP over the same period in a typical EMDE.[2] However, the potential benefits of FDI extend far beyond the provision of funding. FDI inflows can spur technology spillovers, efficiency gains, job creation, and productivity improvements, leading to higher workers' compensation. FDI also enables domestic firms to access cross-border production networks and markets. As a result, FDI can boost economic growth and foster equitable economic development, helping recipient economies address poverty and inequality, and bridge gender gaps.

Note: This document is chapter 3 of the June 2025 *Global Economic Prospects*.

[1] Investment refers to gross fixed capital formation. For details about the slowdown in investment growth, see World Bank (2023a, 2024a). On investment needs, see Kose and Ohnsorge (2023), Rozenberg and Fay (2019), and World Bank (2022a).

[2] The analysis in this chapter focuses on net FDI inflows (gross FDI inflows less disinvestment), unless otherwise stated. The data on net FDI inflows are from the World Bank's World Development Indicators (WDI) database. FDI is defined as cross-border investment made by a resident in one economy in an enterprise residing in another economy, with the objective of establishing a lasting interest. This definition follows the OECD Benchmark Definition of FDI (OECD 2009, 2025), which sets a consolidated framework for compiling FDI statistics and discusses specific criteria for determining the lasting interest, measurement issues, taxonomy, and other conceptual aspects. For measurement issues, including roundtripping and phantom FDI, see also Aykut, Sanghi, and Kosmidou (2017) and Damgaard, Elkjaer, and Johannesen (2024).

FDI inflows bring private long-term capital to the recipient economy from abroad, while also promoting domestic private capital mobilization. FDI can spur the modernization of infrastructure and encourage the provision of goods and services by foreign-owned firms to domestic companies, thereby enabling and expanding their business operations and inducing additional investment. FDI signals profitable investment opportunities, which can crowd in private investment by domestic and foreign investors. FDI can also aid the transition to cleaner energy and facilitate adaptation to climate change in EMDEs, by channeling capital to sustainable projects and climate-resilient infrastructure and by transferring environmentally friendly technologies and business practices.

The sharp increase in global FDI flows during the 2000s coincided with a growth acceleration in many EMDEs. However, this period was followed by a broad-based slowdown in FDI inflows during the 2010s as macroeconomic shocks and structural headwinds to investment were accompanied by a rise in global economic fragmentation fueled by concerns about access by foreign firms to domestic assets and sectors sensitive from a national security standpoint. Heightened trade tensions and fragmentation, alongside policy uncertainty and macroeconomic risks, are likely to continue to weigh on investment flows and reshape global FDI patterns—posing challenges for EMDEs and calling for prompt policy action.

Against this backdrop, this chapter presents a comprehensive assessment of FDI inflows to EMDEs. The analysis addresses the following main questions:

- How have global FDI flows evolved, particularly to EMDEs?
- What are the macroeconomic implications of FDI for EMDEs?
- What are the main factors driving FDI?
- What policies can help EMDEs attract FDI and maximize its benefits?

The chapter makes several contributions to the literature:

- *Examination of FDI trends with a special focus on EMDEs.* The literature on FDI has mostly explored short-run dynamics and has devoted limited attention to EMDEs. This chapter offers a broader historical perspective on the evolution of FDI and examines the principal differences in FDI between EMDEs and advanced economies. It also analyzes the evolution of FDI during major adverse events, such as recessions and financial crises.
- *Examination of the macroeconomic implications of FDI.* The chapter provides a detailed account of the macroeconomic effects of FDI with a focus on EMDEs, including its implications for economic growth and the energy transition. The analysis examines a wide range of effects across EMDEs and identifies the conditions under which the benefits of FDI have been greatest.
- *Analysis of the key factors driving FDI.* The chapter offers a detailed analysis of push, pull, global, and bilateral drivers of FDI, including the implications of international integration and fragmentation. Although previous research has analyzed many of these factors separately, this chapter integrates them into a consistent empirical framework using consolidated bilateral FDI data for a large sample of countries over a period of several decades.
- *Priorities for national and global policy makers.* The chapter presents a detailed set of policy interventions that governments in EMDEs can pursue to attract FDI and maximize its benefits in the context of arising challenges. It also examines global policy priorities needed to facilitate cross-border cooperation and reduce the potential costs of global economic fragmentation.

The chapter presents the following key findings:

FDI inflows to EMDEs as a share of GDP have weakened considerably, halving in 2012-23 relative to 2000-11. Net FDI inflows as a share of

GDP in EMDEs have trended downward since the global financial crisis, reversing a prior two-decade rise driven by rapid financial integration, international trade growth, and the expansion of global value chains. During the boom years of 2000-08, FDI inflows to EMDEs grew fivefold, and their share of global FDI expanded from one-tenth to one-third. Since 2008, the nominal value of FDI inflows to EMDEs has averaged about $700 billion per year, yet inflows relative to EMDEs' GDP have declined significantly. In the typical EMDE, the FDI-to-GDP ratio peaked at about 5 percent in 2008 but has since more than halved, standing at just over 2 percent in 2023. Three-fifths of EMDEs experienced a decline in FDI inflows in 2012-23 relative to 2000-11. Recent FDI project announcements suggest a decline in greenfield FDI inflows to EMDEs in 2024 by almost one-quarter relative to 2023.

FDI inflows to EMDEs are highly concentrated in a few large economies. Over two-thirds of total FDI inflows to EMDEs are received by just ten countries. During 2012-23, about one-third of net FDI inflows to EMDEs went to China—the largest recipient country. The other largest destinations, Brazil and India, jointly received about one-sixth of FDI inflows to EMDEs. LICs accounted for just 2 percent of FDI inflows to EMDEs and less than 1 percent of global FDI inflows.

FDI inflows to EMDEs are nearly all greenfield investment and have been shifting toward the services sector. More than nine-tenths of FDI inflows to EMDEs are greenfield investment, which is generally more closely associated with domestic investment and economic growth in recipient economies than FDI inflows in the form of mergers and acquisitions (M&A).[3] Since 2000, the sectoral composition of FDI has shifted significantly from manufacturing to services: the share of the latter increased from less than one-half in the early 2000s to almost two-thirds in 2019-23.

[3] Greenfield FDI refers to investments in new assets, when the foreign investor establishes a new venture in the recipient economy. M&A refers to acquisition of existing assets by a foreign enterprise in the recipient economy, also known as "brownfield" investments.

FDI can spur economic growth in EMDEs, but the magnitude of the effect varies, depending on country characteristics. Empirical analysis based on data for 74 EMDEs over 1995-2019 suggests that a 10-percent increase in FDI inflows is associated with a 0.3 percent boost to real GDP in the average EMDE after three years. The effect is much larger—up to 0.8 percent—in countries with stronger institutions, lower informality, better human capital development, and greater trade openness. Conversely, in countries that lag in these dimensions, the benefits of FDI for output growth are much smaller—and in some cases, absent.

Conducive structural conditions are crucial for attracting FDI. Factors important for attracting FDI include solid macroeconomic fundamentals; high-quality institutions; political and regulatory stability; strong human capital and productivity growth; openness to trade and investment; and financial development. For instance, an improvement in institutional quality or the investment climate from the median to the highest quartile of the global sample can boost FDI inflows by up to one-fifth. A 1-percent increase in labor productivity can increase FDI inflows by up to 0.7 percent.

The outlook for FDI to EMDEs is subdued amid elevated trade tensions, policy uncertainty, and heightened macroeconomic and geopolitical risks. Trade and investment openness, as well as integration into global value chains, have historically been important factors for FDI flows. Investment treaties, for instance, are estimated to have boosted mutual investment flows between signatory states by more than two-fifths, on average. On the contrary, rising geopolitical tensions significantly inhibit cross-border investment: FDI flows between countries with the most pronounced differences in foreign policy are found to be about one-eighth below the global sample median. Trade growth has weakened significantly in 2020-24, to the slowest pace since 2000. Economic policy uncertainty has also reached the highest levels since the turn of the century, while the number of new trade and investment agreements implemented dropped significantly. Tit-for-tat escalation of international trade disputes, waning investment integration, and

rising restrictions on FDI—such as foreign ownership barriers and FDI screening measures, now increasingly adopted by many countries—will result in additional fragmentation of economic networks, dampening FDI inflows to EMDEs.

In light of these findings, EMDEs should follow a three-pronged strategy to attract FDI, amplify the benefits of FDI, and advance global cooperation to support FDI flows. The beneficial effects of FDI on growth and economic development are not guaranteed without sustained conducive conditions in recipient economies. Although specific policies depend on country circumstances, broad priorities for all EMDEs include reforms that foster a favorable investment climate, macroeconomic stability, strong institutions, human capital development, financial deepening, and reduction of economic informality. The right policies can steer foreign investment to projects that address pressing sustainable development issues and mobilize additional domestic capital. Reducing barriers to international trade and investment—still high in many EMDEs—including through investment treaties, is important to attract FDI directly and through enhanced trade and value-chain integration. All of these policies are becoming even more important as EMDEs face rising global economic fragmentation. Policies that strengthen global cooperation to uphold a rules-based international system for investment and trade, channel FDI toward countries with the largest investment gaps, and provide technical and financial assistance for structural reform efforts are essential for boosting FDI inflows and enhancing their impact in EMDEs.

FDI: Recent trends and structural shifts

FDI plays a pivotal role in the world economy, channeling capital, technology, and expertise across borders. However, global FDI flows relative to GDP—and FDI inflows to EMDEs specifically—have trended downward since the global financial crisis. Both global and domestic factors have contributed to this decline, including weak macroeconomic conditions, higher debt levels and sovereign risk, geopolitical tensions and policy uncertainty, and a slowdown in structural reforms.

Global trends in FDI

The rise of international trade and financial integration, and the expansion of global value chains, was accompanied by an unprecedented surge in FDI that lasted through most of the 1990s and the 2000s. This was interrupted by the global downturn of 2001 and subsequently halted by the global financial crisis of 2008-09. The surge in FDI was especially strong in the run-up to the global financial crisis, with aggregate FDI flows peaking at more than $3 trillion in 2007—about 5 percent of global GDP (figure 3.1.A).

The 2009 recession triggered by the financial crisis had a lasting adverse impact on global cross-border investment. FDI flows as a share of world GDP were lower in each of the years 2018 through 2024 than the average for 2000-17. The global recession was followed by a series of adverse developments—continued weak economic growth; trade disputes between major economies, the shocks of the COVID-19 pandemic and Russia's invasion of Ukraine, which disrupted international supply networks and raised global inflation; and the consequent tightening of financial conditions. As a result, FDI inflows as a share of global GDP declined from over 5 percent in 2007 to below 1 percent in 2023 and 2024—the lowest level since the turn of the century (figure 3.1.B). Over the past decade, average annual aggregate FDI flows stood at less than $2 trillion—more than two-fifths below the peak of 2007. Large fluctuations from year to year partly reflected the high volatility of FDI inflows related to mergers and acquisitions in advanced economies.

Historically, global FDI flows have been positively correlated with the growth rates of global output and investment (gross fixed capital formation) and, more strongly, with international trade, where the correlation has been close to 0.5 (figures 3.1.C and 3.1.D). On the contrary, rising fragmentation has been strongly associated with the decline in global FDI flows. With global GDP and investment projected to slow sharply in the near term and remain below the pre-pandemic average in the medium term—and with global

trade hindered by higher trade restrictions and acute trade policy uncertainty—FDI inflows as a share of GDP may remain weak.

FDI inflows in EMDEs

The rise of cross-border production contributed to a rise in net FDI inflows to EMDEs in nominal terms. Between 2000 and 2008, net FDI inflows to EMDEs grew almost fivefold—from a little over $160 billion to almost $800 billion. Since then, the growth of net FDI inflows has not kept pace with GDP growth. In 2023, the FDI-to-GDP ratio in the median EMDE was just over 2 percent, less than half its peak of about 5 percent in 2008 (figure 3.2.A). As a result, FDI inflows to EMDEs, relative to GDP, reached similar FDI-to-GDP ratio levels of advanced economies, which also declined over the past fifteen years (figure 3.2.B). The decline in FDI-to-GDP ratios was broad based: in three-fifths of EMDEs, the average FDI-to-GDP ratio was lower in 2012-23 than in 2000-11 (figure 3.2.C).

Both global and domestic factors have contributed to the decline in FDI-to-GDP ratios. The deep recession triggered by the global financial crisis depressed fixed investment and FDI flows. The macroeconomic challenges many EMDEs experienced in the post-crisis period were exacerbated by the COVID-19 recession of 2020. These shocks contributed to heightened risks and uncertainty, weighing heavily on investors' confidence in EMDEs (World Bank 2024a). An event study suggests that recessions in general have deep adverse effects on FDI lasting for over a year (box 3.1). High debt levels and increasing sovereign risk in some EMDEs, the post-pandemic inflation surge, and subsequent monetary policy tightening in major economies have restrained financial markets and capital flows to EMDEs (Kose et al. 2021; UNCTAD 2024a).[4]

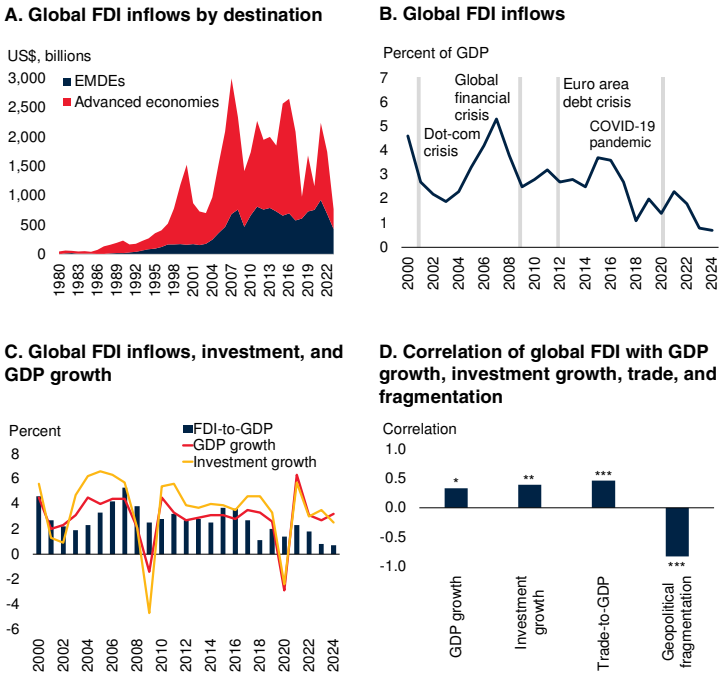
Elevated geopolitical tensions, including those associated with U.S.-China trade disputes, Russia's invasion of Ukraine, and conflict in the Middle East, have further worsened the international investment climate (IMF 2023a). These tensions have fueled efforts to realign global value chains toward geopolitically aligned countries (friend-shoring) and to localize production and supply chains in sensitive sectors and operations (near-shoring and re-shoring). International and domestic economic policy uncertainty has also increased in the past decade, weighing on investor sentiment in EMDEs (World Bank 2024a).

Structural reforms in many EMDEs have stalled over the past decade—including reforms to

[4] The decline in FDI inflows to EMDEs also reflects a broader trend of slowing private debt and equity capital flows to developing countries (Ratha et al. 2023).

FIGURE 3.1 Global trends in FDI

FDI inflows relative to global GDP have steadily declined, from over 5 percent in 2007 to below 1 percent in 2023 and 2024. Following a rapid rise during 2000-08, FDI inflows to EMDEs relative to GDP have trended down. Historically, global FDI flows have been positively correlated with the growth rates of global output and gross fixed capital formation and, more strongly, with international trade.

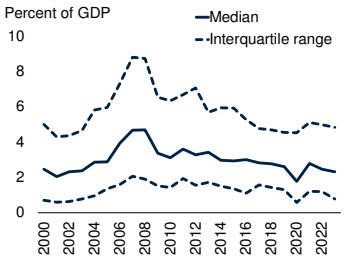


Sources: UNCTAD; World Bank.
Note: EMDEs = emerging market and developing economies.
A. Sample includes 36 advanced economies and 153 EMDEs.
B. Global net FDI inflows as a percent of world GDP. Data for 2024 are estimates based on UNCTAD and World Bank data. Gray markers show global recessions and downturns.
C. Investment refers to gross fixed capital formation. FDI as a percent of GDP is estimated for 2024 based on data from UNCTAD and the World Bank.
D. Investment refers to gross fixed capital formation. Bars show correlation coefficients between the global FDI-to-GDP ratio and the following variables: real global GDP growth, real global investment growth, global trade as a share of GDP, and the geopolitical fragmentation index from Fernández-Villaverde, Mineyama, and Song (2024). Sample includes annual data over 1990-2023. ***, **, and * denote statistical significance at the 1, 5, and 10 percent levels, respectively.

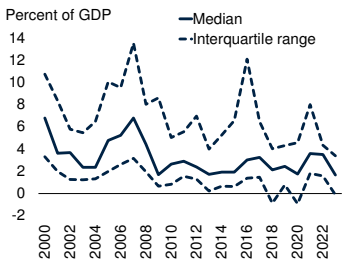
FIGURE 3.2 FDI in EMDEs

The FDI-to-GDP ratio in the median EMDE was just over 2 percent in 2023, less than half its peak of about 5 percent in 2008. Advanced economies experienced a sharper slowdown. The decline in FDI inflows to EMDEs was broad-based: the average FDI-to-GDP ratio was lower in 2012-23 than in 2000-11 in three-fifths of EMDEs. Announced greenfield FDI to EMDEs fell by almost one-quarter in 2024 relative to 2023.

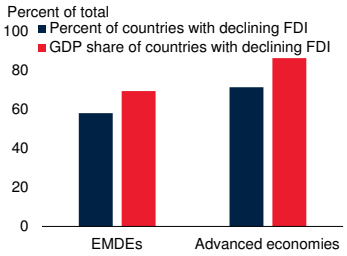
A. FDI inflows to EMDEs



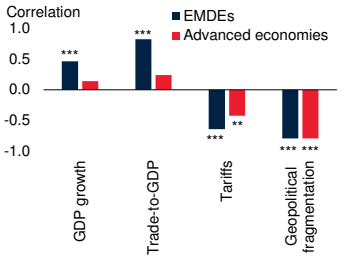
B. FDI inflows to advanced economies



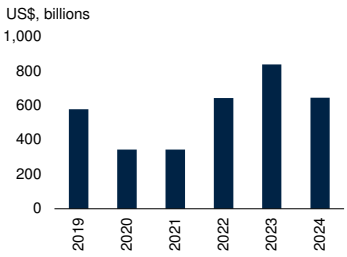
C. Share of countries with declining FDI-to-GDP ratios



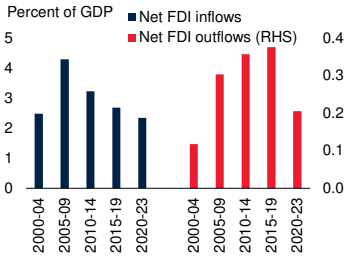
D. Correlation of FDI with GDP growth, trade, tariffs, and fragmentation



E. Announced greenfield FDI to EMDEs



F. FDI inflows to and outflows from EMDEs



Sources: fDi Markets; World Bank.
Note: EMDEs = emerging market and developing economies; RHS = right-hand side.
A.B. Annual medians and interquartile ranges of FDI-to-GDP ratios. Balanced sample of 35 advanced economies and 134 EMDEs.
C. Share of countries with a decline in the FDI-to-GDP ratio from 2000-11 to 2012-23 and their GDP value as a share of aggregate group GDP (2023 values). Sample includes 35 advanced economies and 134 EMDEs.
D. Bars show correlation coefficients between annual average FDI-to-GDP ratio and the following variables: real GDP growth, trade as a share of GDP, import tariff rate, and the geopolitical fragmentation index from Fernández-Villaverde, Mineyama, and Song (2024). Correlations are based on the period 1990-2023. *** and ** denote statistical significance at the 1 and 5 percent levels, respectively.
E. Announced greenfield FDI capital expenditures. Sample includes 141 EMDEs.
F. Median net FDI inflows and outflows as percent of GDP for period averages. Sample includes 107 EMDEs.

improve the investment climate and tackle regulatory barriers to FDI. EMDEs, especially LICs, lag advanced economies in such critical dimensions for investment climate as rule of law, regulatory environment, and control of corruption.[5]

Historically, FDI inflows to EMDEs have been closely associated with economic growth and especially with foreign trade dynamics—more than FDI inflows to advanced economies (figure 3.2.D). The correlation between FDI inflows and trade, taken as a share of GDP, reached 0.8 in EMDEs in the past three decades. By contrast, higher import tariffs and rising economic fragmentation were strongly associated with a decline in FDI inflows.

Therefore, amid elevated trade tensions and global economic fragmentation, policy uncertainty, and weak macroeconomic backdrop, the outlook for FDI inflows to EMDEs remains challenging in the near term. Reflecting these developments and deteriorating investor sentiment, the recent data on FDI project announcements indicates a decline in greenfield FDI inflows to EMDEs in 2024 by almost one-quarter relative to 2023 (figure 3.2.E).

Most of the FDI received by EMDEs—almost 90 percent of the total cumulative FDI stock in the past decade—comes from advanced economies. About 45 percent of these investments were from the European Union and the United States. In general, EMDEs do not play a major role as a source of FDI to other EMDEs, and their FDI outflows are much smaller than inflows (figure 3.2.F). Between 2000 and 2023, net FDI outflows, defined as investment outflows less disinvestment, were equivalent to less than 0.5 percent of GDP in EMDEs, on average. Although advanced economies remain the source of most FDI inflows to EMDEs, FDI flows from EMDEs to other EMDEs—also referred to as South-South FDI—have grown faster than flows from advanced

[5] Structural reforms in EMDEs proceeded rapidly during major liberalization waves in the 1980s and 1990s. However, following significant deregulation in such areas as international trade and finance, and labor and product markets, progress has stalled since the 2000s, as the scope for additional reforms narrowed and the reform momentum in many EMDEs waned (IMF 2019).

economies to other advanced economies during the 2000s and 2010s (Broner et al. 2023; Ratha et al. 2023). For LICs, in particular, South-South FDI is significant and can help address development challenges, including job creation (Aykut and Rath 2004; Saha et al. 2020).

FDI patterns across EMDE regions

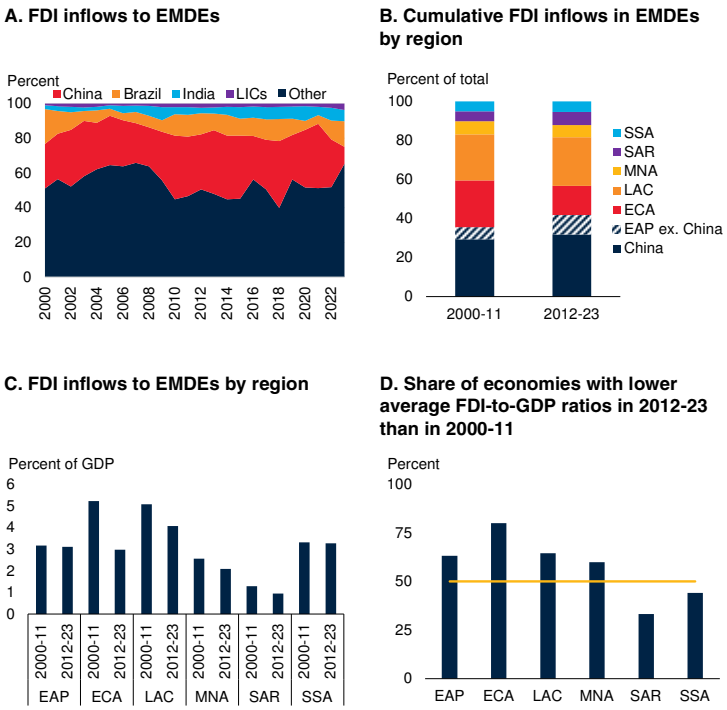
FDI inflows to EMDEs are concentrated in the largest economies. Over two-thirds of total FDI inflows to EMDEs are received by just ten countries. During 2012-23, nearly one-third of total FDI inflows to EMDEs went to China, making it the largest recipient (figure 3.3.A).[6] The other largest destinations, Brazil and India, received far lower shares of FDI inflows—about 10 and 6 percent of total FDI inflows to EMDEs, respectively. By contrast, only 2 percent of total FDI inflows to EMDEs went to LICs.

FDI inflows to EMDEs have long been concentrated in three geographic regions, which together represent more than 80 percent of total inflows to EMDEs. During 2012-23, East Asia and Pacific (EAP) received more than two-fifths of FDI inflows to EMDEs. Latin America and the Caribbean (LAC) and Europe and Central Asia (ECA) were the other main regional destinations, receiving about one-quarter and one-sixth of FDI inflows to EMDEs, respectively (figure 3.3.B).

Median FDI-to-GDP ratios in EMDEs declined in most regions in 2012-23 relative to 2000-11, especially in ECA and LAC (figure 3.3.C). ECA experienced an FDI boom in the 2000s on the back of rapid liberalization in transition economies and their integration into trade and financial networks, both globally and in relation to the European Union (UNCTAD 2010). With the collapse of commodity prices in 2014-16 and rising geopolitical tensions related to Russia's invasion of Ukraine in 2022, FDI inflows to many ECA countries declined significantly. Median FDI-to-GDP ratio in ECA declined from 5 percent to 3 percent. Four-fifths of ECA economies had FDI-to-GDP ratios lower in 2012-23 than in 2000-11, the largest share of any region (figure 3.3.D). Economies in LAC also experienced a decline in average FDI-to-GDP ratios during this period, as fragmentation of trade and financial networks contributed to downward pressures from macroeconomic challenges and commodity market volatility in many countries (World Bank 2023b). Median FDI-to-GDP ratio in LAC dropped from 5 percent to 4 percent during this period.

FIGURE 3.3 FDI in EMDEs by region

Almost one-third of FDI inflows to EMDEs during 2012-23 went to China. Brazil and India were the next largest destinations but received much lower shares. EAP accounted for over two-fifths of FDI inflows to EMDEs during 2012-23. LAC and ECA were the other main regional destinations, receiving about one-quarter and one-sixth, respectively. In most regions, FDI-to-GDP ratios declined from 2000-11 to 2012-23.



Source: World Bank.
Note: EAP = East Asia and Pacific; ECA = Europe and Central Asia; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; LICs = low-income countries; MNA = Middle East and North Africa; SAR = South Asia; SSA = Sub-Saharan Africa.
A. Share of FDI net inflows among EMDEs. Sample includes up to 153 EMDEs.
B.-D. Sample includes 134 EMDEs, including 19 EAP, 20 ECA, 31 LAC, 15 MNA, 6 SAR, and 43 SSA economies.
C. Bars show median net FDI inflows as a share of GDP by region.
D. Horizontal line denotes 50 percent.

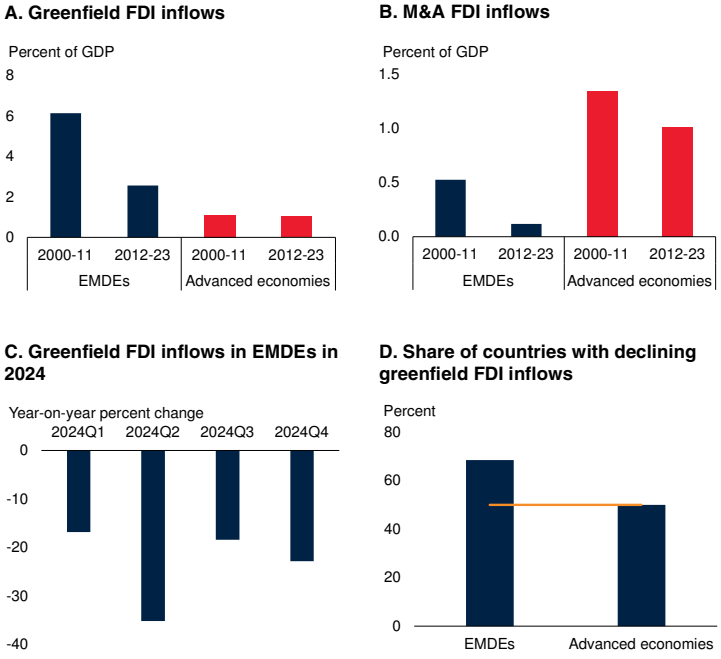
FDI by entry mode

The composition of FDI by entry mode differs significantly between EMDEs and advanced

[6] However, after a major collapse of FDI inflows to China in 2023, its share of total FDI received by EMDEs fell from one-third to one-tenth.

FIGURE 3.4 FDI by entry mode

The composition of FDI by entry mode differs significantly between EMDEs and advanced economies. Greenfield investment has accounted for over nine-tenths of FDI inflows into EMDEs since 2000, while FDI to advanced economies is about equally split between greenfield investment and mergers and acquisitions (M&A). In EMDEs, both greenfield and M&A FDI as a share of GDP declined significantly in 2012-23 compared to 2000-11. Greenfield FDI in EMDEs declined throughout 2024 on a year-on-year basis.



Sources: fDi Markets; UNCTAD; World Bank.
Note: EMDEs = emerging markets and development economies; M&A = mergers and acquisitions.
A.B. Bars show group medians. Sample includes 36 advanced economies and 125 EMDEs. Greenfield FDI data available from 2003 onward.
C. Year-on-year change in announced greenfield FDI project capital expenditures. Sample includes 130 EMDEs.
D. Percent of countries that have a smaller value of announced greenfield FDI project capital expenditures in 2024 compared to 2023. Horizontal line denotes 50 percent. Sample includes 26 advanced economies and 111 EMDEs.

economies. Greenfield investment has accounted for over nine-tenths of FDI inflows into EMDEs since 2000. During 2012-23, while greenfield FDI inflows were equivalent to 2.6 percent of GDP in the median EMDE, M&A accounted for only 0.1 percent of GDP (figures 3.4.A and 3.4.B). By contrast, M&A is a much more prominent mode of FDI in advanced economies, comprising about 1 percent of GDP over the same period, the same level as greenfield FDI inflows. These differences reflect a greater number of companies in advanced economies that are large enough to be attractive acquisition targets for multinational enterprises (MNEs), along with deeper capital markets and stronger institutional and legal frameworks that lower the risks of large-scale acquisitions.

In EMDEs, both greenfield and M&A FDI as a share of GDP declined significantly over the past decade. Greenfield FDI as a share of GDP fell by more than half in the median EMDE between 2000-11 and 2012-23. Over the same period, M&A FDI as a share of GDP fell by about three-fourths. Recent data on FDI project announcements suggests that greenfield FDI continued to weaken throughout 2024 relative to the previous year, and that more than two-thirds of EMDEs experienced a decline in greenfield FDI in 2024 (figures 3.4.C and 3.4.D).

Sectoral composition

The sectoral composition of FDI in EMDEs has changed significantly since the early 2000s. In both advanced economies and EMDEs, nearly 65 percent of FDI inflows in recent years have gone to the services sector (figure 3.5.A). The share of services in total FDI inflows to EMDEs is now almost 20 percentage points higher than in 2000-04. Services-related FDI inflows in EMDEs have displaced manufacturing-related inflows, which dropped from about 45 percent in 2000-04 to less than 30 percent in 2019-23.

The growing role of services in EMDEs, and the associated realignment of cross-border production and domestic investment patterns, reflect long-run structural shifts in global production (UNCTAD 2015; World Bank 2023c). The services sector now accounts for more than two-thirds of GDP and creates more new jobs than other sectors (Nayyar, Hallward-Driemeier, and Davies 2021; World Bank and WTO 2023). Rapid technological progress, particularly the increasing importance of intangible capital and digitalization, is evident in the broad trend of "servitization" in manufacturing.

As a result, MNEs have been allocating an increasing share of their investment to the services sector. This was also facilitated by policies promoting FDI in the services sector—according to UNCTAD's Investment Policy Monitor Database, the share of investment incentives directed toward the services sector increased from

BOX 3.1 Dynamics of FDI around adverse events

Disruptive events—such as recessions, financial crises, and natural disasters—can be associated with a significant deterioration in FDI inflows for both emerging market and developing economies (EMDEs) and advanced economies. During recessions, the growth of FDI inflows to EMDEs contracts by about 15 percentage points, on average. FDI remains weak for an additional year in the wake of recessions. FDI dynamics around financial crises and natural disasters yield less clear patterns.

Introduction

The behavior of FDI flows is linked to prevailing economic conditions. Not infrequently, countries face highly disruptive events. For example, between the early 1970s and 2020s there were five global recession years, over 400 episodes of financial crises and more than 200 episodes of large natural disasters—with at least a 2-percent loss of GDP—in the global sample of countries examined in this analysis. The dynamics of FDI flows around disruptive events are diverse, in terms of both the magnitude of the change in flows and the duration of the effect. The global financial crisis of 2008-09, for example, had a deep impact on FDI flows, especially for EMDEs (Kekic 2009). However, the effects of the 2020 global recession during the COVID-19 pandemic were more transitory, and FDI flows recovered quickly to pre-pandemic levels. This box takes a broad historical perspective, using event studies to examine whether major disruptive events have systematic effects on FDI.

This box addresses two questions:

- How does FDI evolve around recessions, financial crises, and natural disasters?
- How do the effects of adverse events differ between EMDEs and advanced economies?

The distinction between EMDEs and advanced economies is important given the differing nature of FDI inflows: in EMDEs, FDI primarily takes the form of greenfield investment, whereas in advanced economies it is more commonly directed to mergers and acquisitions.

Data and methodology

The analysis is based on a global sample of 186 countries, including 150 EMDEs, over the period 1971-2022. The adverse events include global and national recessions (sourced from Kose, Sugawara, and Terrones 2020), financial crises (from Laeven and Valencia 2020), and natural disasters (from the EM-DAT database). FDI is sourced from the World Bank's World Development Indicators (WDI) database. Outliers—negative FDI values and values in the upper decile of the FDI growth distribution—are dropped. The event study framework regresses growth rates of real inward FDI flows on dummy variables for the adverse events at the time of the shock (t = 0) and three-year windows around the event (t - 3 and t + 3). The estimates are reported along with 90-percent confidence intervals to gauge statistical significance.

Global and national recessions

The analysis shows that global and national recessions are associated with a significant deterioration in FDI. FDI starts to weaken in the run-up to recessions, aggravating macroeconomic conditions.[a] In EMDEs, the growth of FDI inflows declines by about 15 percentage points in recessions relative to pre-recession trends, on average.[b] The impact of global recessions tends to be even stronger in advanced economies, with FDI growth declining by about 25 percentage points (figures B3.1.1.A and B3.1.1.B; table B3.1.1). These effects are sizable in the context of long-run FDI trends: over the sample period, average annual FDI growth was about 5 percent in EMDEs and about 11 percent in advanced economies.

Certain recessions, however, may produce much deeper adverse effects. In the case of the two most recent global recessions, in 2009 and 2020, FDI inflows to advanced economies were weakened much more severely during the 2009 episode than during the 2020 episode. By contrast, both recessions had similar effects on FDI inflows to EMDEs (figure B3.1.1.C).

Note: This box was prepared by Amat Adarov and Hayley Pallan.

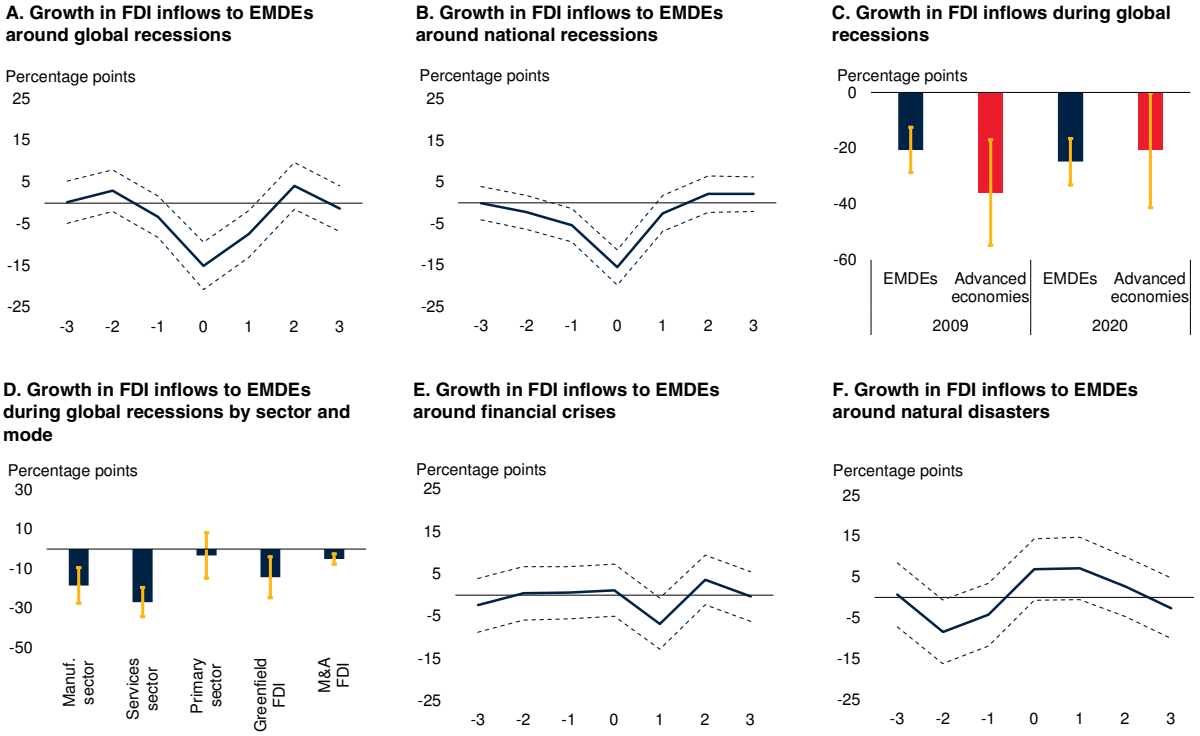
a. The causality is bi-directional—a decline in output, in turn, also inhibits FDI inflows. See the analysis in the section on the drivers of FDI.

b. The results are consistent with the dynamics of net FDI inflow in EMDEs around adverse events. For instance, during global recessions, annual net FDI in the sample dropped by 11 percent, while outside global recessions, net FDI inflow growth averaged about 7 percent in the sample.

BOX 3.1 Dynamics of FDI around adverse events (*continued*)

FIGURE B3.1.1 FDI inflows to EMDEs around adverse events

Global and national recessions are associated with a significant decline in FDI inflows to EMDEs, with FDI remaining weak for an additional year in the wake of recessions. An assessment of FDI dynamics around financial crises and natural disasters yields less clear patterns.



Source: World Bank.
Note: EMDEs = emerging market and developing economies; M&A = mergers and acquisitions. Event studies show estimates of annual FDI growth regressed on dummy variables for the years of recessions, financial crises, and natural disasters, as well as the three-year windows around adverse events. Dashed lines and whiskers show 90-percent confidence intervals.
A.B. Global recession years are 1975, 1982, 1991, 2009, and 2020, following Kose, Sugawara, and Terrones (2020). National recession years are years with negative real GDP growth.
C.D. Bars show point estimates for the years of global recessions.
D. M&A estimate is scaled by a factor of ten.
E.F. Financial crisis years are from Laeven and Valencia (2020) and include systemic banking, debt, and currency crises. Natural disaster years are from EM-DAT, for disasters with damage estimated to be 2 percent of GDP or higher.

In EMDEs, recessions have a more protracted impact on FDI than in advanced economies: EMDEs take about a year longer to recover. This may be due to the prevalence of greenfield FDI in EMDEs, which tends to be more sensitive to macroeconomic turbulence. Additional estimations for countries with available detailed data by sectors and the FDI mode of entry suggest that during recessions greenfield FDI tends to suffer a large dip. However, this effect is highly heterogeneous across countries and is not statistically significant (figure B3.1.1.D). LICs are particularly hard-hit by national recessions, during which FDI growth drops by about 28 percentage points.

Financial crises

Unlike in recessions, dynamics in FDI around financial crises, including debt, currency, and systemic banking crises, differ between EMDEs and advanced economies. While no significant effects are observed in the case of advanced economies, the growth of FDI inflows to EMDEs tends to decline by about 7 percentage points in the year following financial crises (figure B3.1.1.E). Thus, on average, the impact of financial crises appears to be much milder than that of recessions, consistent with findings in the previous literature reporting greater resilience of FDI during financial crises outside

BOX 3.1 Dynamics of FDI around adverse events (*continued*)

TABLE B3.1.1 Growth of FDI inflows around adverse events

	EMDEs	Advanced economies	LICs	EMDEs excluding LICs	Commodity-exporting EMDEs	Commodity-importing EMDEs
A. Global recessions						
t-2	2.97	1.04	3.41	2.92	4.97	-0.06
t-1	-3.30	-8.51	13.89*	-6.23*	0.78	-9.49**
t=0 (event year)	-15.01***	-25.46***	-3.07	-17.15***	-10.69**	-21.32***
t+1	-7.36**	-6.25	1.35	-8.77**	-6.20	-8.99*
t+2	4.10	-2.40	9.90	3.17	5.80	1.61
B. National recessions						
t-2	-2.33	3.39	-7.71	-1.29	-1.28	-4.22
t-1	-5.38**	-6.05	-6.58	-5.21**	-4.17	-7.56**
t=0 (event year)	-15.51***	-14.57**	-28.21***	-13.28***	-16.56***	-14.07***
t+1	-2.58	3.38	-5.17	-2.51	-1.66	-4.73
t+2	2.05	-4.97	-6.37	3.38	-1.38	7.85*
C. Financial crises						
t-2	0.39	-2.47	-8.30	1.08	0.94	-0.67
t-1	0.57	15.64	-26.45**	3.34	-0.77	3.75
t=0 (event year)	1.13	-8.06	-21.38*	4.22	-1.78	7.71
t+1	-6.76*	13.25	2.04	-8.14**	-8.99*	-1.26
t+2	3.57	10.42	-4.04	4.52	1.54	8.15
D. Natural disasters						
t-2	-8.43*	8.01	-34.87	-7.01	-3.54	-12.57**
t-1	-4.21	-32.35	-14.36	-3.49	-0.43	-6.62
t=0 (event year)	6.85	3.63	7.08	6.91	2.91	9.50*
t+1	7.16	40.76*	15.25	6.97	8.72	6.08
t+2	2.66	48.34**	-0.03	2.88	7.19	-1.24

Source: World Bank.
Note: EMDEs = emerging market and developing economies; LICs = low-income countries. Table shows selected results of regressions of real growth rates of FDI inflows on dummy variables for the four types of adverse events during three-year windows around the event. Global recessions dates are from Kose, Sugawara, and Terrones (2020); national recession years are defined as years with negative real GDP growth; financial crisis years are from Laeven and Valencia (2020) and reflect episodes of systemic banking, currency, and debt crises; natural disasters resulting in damage equivalent to at least 2 percent of GDP are from EM-DAT. ***, **, * indicate statistical significance at the 1, 5, and 10 percent level, respectively.

recessions (Calderon and Didier 2009; Loungani and Razin 2001). This effect can also be attributed to "fire-sale FDI," or a surge in FDI inflows around crises, as liquidity constraints for domestic firms lead to an increase in foreign acquisitions when asset values deteriorate (Krugman 1998). However, the latter effects are less relevant for EMDEs, which have only a small share of total FDI inflows in the form of M&A. [c]

However, financial crises are accompanied by much greater declines in FDI flows to low-income countries (LICs), which generally suffer from deeper debt sustainability challenges, shallow financial markets, and lower capacity to manage and mitigate financial risks than other EMDEs (table B3.1.1). FDI growth in LICs drops by over 20 percentage points in the year before and during a financial crisis.

Natural disasters

The event studies do not reveal clear patterns in FDI responses to natural disasters, including climate, biological, and geophysical disasters (figure B3.1.1.F; table B3.1.1). Natural disasters are examined both jointly and individually for each type. The responses of FDI, however, are highly heterogeneous across countries. The analysis suggests that FDI inflows tend to

c. Historically, M&A FDI flows have often been negatively affected by financial crises (Stoddard and Noy 2015). However, the 1997 Asian financial crisis was a notable exception and was associated with a rise of M&A FDI (Acharya, Shin, and Yorulmazer 2011; Aguiar and Gopinath 2005).

BOX 3.1 Dynamics of FDI around adverse events (*continued*)

increase following natural disasters in both advanced economies and EMDEs. This effect is associated with large geophysical disasters and may be related to rising demand for rebuilding after such disasters—a market opportunity that encourages foreign capital inflows (similar findings are reported in Neise et al. 2022).

Conclusion

Recessions are associated with a sharp decline in FDI inflows in both advanced economies and EMDEs. While FDI flows to advanced economies tend to recover relatively quickly after recessions, the adverse effects on FDI growth in EMDEs are more prolonged. Financial crises and recessions tend to produce particularly strong negative effects on the growth of FDI inflows to LICs. Given the importance of FDI for growth in many EMDEs, the results highlight the need to strengthen domestic policies to foster resilience to shocks and curtail the risks of FDI retrenchments during periods of economic downturns and crises. LICs are particularly vulnerable to adverse shocks with limited capacity to address them, and therefore require financial and technical support from the global community to mitigate these challenges effectively.

about one-third in 2014-18 to almost one-half in 2019-23. However, the shift to services in FDI tends to be more beneficial for larger and more competitive EMDEs than for less developed countries that find it more challenging to capture the benefits of technology spillovers and upgrading of the production processes that come with FDI (UNCTAD 2024b). From a labor market perspective, the services sector tends to employ workers with higher skill levels than those in manufacturing or agriculture (World Bank 2024e). Therefore, it is important for EMDEs to strengthen their human capital development to take advantage of the structural shift of FDI toward services and ensure it is conducive to productivity growth and creation of better-paying jobs.

Within the services sector, the largest share of FDI in EMDEs during 2019-23 was in business activities—about one-third of the total (figure 3.5.B). Financial services accounted for about one-fifth, followed by trade and information and communications technology (ICT) services (nearly one-seventh each). Within manufacturing, the largest FDI inflows were in motor vehicle production (about one-fifth of FDI inflows into manufacturing), with food, electrical, metal, and petroleum products each accounting for about one-tenth (figure 3.5.C). In the primary sector associated with natural resource extraction, most FDI inflows were in mining and quarrying (figure 3.5.D).

Macroeconomic effects of FDI

Policy makers in EMDEs have commonly viewed FDI as an important source of economic growth and development, providing financing for domestic capital formation, technological spillovers, and jobs (Alfaro and Chen 2018; UNCTAD 2001). Therefore, the weakening of FDI inflows is concerning, especially in light of EMDEs' mounting investment needs to address infrastructure gaps and meet key development goals.

The growing focus of policy makers on climate change, poverty, and inequality has triggered additional policy interest in the potential benefits of FDI associated with the transfer of green technologies and socially responsible corporate practices. Although theoretical considerations point to a wide range of benefits of FDI, the evidence shown in empirical literature is mixed. This section examines the evidence on the macroeconomic effects of FDI, outlining transmission channels, synthesizing the literature, and reporting new empirical analysis of the impact of FDI on output.

Transmission channels

FDI entails a long-term ownership relationship between a *foreign direct investor* in the source

economy and a *foreign direct investment enterprise* in the recipient economy. This lasting economic link enables a range of effects on the enterprise receiving FDI, many of which extend to the rest of the host economy. The strength of the spillovers depends in part on the willingness of the FDI enterprise to transfer the benefits it acquires from the foreign direct investor—corporate know-how and other competitive advantages—to local firms in the recipient economy. It also depends on the capacity of the domestic economy to absorb such spillovers. These effects work through the following transmission channels.

Effects on the foreign direct investment enterprise

A foreign direct investor—typically an MNE—can expand the productive capacity of its foreign direct investment enterprise by helping it accumulate capital, create jobs, and accelerate productivity improvements.[7] Among these channels, transfers of environmentally friendly technologies and superior safety standards are increasingly important for sustainable development. Positive effects through these channels tend to be stronger for vertical FDI—the type of FDI that occurs within a value-added chain and is aimed at improving production efficiency—than for horizontal FDI, which takes place in the same industry and is aimed at expanding market access (Javorcik 2004; UNCTAD 2001).

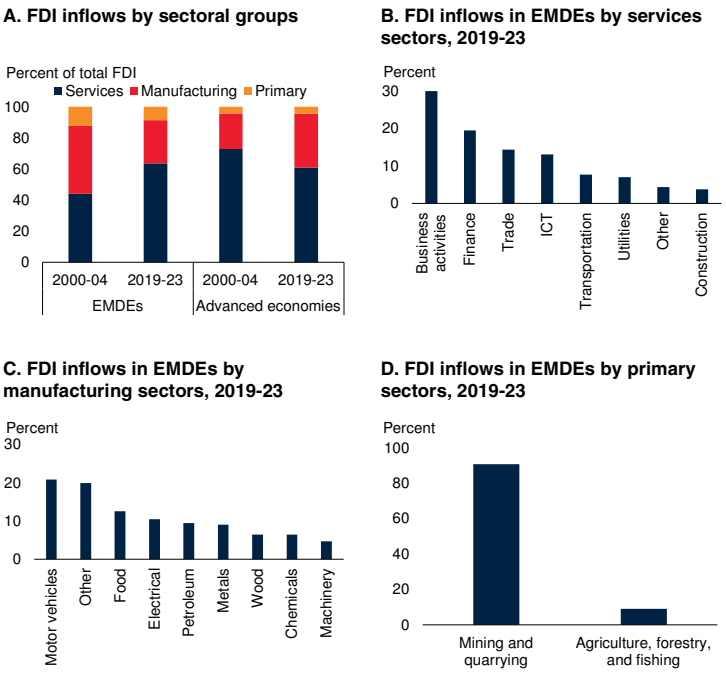
Foreign-owned firms generally have greater capacity than domestic firms to access international cross-border production networks in both upstream and downstream industries, as well as final goods markets. MNEs can leverage access to resources, efficiency-enhancing innovations, and economies of scale across the world economy via trade, financial, and communications networks. Integration into cross-border production and supply chains can be particularly important for economies with small domestic markets and less competitive private sectors. In this regard, FDI inflows also provide signaling effects, demonstrating the commercial viability of investing in a given country or sector.[8]

Technology and knowledge spillovers

Positive spillovers to domestically owned firms may occur as they acquire more advanced technologies from FDI enterprises (Blalock and Gertler 2008; Ivarsson and Alvstam 2005). Similarly, domestic firms may improve their business processes and productivity by adopting

FIGURE 3.5 Sectoral FDI trends

In both advanced economies and EMDEs, about 65 percent of FDI inflows in 2019-23 went to the services sector. For EMDEs, this was almost 20 percentage points higher than in 2000-04. Within services, the largest share of FDI in EMDEs goes to business activities. Within manufacturing, the largest share of FDI inflows is directed to motor vehicle production, and within the primary sector, most FDI inflows go to mining and quarrying.



Sources: UNCTAD; World Bank.
Note: EMDEs = emerging market and developing economies; ICT = information and communication technology.
A. Stacked bars show sectoral FDI shares in total FDI for the period indicated. Sample includes 32 advanced economies and 86 EMDEs.
B.-D. Sample includes up to 97 EMDEs.

[7] For details, see Alfaro (2017); Amighini, McMillan, and Sanfilippo (2017); Hale and Xu (2016); Kose, Prasad, and Terrones (2009); and Mercer-Blackman, Xiang, and Khan (2021).

[8] On the relationship between FDI and global value chains, see Adarov and Stehrer (2021), Farole and Winkler (2014), and Qiang, Liu, and Steenbergen (2021). For the role of FDI in improving access to final goods markets see Ekholm, Forslid, and Markusen (2007), Tintelnot (2017), and World Bank (2020).

the management practices and organizational know-how of foreign-owned firms to remain competitive (Fu 2011). Domestic sectors also benefit from efficiency and productivity spillovers from the outsourcing of activities by foreign-owned firms through value-added chains. In EMDEs, greenfield FDI has positive productivity spillovers, particularly to domestic firms in upstream sectors (Ahn, Aiyar, and Presbitero 2024).

Labor market spillovers

Human capital gains may extend beyond the foreign direct investment enterprise as workers who have gained experience in foreign-owned firms move to domestic companies, further boosting labor productivity in the recipient economy. Additionally, economic activity by foreign-owned firms generally helps to create new jobs, although the net effect on employment may be negative if competition from foreign firms crowds out jobs in domestic firms or if efficiency gains lead to redundancies. Jobs created via FDI tend to pay higher wages, while providing more training, although some studies suggest that a "race to the bottom" in labor standards is associated with FDI.[9]

Demand effects and access to value chains by domestic companies

Local sourcing by foreign-owned firms benefits domestic suppliers and boosts aggregate demand in the recipient economy (Javorcik 2004). FDI may facilitate access by domestic firms to international production networks and foreign markets. This transformational impact may also include the provision of services such as digital connectivity and transport infrastructure supporting the recipient economy at large (World Economic Forum 2020).

Competitive pressures

Foreign investor firms are generally more efficient than domestic ones and are likely to add to competitive pressures in domestic markets. This may stimulate productivity improvements by domestic firms but may also crowd out economic activity if less efficient domestic firms are unable to survive the increased competition (Alfaro and Chen 2018; Fons-Rosen et al. 2017; World Bank 2018). Greater competitive pressure in the recipient economy may also lead to second-order effects, such as expanding the variety and affordability of goods and services for domestic firms and households.

Macroeconomic and geopolitical risks

Large cross-border financial flows may induce currency volatility, balance of payments pressures, and contribute to financial asset bubbles. However, these risks are more relevant to portfolio investment than to FDI. Excessive reliance on foreign investment and the political influence that MNEs may wield as a result can also be concerns, particularly in recipient countries with large inward FDI stocks. Access by foreign firms to strategic domestic assets and sectors via FDI has increasingly fueled anxieties related to national security considerations and supply chain resilience (IMF 2023a; UNCTAD 2023; World Bank 2023c). These concerns have intensified re-shoring, friend-shoring, and global economic fragmentation.

Through these channels, FDI can also facilitate domestic private capital mobilization in recipient economies, beyond the private long-term capital that MNEs bring through new investment and retained earnings (Amighini, McMillan, and Sanfilippo 2017). In particular, foreign firms can stimulate economic activity in several ways. They help improve infrastructure—especially in countries that lack the resources to finance such investments themselves. They also provide goods and services to local businesses and generate demand for their output through upstream and downstream value-added linkages. Together, these effects can encourage greater domestic investment. Increased competitive pressures induced by foreign-owned firms also encourage domestic businesses to invest more. FDI inflows also provide a signal about profitable investment opportunities that may encourage additional private investment by both domestic and foreign investors.

[9] For labor market benefits from FDI, see Javorcik (2015) and Markusen and Trofimenko (2009). For labor market risks of FDI, see Hijzen et al. (2013) and Messerschmidt and Janz (2023).

The wide range of direct effects and spillovers from FDI can help EMDEs address pressing developmental challenges and accelerate progress toward key development goals. FDI can be instrumental in helping recipient economies address poverty and inequality challenges. It does so by facilitating job creation, human capital improvements that raise the productivity of domestic labor, and enhancing access to goods and services—especially in rural areas and for disadvantaged communities. These dynamics are particularly important for LICs, which face deeper structural challenges and limited public and private investment capacity. Empirical work suggests that the strength of these positive effects also depends on institutional quality and the level of economic development in the recipient country (Aloui, Hamdaoui, and Maktouf 2024; Huang, Sim, and Zhao 2020).

FDI can also improve the economic participation of women—by transmitting best practices on talent allocation to the recipient economy, providing women with job opportunities, and bridging pay gaps. Foreign affiliates of MNEs tend to have a greater share of female employees than domestic firms. That may reflect a greater tendency among MNEs to implement non-discrimination policies in hiring, equal pay, promotion, training, and maternity leave. However, domestic legal and regulatory systems play an important role for how effectively MNEs contribute to gender equality and the effects are often greater for low- and mid-level jobs compared to higher-level positions.[10]

In addition, FDI can support the energy transition and climate change adaptation in EMDEs by providing capital for sustainable projects and climate-resilient infrastructure, and by transferring environmentally friendly technologies and business practices.

Impact of FDI on economic growth

Empirical studies of the impact of FDI on economic growth in EMDEs show mixed results—the estimates in most studies suggest positive effects of FDI, but the magnitudes of these effects vary considerably and are often only weakly statistically significant. For instance, a 1 percentage point increase in FDI-to-GDP ratio is found to be associated with an increase in per capita GDP growth of about 0.7 percentage point in Borensztein, De Gregorio and Lee (1998) and about 0.5 in Bengoa and Sanchez-Robles (2003). Other studies reported smaller effects—reaching about 0.4 percentage point (Alguacil, Cuadro, and Orts 2011; Alfaro et al. 2004) or 0.2 percentage point (Makki and Somwaru 2004) in response to an equivalent increase in the FDI-to-GDP ratio. Previous summaries of the empirical literature on FDI and economic growth have noted lack of consensus in the findings (Kose et al. 2009; Kose and Ohnsorge 2023).

The wide dispersion of estimated effects may be attributed to differences in the samples examined and the structural characteristics of the recipient economies that influence the growth effects of FDI. For instance, financial development, human capital, and institutional quality are factors found to be important in determining the effects of FDI.[11]

The extent to which structural characteristics affect the FDI-growth relationship varies across countries and over time. For instance, many studies have found that financial development has facilitated the growth effects of FDI, but this relationship may have weakened over time (Benetrix, Pallan, and Panizza 2022). Deeper and more efficient financial markets are likely to facilitate the funding of domestic firms that supply foreign firms with inputs. Nevertheless, the rapid growth of financial markets can also lead to an increased incidence of financial crises, dampening the growth benefits of FDI (Osei and Kim 2020).

The mode of entry may also matter, with greenfield FDI having greater growth effects than

[10] For details on FDI and the economic participation of women, see Heckl, Lennon, and Schneebaum (2025), Montinari (2023), and UNCTAD (2021).

[11] For the role of institutional quality, see Alguacil, Cuadros, and Orts (2011) and Driffield and Jones (2013). For the implications of human capital, see Bengoa and Sanchez-Robles (2003), Borensztein, De Gregorio, and Lee (1998), and Wang and Wong (2011). For the role of financial development, see Alfaro et al. (2004) and Azman-Saini, Law, and Ahmed (2010).

M&A FDI (Harms and Méon 2018; Luu 2016). However, some firm-level studies have found positive effects of M&A on productivity, fixed capital upgrading, and job creation in certain countries. For example, Bircan (2019) found that productivity in manufacturing firms in Türkiye improved after their acquisition by MNEs. Similarly, Ragoussis (2020) reported that wages increased in acquired enterprises in a sample of six EMDEs.

Growth effects of FDI tend to vary across recipient sectors. FDI in the manufacturing sector, especially in high-tech, capital-intensive, and high-skill industries, has been found to induce strong growth effects via increases in productivity, employment, and investment. The output effect of FDI in the services sector has been found to be less clear-cut, with some studies reporting insignificant or even negative impacts. This may be related to the prevalence of market-seeking M&A FDI in this sector. Likewise, the effects of FDI in the primary sector on growth have been found to be mostly negligible or, in some cases, negative. These findings may reflect the generally weaker economic linkages between the primary sector and the rest of the economy, lower technological spillovers between foreign and domestic firms compared to other sectors, and barriers to entry related to greater economies of scale in the primary sector.[12]

New empirical evidence

The mixed evidence reported in past empirical work on the FDI-growth relationship reflects significant heterogeneity in effects across countries that cannot be precisely estimated, as well as other methodological caveats. Conventional panel data estimation strategies often fail to take account of several issues—such as the two-way causality between FDI and growth, heterogeneity across countries, and the dynamic nature of the effects. To address these issues, a heterogeneous panel VAR framework (Pedroni 2013) is used to quantify the effects of FDI on output growth in EMDEs based on a sample of 74 countries over the period 1995-2019. The detailed results of this analysis are reported in box 3.2.

In summary, the analysis finds a generally positive and statistically significant effect of FDI inflows on output in recipient economies. For the average EMDE, a 10-percent increase in real net FDI inflows leads to an increase in real GDP of 0.15 percent in the same year. The effect increases further to 0.3 percent after three years.

The effects of FDI, however, vary considerably across countries. In the 25 percent of countries with the largest effects, output increases by about 0.8 percent after three years in response to a 10-percent increase in FDI inflows. But output effects of FDI are significantly weaker in LICs than in other EMDEs. This heterogeneity is consistent with the results reported in previous empirical work and is generally attributed to differences in the absorptive capacity of recipient economies. These, in turn, are linked to such characteristics as low institutional quality, weak human capital development, shallow financial markets, and other factors (Alfaro et al. 2004; Borensztein, De Gregorio, and Lee 1998). The results show that some country-specific characteristics amplify these effects. In particular, countries with the largest output effects of FDI tend to have stronger institutions, better human capital development, lower levels of economic informality, and higher trade openness, on average.

FDI, the energy transition, and climate change

FDI can play an important role in supporting the energy transition and addressing climate change. In fact, the share of greenfield FDI involving investment in environmental technologies has been rising in recent years in both advanced economies and EMDEs (figure 3.6.A). FDI can facilitate the adoption of environmentally friendly technologies and business practices that contribute to the energy transition. It can also help to close investment gaps related to climate change issues.

[12] For the effects of FDI in the manufacturing, primary, and services sectors see Alfaro (2003), Alfaro and Charlton (2013), Aykut and Sayek (2007), Chakraborty and Nunnenkamp (2008), and Cipollina et al. (2012).

BOX 3.2 Impact of FDI on economic growth: Heterogeneous PVAR analysis

The effects of FDI on output growth are not clear-cut, as the literature to date does not provide consistent evidence. An empirical framework that accounts for the shortcomings of conventional estimations suggests that FDI inflows tend to have a positive impact on output in emerging market and developing economies (EMDEs). In the average EMDE, a 10-percent increase in real net FDI inflows is followed by a 0.3 percent increase in the level of real GDP after three years. Countries with lower economic informality, higher trade openness, better human capital development, and stronger institutions tend to have larger output effects of FDI—up to 0.8 percent over the same period.

Introduction

The empirical literature presents mixed evidence on the effects of FDI on output growth. These results are sensitive to the country composition and sample period examined, and have been found to depend on recipient economy conditions such as human capital, institutional quality, and financial development (Alfaro et al. 2004; Borensztein, De Gregorio, and Lee 1998; Jude and Levieuge 2017).

Conventional panel data estimation frameworks generally do not address several empirical challenges in assessing the growth effects of FDI: (1) broad heterogeneity of the macroeconomic effects of FDI across countries—aggregate or partially pooled estimates tend to be statistically insignificant as a result; (2) two-way causality between FDI and output growth, which may lead to inconsistent estimates; and (3) heterogeneous time horizons over which the effects of FDI may manifest.

To address these issues, this box employs a heterogeneous panel vector autoregressive (PVAR) framework developed by Pedroni (2013) to study the relationship between FDI and output growth. This approach makes it possible to incorporate fully endogenous covariates and to examine the mutual impacts of these variables over time, accounting for the heterogeneity of responses across countries. The analysis is based on strongly balanced annual data for 74 EMDEs spanning the period 1995-2019 (annex 3.1 provides methodological details). This box addresses the following questions:

- What are the effects of FDI inflows on output growth?
- How do EMDEs differ in terms of the growth impacts of FDI?
- What country characteristics help increase the positive effects of FDI?

Impact of FDI on economic growth

The model yields cumulative impulse responses for each country in the sample. The results suggest that for most EMDEs, FDI inflows have a positive and statistically significant impact on output. On average, a 10-percent increase in real net FDI inflows is associated with an increase in real GDP of 0.15 percent in the same year, peaking after three years and flattening out afterward at about 0.3 percent (figure B3.2.1.A).[a] In most countries, the effects are positive and significant. In the quartile of countries with the largest effects, a positive FDI shock leads to an increase in output of 0.8 percent after three years. However, the analysis also shows that for about a quarter of countries in the sample the positive effects are absent or insignificant.

These results highlight the highly heterogeneous impacts of FDI on output growth across countries, consolidating a wide variety of estimates in past empirical studies, which reported positive, negative, and insignificant output effects of FDI. Previous literature has attributed such variation to differences in the absorptive capacity of the recipient economy, the sectoral composition of FDI, and the mode of entry (Alfaro 2003; Alfaro et al. 2004; Aykut and Sayek 2007; Borensztein, De Gregorio, and Lee 1998; Harms and Méon 2018).

Country characteristics that impact the effects of FDI

Further analysis explores the origins of heterogeneity and identifies common patterns in the effects of FDI conditional on various structural characteristics of recipient economies. Separating the sample of EMDEs

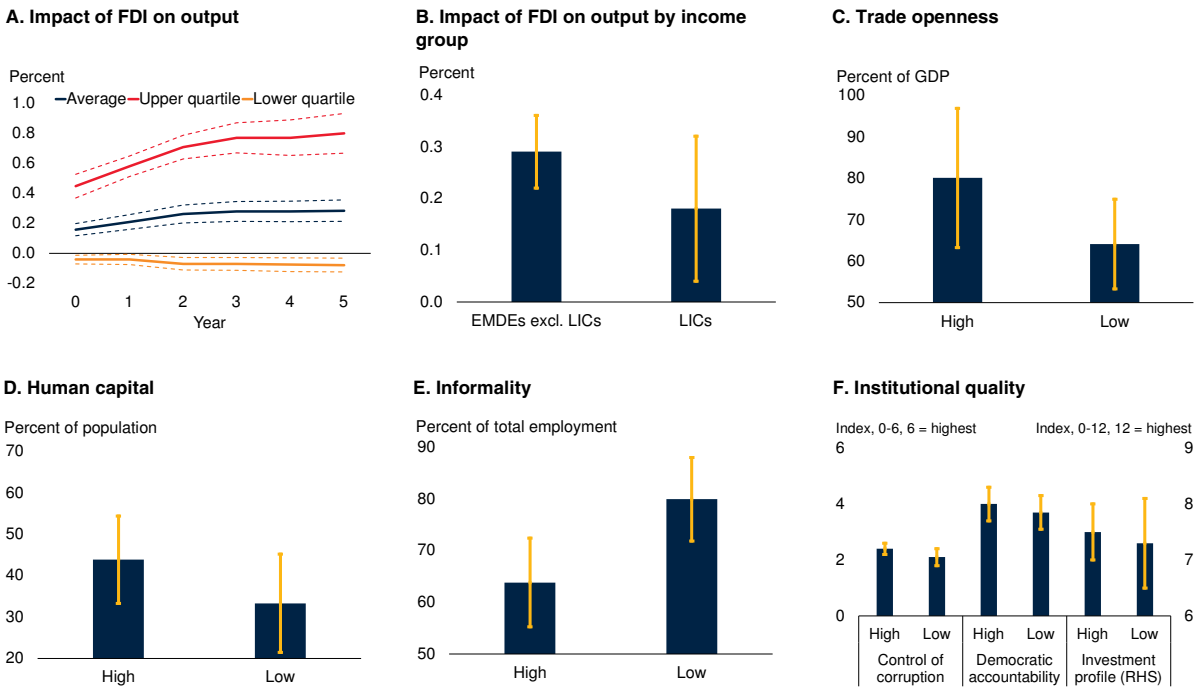
Note: This box was prepared by Amat Adarov, Hayley Pallan, and Peter Pedroni.

a. The magnitude of the FDI shock (10 percent) roughly corresponds to the average annual growth of real net FDI inflows for the EMDE sample used in the analysis, excluding outliers. In the median EMDE, FDI growth is about 5 percent, with a standard deviation of 38.

BOX 3.2 Impact of FDI on economic growth: Heterogeneous PVAR analysis (*continued*)

FIGURE B3.2.1 Macroeconomic impacts of FDI inflows in EMDEs

A 10-percent increase in real net FDI inflows is associated with a 0.15 percent increase in real GDP in the same year, peaking at 0.3 percent after three years. The output effects of FDI are much weaker in LICs than in other EMDEs. Countries with greater growth effects from FDI inflows tend to have better institutions, lower levels of economic informality, higher trade openness, and better human capital development.



Source: PRS Group's International Country Risk Guide (ICRG); World Bank.

Note: EMDEs = emerging market and developing economies; LICs = low-income countries; RHS = right-hand side. Sample includes 74 EMDEs.

A. Impulse response functions from the baseline heterogeneous PVAR specification (bivariate model with short-run orthogonalization). Solid lines show the average GDP responses to an FDI inflow shock for the full EMDE sample and for the upper and lower quartile of the distribution of impulse responses. Dashed lines show associated 90-percent confidence bands.

B. Bars show the GDP response to an FDI inflows shock three years after impact. Whiskers indicate 90 percent confidence intervals. Sample includes 74 EMDEs of which 11 are LICs.

C.-F. "High FDI impact" and "low FDI impact" samples consist of countries with estimated GDP response to an FDI shock above the 75th percentile and below the 25th percentile, respectively. Bars indicate the averages and whiskers represent 90-percent confidence intervals. "Trade openness" is the sum of exports and imports (in percent of GDP), "human capital" is the share of the population with completed secondary education, and "informality" refers to informal employment (in percent of total employment). Control of corruption, democratic accountability, and investment profile are ICRG indexes. A higher index value is associated with better institutional quality.

into low-income countries (LICs) and higher income EMDEs suggests that the growth impacts of FDI are significantly weaker in LICs (figure B3.2.1.B). A review of the properties of sub-samples with strong and weak responses of output to FDI—defined as the lower and upper quartiles of the estimated coefficient—points to certain structural characteristics that magnify the positive effects of FDI (figures B3.2.1.C-F; additional results are reported in table B3.2.1).

In particular, better institutions—such as a sound business environment, control of corruption, and strong regulatory quality—amplify the growth effects of FDI. Trade openness (measured as the sum of exports and imports as a percent of GDP) is higher by 16 percentage points in the high-FDI impact sample compared to the low-FDI impact sample. Educational attainment also matters: the share of the population with completed secondary education is higher by 10 percentage points in the high-FDI impact countries. Countries with high informality tend to have lower returns to FDI. In the low-FDI impact sample informal employment (as a share of total employment) is higher by about 16 percentage points compared to the high-

BOX 3.2 Impact of FDI on economic growth: Heterogeneous PVAR analysis (*continued*)

impact sample. Countries with larger output effects also tend to have a greater intensity in greenfield FDI, confirming the findings in previous literature (Harms and Méon 2018).

Conclusion

The analysis presented in this box suggests that FDI has a positive and statistically significant effect on economic growth in the average EMDE. The magnitudes of these effects, however, vary substantially across the sample, which helps explain inconclusive results reported in the existing empirical literature. Structural differences between countries with a high impact of FDI on output and those with a low FDI impact help explain these diverse effects and provide support for reforms that improve the quality of institutions, reduce economic informality, facilitate human capital development, and foster economic integration.

TABLE B3.2.1 Characteristics of countries with high and low growth effects of FDI

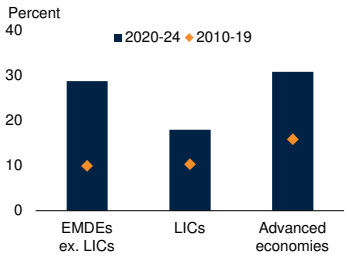
	Mean value for samples with high and low FDI impact on growth			Descriptive statistics for full EMDE sample			
	High FDI impact sample (A)	Low FDI impact sample (B)	Difference between samples A and B	Mean	Min	Max	Standard deviation
A. Macroeconomic conditions							
Private credit (percent of GDP)	36.85	34.61	2.24	35.90	4.39	132.26	28.64
Trade openness (percent of GDP)	80.05	64.11	15.94	73.94	22.37	202.36	35.86
B. Human capital development							
Percent of population with secondary education	43.83	33.31	10.52	37.69	2.51	89.57	26.19
Percent of population with tertiary education	16.12	10.68	5.44	14.40	0.20	63.15	13.79
C. Institutional quality							
Control of corruption index, ICRG	2.43	2.08	0.35	2.30	0.92	4.09	0.57
Investment profile index, ICRG	7.54	7.29	0.25	7.50	2.95	10.43	1.38
Democratic accountability index, ICRG	4.01	3.67	0.34	3.71	1.08	5.83	1.21
Socioeconomic conditions index, ICRG	4.68	4.28	0.40	4.62	0.74	8.89	1.56
Business regulatory environment index, CPIA	3.19	3.13	0.06	3.31	2.00	4.10	0.52
Property rights index, CPIA	2.90	2.85	0.05	2.96	1.57	4.00	0.57
D. Informal economy							
Informal employment (percent of employment)	63.79	79.87	-16.08	74.91	37.85	95.67	17.04
Informal output (percent of GDP)	36.48	41.88	-5.40	37.97	12.17	59.86	10.42
E. FDI entry mode							
Greenfield FDI (percent of GDP)	6.59	4.62	1.97	6.40	0.89	27.93	6.04
M&A FDI (percent of GDP)	1.29	0.62	0.67	0.82	0.01	14.06	1.74

Sources: PRS Group's International Country Risk Guide (ICRG); World Bank Country Policy and Institutional Assessment (CPIA) dataset.
Note: FDI refers to real net FDI inflows. "High FDI impact" and "low FDI impact" samples consist of countries with the estimated GDP response to an FDI shock above the 75th percentile and below the 25th percentile, respectively. The column "Difference between samples A and B" reports the difference between the sample means of the high- and the low-FDI impact groups for each variable. Sample includes 74 EMDEs; each quartile includes 18 EMDEs. Higher values of the institutional quality indexes reflect better institutional outcomes.

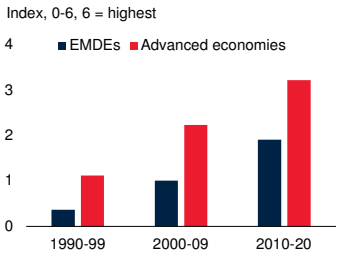
FIGURE 3.6 FDI, the energy transition, and climate change

The share of greenfield FDI projects involving investment in the environmental technology sector has increased in recent years, alongside an increase in the stringency of environmental policies. In EMDEs, environmental policy stringency is positively correlated with FDI inflows. FDI restrictions in climate-sensitive sectors are generally greater in EMDEs than in advanced economies.

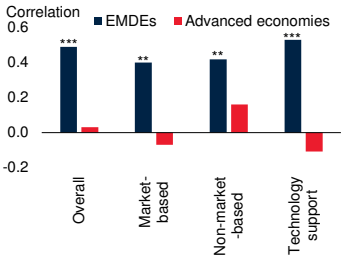
A. Share of FDI capital expenditures in the environmental technology sector



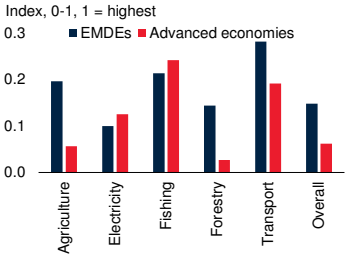
B. Environmental policy stringency



C. Correlation between environmental policy stringency and FDI inflows as a share of GDP



D. FDI restrictiveness in climate-sensitive sectors



Sources: fDi Markets; OECD; World Bank.

Note: EMDEs = emerging market and developing economies; LICs = low-income countries.

A. Capital expenditures associated with FDI announcements. Environmental technology sectors are defined by fDi Markets and include electric vehicles, wind technologies, and other sectors that are intensive in environmental technologies.

B.C. The environmental policy stringency (EPS) index incorporates information on market-based, non-market-based, and technology support policies (Botta and Kozluk 2014; Kruse et al. 2022). Sample includes 24 advanced economies and 9 EMDEs between 1990-2020.

C. Stars denote statistically significant correlations at 1 percent (***) or 5 percent (**) levels.

D. Sample includes 32 advanced economies and 51 EMDEs. Averages for 2010-20.

Linkages between FDI and the environment

FDI inflows can exert both positive and negative effects on the environment in a recipient economy. The outcome depends on the recipient economy's environmental regulations and how they influence the investment incentives of MNEs. According to the pollution haven hypothesis, foreign investors, especially those involved in highly polluting activities, are drawn to countries with more lenient environmental regulations. This impedes the energy transition and exacerbates environmental problems. By contrast, the pollution halo hypothesis suggests that FDI can promote the energy transition and environmental sustainability in the recipient economy through the transfer of environmentally friendly technologies and capital by MNEs, improvements in the energy efficiency in business activities, and the introduction of renewable energy technologies with positive spillovers to domestic enterprises (Cole, Elliott, and Zhang 2017; Copeland 2008).

Both the "halo" and "haven" effects have influenced FDI location decisions, and empirical studies to date do not provide clear evidence supporting the dominance of either hypothesis. Some studies find that stringent environmental regulations tend to deter FDI associated with high pollution, while others reported only a weak impact of environmental laws on FDI inflow.[13] However, more recent analysis shows that FDI specifically related to environmental technologies, such as renewable energy, has been boosted by stronger climate policies in recipient economies (Jaumotte et al. 2024; Pienknagura 2024).

Several empirical studies suggest that foreign-owned enterprises tend to produce less pollution than domestic firms, supporting the pollution halo hypothesis (Eskeland and Harrison 2003; Xiahou, Springer, and Mendelsohn 2022). In a meta-analysis of 65 studies, Demena and Afesorgbor (2020) reported a generally negative relationship between FDI and environmental emissions. However, some studies focusing on individual countries or regions also reported a positive association between FDI and emissions (Abdo et al. 2020; Acharyya 2009; Blanco, Gonzalez, and Ruiz 2013).

Transmission channels

The mixed empirical evidence on the environmental effects of FDI may be related to differences in the strength of various transmission channels, including the following:

[13] Negative effects of environmental regulations on FDI are found in Bialek and Weichenrieder (2015), Chung (2014), and Mulatu (2017). See also a related discussion of "investment leakage"—the loss of industrial production due to relocation to countries with less stringent environmental standards in De Beule, Schoubben, Struyfs (2022). Javorcik and Wei (2003) and Poelhekke and Van der Ploeg (2015) found a weak relationship between environmental laws and FDI.

Implementation of green technologies

Foreign direct investors can influence the decisions of their foreign subsidiaries, branches, and affiliated enterprises, to invest in green production processes. This typically involves spending on environmentally friendly technologies, business operations, machinery, and equipment (Balaguer, Cuadros, and García-Quevedo 2023). FDI may facilitate greater specialization in green technologies in recipient economies (Castellani et al. 2022).

Transition to renewable energy

FDI can promote a shift in energy consumption toward renewables through technological spillovers that promote more energy-efficient practices (Doytch and Narayan 2016). Recent analysis finds that FDI has been shifting toward activities that consume renewable energy and away from the use of fossil fuels (Knutsson and Flores 2022). Investments that involve renewable energy tend to outperform those reliant on fossil fuels in terms of risk and return, and the cost of capital tends to be lower for renewable energy companies than for fossil fuel companies (IEA and Centre for Climate Finance & Investment 2021). The transition to renewable energy can help mitigate economic volatility and uncertainty driven by reliance on fossil fuels and elevated commodity market volatility. Amid the accelerating transition to renewable energy, FDI inflows are likely to increase to countries that supply critical minerals essential for the energy transition (Hund et al. 2020).

Energy efficiency

Foreign-owned firms tend to be more energy efficient than their domestic counterparts. For instance, using sectoral analysis for a global sample of countries, Borga et al. (2022) showed that the carbon intensity of foreign-owned firms is lower than that of domestic firms. Brucal, Javorcik, and Love (2019) came to similar conclusions regarding the energy intensity of manufacturing plants in Indonesia.

Green management strategies

Foreign-owned firms tend to use environmental management systems more intensively than domestic companies (Albornoz et al. 2009; Kannen, Semrau, and Steglich 2021). Firm-level analysis using data from World Bank Enterprise Surveys finds that foreign companies are more likely to pursue green management strategies and prioritize environmental concerns in their operations (Kannen, Semrau, and Steglich 2021). Furthermore, a larger share of foreign-owned firms than domestic firms tend to meet various environmental goals, including the use of strategic objectives and the monitoring of energy consumption (OECD 2022). MNEs may also have reputational incentives to locate their operations in countries with strict environmental regulations (Poelhekke and Van der Ploeg 2015).

Climate change adaptation

FDI can be an important source of funding to help EMDEs address the rising challenges of climate change—especially with respect to meeting climate adaptation needs. The current lack of FDI directed toward climate mitigation and adaptation needs is associated with the uncertain investment environment, large costs, and the long horizons of climate-related investment projects (Botwright and Stephenson 2023). Unclear country-level plans for adaptation, the scarcity of information on climate risks and costs, and insufficient risk reduction incentives for private investors also tend to limit private investment in climate adaptation (World Bank 2021a).[14]

Nature preservation

The continued decline in biodiversity has massive adverse consequences—by some estimates, the collapse of ecosystems could result in a 2.3 percent annual decline in global real GDP by 2030 (World Bank 2021b). FDI can help to finance projects focused on nature preservation and implement sustainable practices (Karadima 2021). At the same time, the ecological footprint associated with FDI can be significant, particularly in the extractive and manufacturing sectors

[14] Such barriers weaken private sector spending on climate adaptation, estimated to have been about 1.6 percent of total spending on climate adaptation in 2017-18 (World Bank 2021a).

(Doytch, Ashraf, and Nguyen 2024). This underscores the importance of environmental standards and regulations to mitigate these risks and promote environmentally friendly FDI.

The strength of these transmission channels and the net effects of FDI on the energy transition and environmental sustainability depend on country characteristics and may also vary by sector (Borga et al. 2022; Doytch, Ashraf, and Nguyen 2024; Kannen, Semrau, and Steglich 2021). Thus, the positive environmental effects of FDI have been found to be stronger in countries with higher income levels, better human capital, and stronger institutions, particularly those with less corruption (Cole, Elliott, and Fredriksson 2006; Lan, Kakinaka, and Huang 2012).

Implications for EMDEs

Internationally comparable data on the stringency of environmental policy overtime are limited, especially for developing countries. However, available data for a sample of 24 advanced economies and 9 EMDEs since the 1990s indicate that environmental policy has generally become more stringent (figure 3.6.B). Such stringency has been significantly positively correlated with FDI inflows in EMDEs, although the correlation is weak in advanced economies (figure 3.6.C). Stricter environmental regulations thus do not appear to have discouraged FDI inflows in EMDEs at least in this limited sample of countries. Among environmental policies, technology support policies, such as rules promoting low-carbon research and development expenditures in the public sector and price support for solar and wind technologies, tend to be more strongly correlated with FDI than market-based policies that involve emissions trading schemes or pollution taxes and non-market-based policies implementing hard limits on pollutants.

Many EMDEs are highly vulnerable to climate change, and FDI can provide important financial support toward climate adaptation and mitigation. Certain economic sectors have been identified as more susceptible to the adverse effects of climate change, including agriculture, electricity, fishing, forestry, and transportation.[15] These climate-sensitive sectors also tend to have significant funding gaps for climate change adaptation. To some extent, these gaps could be reduced by FDI. However, regulatory restrictions on FDI in many of these sectors in EMDEs tend to be stronger than in other sectors, as well as stronger than in advanced economies (figure 3.6.D).

Drivers of FDI

As shown in the previous sections, FDI can boost economic growth and development—provided that recipient economies nurture a conducive environment. Especially for LICs, small, and capital-scarce economies, FDI can be an important source of funding, technology spillovers, and improved access to foreign markets. The recent trend toward fragmentation of international trade and investment networks has made EMDEs particularly vulnerable to declines in FDI, underscoring the need to promote and sustain FDI inflows. This section examines the key factors that can foster FDI, drawing on the literature and evidence from new empirical analysis.

Motives for FDI

FDI flows depend on the motives that drive companies based in one country to acquire ownership of productive assets located in another. In brief, *market-seeking* FDI and *export-platform* FDI are driven by the desire of multinational enterprises (MNEs) to gain access to broader international markets for their goods and services. MNEs may also seek to optimize their cross-border production processes and secure access to productive inputs at lower costs, and these aims may drive *efficiency-seeking*, *resource-seeking,* and *strategic asset-seeking* FDI.

Companies may also attempt to mitigate regulatory obstacles to trade and production by engaging in *regulatory-arbitrage* FDI to exploit differences in

[15] For a discussion on the role of FDI in climate adaptation and mitigation, see Botwright and Stephenson (2023), World Economic Forum (2023), and UNCTAD (2022b). For a discussion of climate sensitive sectors, see Lovei (2017), Oh et al. (2019), UNCTAD (2022a), and World Bank (2012).

regulatory frameworks between countries. This includes *tariff-* and *non-tariff-barrier-jumping* FDI. More specifically, FDI can be used to take advantage of a laxer regulatory environment and avoid labor market, financial market, and other regulations or market restrictions. For instance, when import tariff protection or non-tariff barriers are high, MNEs can use FDI to gain access to the recipient market as an alternative to more costly exports (Adarov and Ghodsi 2023; Javorcik and Spatareanu 2005). A particular type of regulatory-arbitrage FDI is *phantom FDI,* which is motivated by MNEs' profit shifting and tax optimization. Such capital flows are often routed through offshore financial centers and shell companies and may not involve any real economic activity in recipient economies (Aykut, Sanghi, and Kosmidou 2017; Damgaard, Elkjaer, and Johannesen 2024).

These corporate motives for FDI are influenced by a wide range of pull and push factors in the recipient and source economies, as well as by global and bilateral factors. Push factors are structural characteristics and macroeconomic conditions in the source country that encourage FDI outflows. Pull factors are characteristics of recipient economies that attract FDI inflows. Bilateral factors refer to the strength of social, political, legal, and economic ties between the source and recipient economies. Global factors—such as global economic growth and financial conditions, commodity market fluctuations, shifts in risk and uncertainty, and other common shocks—also affect FDI flows.

Insights from the literature

Among the push factors that tend to encourage FDI outflows from the source country are its weak growth prospects, macroeconomic risks, political instability, rising production costs, and deterioration of the regulatory environment. On the pull side, some of the main factors boosting FDI inflows are the recipient economy's market size or its proximity to large markets in other countries; the availability of inputs that offer higher productivity at lower costs; financial deepening; better quality of institutions and infrastructure; and a favorable regulatory environment. At the global level, FDI is facilitated by reductions in international transport and communication costs. Shifts in risk perceptions and liquidity may also lead to synchronized cross-border capital flows, forming a global financial cycle. However, the latter is more relevant for portfolio investment than for FDI.[16]

Factors relating to the bilateral ties between FDI source and recipient economies include mutual transaction costs, trade and investment treaties, migration, political relations, information frictions, and regulatory barriers such as FDI screening mechanisms—regulations for authorizing or prohibiting FDI on grounds of national security or strategic policy considerations.[17]

Empirical evidence suggests that the importance of these factors may vary across FDI recipient sectors. For instance, in manufacturing and services, market size and output growth tend to play important roles in driving FDI. Trade openness has been found to matter for FDI in manufacturing, particularly export-oriented sectors.[18] FDI in export-oriented manufacturing sectors is also facilitated by currency depreciation in the recipient economy, as domestic assets become cheaper in foreign currency terms and exports become more competitive (Blonigen 1997; Walsh and Yu 2010). Other pull factors found to encourage FDI, especially in tradable sectors, include financial development, labor market flexibility, and high-quality infrastructure (Kinoshita 2011).

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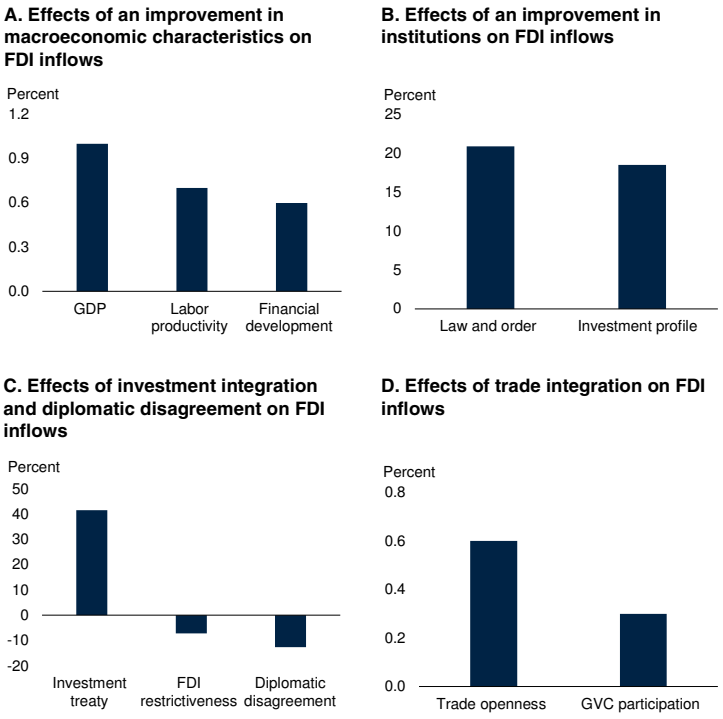
[16] For the implications of financial development for FDI, see Desbordes and Wei (2017); for the role of human capital—Noorbakhsh, Paloni, and Youssef (2001); for institutions—Bailey (2018) and Benassy-Quere, Coupet, and Mayer (2007); and for infrastructure—Mensah and Traore (2024). For a discussion of global financial cycles, see Adarov (2022), Claessens, Kose, and Terrones (2011), and Miranda-Agrippino and Rey (2021).

[17] For the association between trade and FDI, see Adarov and Stehrer (2021), Blanchard et al. (2021), and Blonigen and Piger (2014). The role of geopolitical factors is discussed in Aiyar et al. (2023) and Aiyar and Ohnsorge (2024); regulatory divergence—in Fournier (2015); and migration networks—Kugler and Rapoport (2007). Implications of information frictions related to the familiarity with the investment environment and financial market efficiency for FDI inflows and their persistence are discussed in Khraiche and de Araujo (2021).

[18] See Chen, Geiger, and Fu (2015), Kinoshita (2011), and Makki, Somwaru, and Bolling (2004) for the heterogeneous effects of trade openness, market size, and other country characteristics on sectoral FDI.

FIGURE 3.7 Drivers of FDI

Better macroeconomic conditions and strong institutions are help to attract FDI. International economic integration—including through trade openness, investment treaties, and participation in global value chains—also promotes FDI. By contrast, statutory restrictions on FDI and geopolitical tensions inhibit FDI.



Sources: Bailey, Strezhnev, and Voeten (2017); CEPII; OECD; PRS Group's International Country Risk Guide (ICRG); UNCTAD; World Bank.
Note: The marginal effects are based on gravity model estimates reported in table A3.2.1. Methodology details are reported in annex 3.2. GVC = global value chain.
A. Bars show marginal effects on FDI inflows of a 1-percent increase in real GDP and labor productivity, and a 1-percentage-point increase in the average private credit-to-GDP ratio.
B. Bars show marginal effects on FDI inflows of an increase from the sample median to the top quartile of ICRG law and order and investment profile indexes.
C. Bars show marginal effects on FDI inflows of the existence of an investment treaty with the FDI source country, an increase from the sample median to the top quartile of the FDI restrictiveness index (OECD) and an index measuring diplomatic disagreement with the FDI source country (Bailey, Strezhnev, and Voeten 2017).
D. Bars show marginal effects on FDI inflows of a 1-percentage-point increase in trade openness (sum of exports and imports as a percent of GDP) and GVC participation (value-added trade as a percent of exports).

By contrast, FDI in the primary sector, largely driven by resource-seeking motives, is much less sensitive to macroeconomic conditions in the recipient economy (Walsh and Yu 2010). While the quality of institutions still matters for FDI in the primary sector in general, some studies find that its role has varied across sub-sectors: institutions have little impact on FDI in extractive sectors, but strong institutions that promote democracy and property rights have been beneficial to FDI in agriculture (Campos and Kinoshita 2003; Rygh, Torgersen, and Benito 2022).

New empirical evidence

To assess the key drivers of FDI in a single consistent framework, a structural gravity model is applied to bilateral FDI flows data for a global sample of 188 countries over the period 2000-19. The gravity model—a workhorse empirical tool in international trade and investment analysis—explains FDI flows between any given pair of countries by their economic sizes, geographical distance, structural characteristics, macroeconomic conditions, policy factors, and strength of bilateral linkages and mutual barriers to capital flows (methodological details are provided in annex 3.2).

Macroeconomic factors and structural characteristics

Market size. The results produced by the gravity model show that the market size of the recipient economy, as measured by its GDP, is positively associated with FDI inflows (table A3.2.1). A 1-percent increase in the real GDP of a recipient country is associated with an increase of about 1 percent in FDI inflows (figure 3.7.A).[19] This result is consistent with a meta-analysis of the literature and points to the significance of market-seeking motives underpinning FDI (Blonigen and Piger 2014).

The results also suggest that a recipient economy's proximity to other sizable markets matters, providing evidence of the export-platform FDI motive. FDI inflows increase by about 0.5 percent for every 1-percent increase in the recipient country's surrounding market potential, measured by the aggregate output of other countries weighted by the inverse of their distance to the recipient country. The capacity to bring this type of FDI is particularly beneficial for small economies whose own market size and production capacity make them less attractive as an FDI destination (Ekholm, Forslid, and Markusen 2007).

[19] Since the gravity model uses a non-linear exponential specification, the estimated coefficients of log-transformed variables can be directly interpreted as elasticities, while the marginal effects of non-transformed variables are computed as $100*(e^b - 1)$, where e is the exponent and b is the estimated coefficient from the gravity model. Annex 3.2 provides further details.

Productivity and technological intensity. Higher labor productivity facilitates FDI inflows: a 1-percent increase in labor productivity is associated with an increase in FDI inflows of about 0.7 percent (figure 3.7.A). Moreover, improvements in labor skills and R&D investment in the recipient economy relative to the source country encourage investment inflows from the latter to the former (table A3.2.1). These results suggest that human capital development and technological progress should be among the priorities for EMDEs seeking to boost their FDI inflows.

Financial market development. The analysis shows that countries with better-developed financial markets tend to attract more FDI: an increase in the long-run average private credit-to-GDP ratio of 1 percentage point is associated with an increase in FDI inflows of about 0.6 percent (figure 3.7.A). This is consistent with findings in the literature showing that deep and liquid financial markets reduce the costs of financial transfers between MNEs and their foreign affiliates and business partners, and can thus facilitate FDI (Jude 2019; Mileva 2008).

Other country characteristics. The costs of starting a business and sovereign risk are among the factors that can negatively affect FDI inflows. Both factors affect investors' perceptions of risk-adjusted returns on planned investment, particularly for greenfield investment (Cai, Gan, and Kim 2018). Therefore, elevated debt levels and rising debt-service burdens in many EMDEs constitute serious risks to FDI inflows (World Bank 2024a). The results also highlight the significance of natural resource-seeking motives of FDI, which are important for commodity-exporting EMDEs (table A3.2.1). Large natural resource discoveries can also trigger FDI inflows into sectors other than the primary sector (Toews and Vezina 2022). Although empirical evidence generally suggests that FDI in extractive sectors tends to yield little growth dividend in recipient economies, access to critical minerals needed for the energy transition has gained importance as a motive of FDI (UNCTAD 2024a).

Quality of institutions

Strong institutions are especially important for greenfield FDI—the dominant form of FDI in EMDEs, which is often associated with substantial initial sunk costs and long planning horizons of investment projects. An investor-friendly business environment in the recipient economy is critical for attracting FDI. The results suggest that an improvement in the investment climate or institutional quality from the median to the highest quartile of the global sample tends to boost FDI inflows by up to one-fifth (figure 3.7.B).[20] Likewise, the analysis shows that improvements in other institutional dimensions, such as the quality of the government bureaucracy are conducive to FDI (table A3.2.1).

Economic integration and fragmentation

Investment integration. Investment agreements are found to be associated with a significant boost in FDI: on average, investment treaties tend to increase FDI flows between signatory states by over two-fifths, controlling for other factors (figure 3.7.C). Further, the results indicate that statutory FDI restrictions significantly inhibit FDI flows: tightening FDI restrictions from the median to the highest quartile of the global sample tends to reduce FDI by over 7 percent.[21] These results also corroborate previous findings (Ghosh, Syntetos, and Wang 2012; Mistura and Roulet 2019).

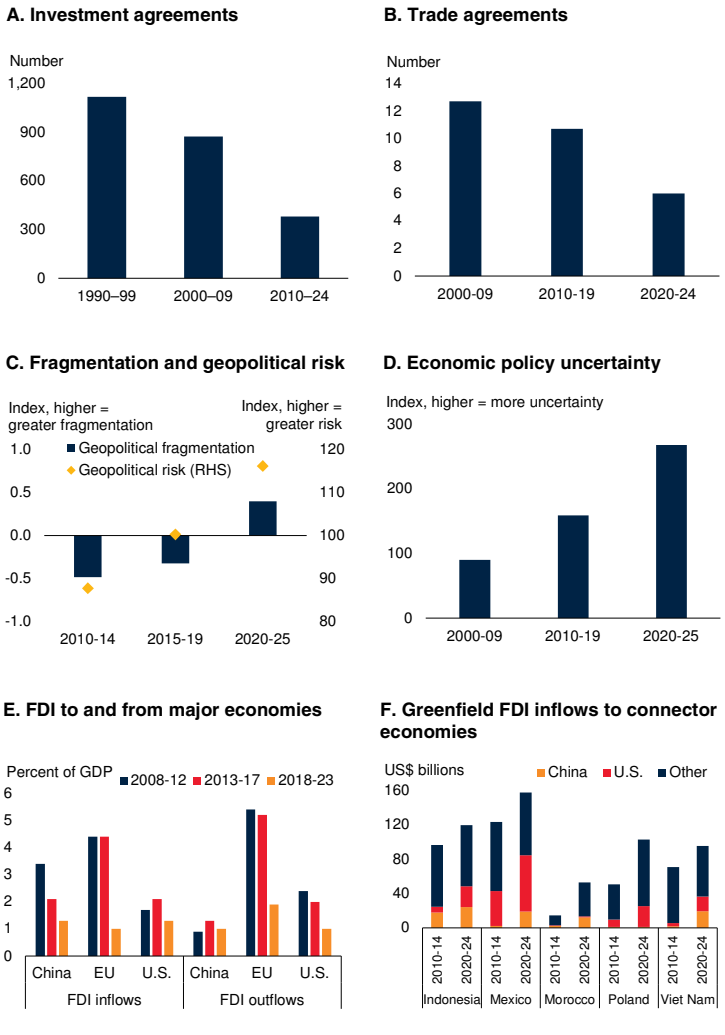
Geopolitical factors. Escalating geopolitical tensions in recent years have undermined progress made in global economic integration and raised the risks of a retrenchment in FDI. To gauge the role of geopolitical factors in determining FDI, the analysis uses the bilateral diplomatic disagreement index constructed by Bailey, Strezhnev, and Voeten (2017) based on the similarity of UN voting patterns by a given pair of countries. The index ranges from 0 to 5, with higher values indicating a greater degree of diplomatic disagreement between pairs of countries. The results

[20] In this exercise, investment climate and institutional quality are measured by the ICRG investment profile and rule of law indexes, respectively. The estimates reported in table A3.2.1 are converted to marginal effects in the context of the sample median and interquartile ranges to ease interpretation.

[21] A tightening of FDI regulations, as measured by the OECD's FDI Restrictiveness index, from the most liberal level in the sample (countries such as Portugal and Slovenia) to the most restrictive level (for instance, Libya), is associated with a decline in FDI inflows by four-fifths.

FIGURE 3.8 Global economic fragmentation

The formation of investment and trade agreements has slowed, while geopolitical risk and policy uncertainty have risen notably in the 2020s. Major economies have experienced a slowdown in their inward and outward FDI between 2013-17 and 2018-23. Connector economies managed to capitalize on the trade and investment reorientation strategies of China and the United States to drive up their FDI inflows from one or both of these countries in recent years.



Sources: Baker, Bloom, and Davis (2016); Caldara and Iacoviello (2022); fDi Markets; Fernández-Villaverde, Mineyama, and Song (2024); UNCTAD; World Bank; World Trade Organization.
Note: EU = European Union; RHS = right-hand side; U.S. = United States.
A. Data include new international investment agreements that are in force as of April 2025.
B. Average number of new trade agreements in force per year, calculated through September 2024. Sample excludes agreements signed by the United Kingdom.
C. Diamonds show five-year averages of the monthly Caldara and Iacoviello global geopolitical risk index, and bars show five-year averages of the quarterly Fernández-Villaverde, Mineyama, and Song fragmentation index, where the last observations are April 2025 and 2024Q1, respectively.
D. Period averages of the monthly Baker, Bloom, and Davis economic policy uncertainty index. Last observation is March 2025.
E. Bars show average annual net FDI inflows or outflows.
F. Bars show cumulative values of announced greenfield FDI inflows to Indonesia, Mexico, Morocco, Poland, and Viet Nam in 2010-14 and 2020-24, by source economies.

suggest that greater geopolitical disagreement between country pairs is associated with lower FDI flows between them. Mutual FDI flows tend to be lower by about one-eighth between pairs of countries that are in the top quartile of this index than between those at the global sample median (figure 3.7.C). The results corroborate and expand recent empirical evidence on greenfield FDI (Aiyar, Malacrino, and Presbitero 2024).

Trade linkages. International trade is an integral part of cross-border production sharing and is closely intertwined with FDI (Adarov and Stehrer 2021). The analysis indicates that countries that are more open to trade tend to receive more FDI—an extra 0.6 percent in FDI for each percentage-point increase in the ratio of exports plus imports to GDP (figure 3.7.D). Greater integration into global value chains is also found to be conducive to both inward and outward FDI (table A3.2.1).

Global economic fragmentation and FDI

The rise in geopolitical tensions in recent years has been accompanied by increased restrictions on FDI flows and international trade. Although EMDEs are generally more open to cross-border capital flows now than they were in the early 2000s, progress with global financial integration has stalled in recent years. EMDEs maintain more restrictive investment environments than advanced economies. Major economies are contemplating further trade and investment restrictions, jeopardizing FDI flows to EMDEs.

Rising geopolitical tensions

The global financial crisis and the associated global recession of 2009, the disruptions to global supply networks in 2020 and 2021 resulting from the COVID-19 pandemic, and worsening relations between some major economies have all had negative consequences for international trade and investment. The number of new investment agreements implemented since 2010 has more than halved relative to the first decade of the century, contributing to the slowdown in FDI

flows (figure 3.8.A; UNCTAD 2024a). Moreover, in the past three years, the number of terminations of international investment treaties exceeded the number of new treaties signed over the same period (UNCTAD 2024a). Similarly, while trade fell to the slowest pace since 2000, trade integration has also slowed: the number of new trade agreements fell from an average of 11 in the 2010s to only 6 in the 2020s (figure 3.8.B; World Bank 2024a, 2025). Meanwhile, negotiations on reforming and reviving the multilateral trading system have stalled.

Given these developments, geopolitical risk has risen notably in recent years, reaching its highest levels since 2003 (figure 3.8.C). Economic policy uncertainty has climbed to the highest levels on record, in part reflecting global supply chain disruptions and macroeconomic shocks triggered by the COVID-19 pandemic (figure 3.8.D). High trade policy uncertainty undermines trade and output growth (World Bank 2024a). One outcome of elevated uncertainty is that cross-border investment has become increasingly concentrated in a declining number of MNEs (Ragoussis, Rigo, and Santoni 2024). Given the strong relationship between international trade and cross-border financial flows, these adverse trends are likely to put additional downward pressure on FDI in EMDEs (Nebe, Economou, and Abruzzese 2024; UNCTAD 2024a).

FDI flows show increasing signs of decoupling along geopolitical fault lines (ECB 2024; UNCTAD 2024a; World Bank 2024d). The United States has reduced its sourcing from China while concurrently increasing its trade and FDI linkages with India, Mexico, and Viet Nam (Alfaro and Chor 2023; Freund et al. 2024; Kallen 2025). Russia's invasion of Ukraine in 2022 was followed by rapid divestment by foreign firms from Russia (Evenett and Pisani 2023; World Bank 2023c).

The net effects of further fragmentation on FDI patterns are not yet fully clear, in part reflecting the fact that major adjustments of FDI activities involve substantial costs and require time to implement by MNEs, while in the environment of high policy uncertainty many investors adopt a "wait-and-see" approach (Blanchard et al. 2021; Myles 2025). Global economic fragmentation so far has primary affected certain "strategic" industries, such as ICT, transport, and professional, scientific, and technical services (Tan 2024).

That said, recent surveys of global investors indicate that rising geopolitical risk, supply chain disruptions, and a more restrictive business regulatory environment are among the key factors shaping investors' decisions that could significantly shift their usual FDI location choices (Citi 2025; Kearney 2025). Amid rising trade tensions and geopolitical risks, MNEs have been increasingly considering strategies to de-risk their business activities by shifting their production and trade toward geopolitically aligned countries (friend-shoring), countries in geographic proximity (near-shoring), or back to their home countries with local sourcing of intermediate inputs (re-shoring). Tit-for-tat escalation of international trade disputes and restrictions on cross-border investment will result in additional fragmentation of economic networks.

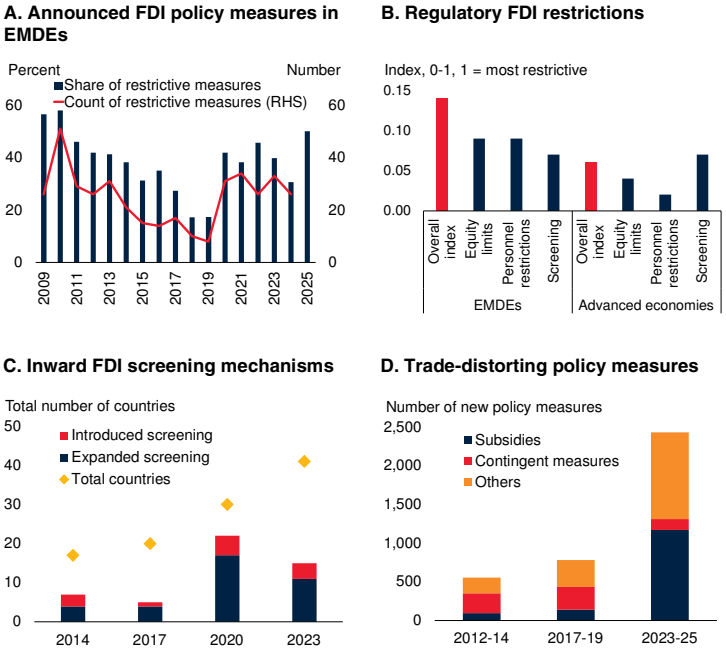
Higher trade costs driven by tariff hikes may incentivize MNEs to use FDI as an alternative way to gain access to the market of the country imposing tariffs (tariff-jumping FDI). By contrast, higher tariffs increase the cost of production along global value chains, discouraging efficiency-seeking FDI. Most MNEs, however, are neither purely market-seeking nor efficiency-seeking, and the net effects of tariffs depend on specific investment project characteristics (Blanchard et al. 2021).[22]

Amid rising geopolitical tensions, the largest economies—China, the European Union, and the United States—experienced sizable contractions in both their inward and outward FDI flows in the past five years (figure 3.8.E). Outward FDI flows from the European Union and the United States more than halved as a share of GDP in 2018-23 relative to 2013-17. In these economies, the five-year average of FDI outflows as a share of GDP fell to a 20-year low during 2018-23.

[22] See also Roeger and Welfens (2022) for analysis of the cost effects of import tariffs offsetting the tariff-jumping effect on FDI.

FIGURE 3.9 Regulatory and policy restrictions

Announced FDI policy measures announced in EMDEs have become more restrictive in the 2020s. Regulatory restrictions on FDI remain much higher in EMDEs than in advanced economies, with the exception of FDI screening mechanisms. The number of countries with FDI screening in place more than doubled in the past decade, while the number of trade-distorting policy measures has escalated in recent years.



Sources: GTA (database); OECD FDI Regulatory Restrictiveness Index; UNCTAD World Investment Report 2024; World Bank.

Note: EMDEs = emerging market and developing economies.

A. Sample includes 83 EMDEs. The line shows the number of announced restrictive FDI measures, and bars show the share of announced restrictive FDI measures in all announced FDI policy measures. 2025 includes announcements between January and April 2025. Dashed line denotes 50 percent.

B. Averages of indexes for overall FDI restrictions, foreign equity limits for FDI, foreign personnel restrictions, and screening and approvals for FDI. Sample includes 32 advanced economies and 51 EMDEs, and covers the period 2016-20.

C. Number of countries with FDI screening mechanisms in place, introduced, or expanded.

D. Data include policy measures affecting goods trade. Implemented interventions that discriminate against foreign commercial interests. Contingent trade-protective measures include trade defense instruments such as safeguard investigations and anti-circumvention, antidumping, and countervailing measures. Subsidies cover state loans, financial grants, loan guarantees, production subsidies, and other forms of state support, excluding export subsidies. Adjusted data (for reporting lags) as of April 9, 2025.

However, some EMDEs may also benefit from the reorientation of FDI flows driven by tariff-jumping and export-platform motives of FDI, occurring when an MNE establishes production in a host country primarily to export goods or services onward to third-country markets rather than to serve the host country market itself. More specifically, FDI may be redirected to geopolitically aligned countries or those that satisfy criteria for political stability, regulatory quality, and other factors conducive to investment. Such developments have been reported with regard to the redirection of FDI flows to "connector" economies that have a favorable mix of FDI policies and structural characteristics. "Connector" countries are geopolitically non-aligned countries and can serve as conduits in trade and investment flows between geopolitical blocs (Aiyar and Ohnsorge 2024; Gopinath et al. 2024). Some connector economies—for instance, Indonesia, Mexico, Morocco, Poland, and Viet Nam—managed to capitalize on the trade and investment reorientation strategies of China and the United States to drive up FDI inflows from one or both of these countries in recent years (Bloomberg 2023; figure 3.8.F).

FDI screening and other regulatory restrictions

Fragmentation trends are likely to be accelerated by the increasing use of regulatory restrictions on international investment and trade aimed at reducing FDI and trade exposures to non-aligned geopolitical blocs.

Over the years, EMDEs have gradually eased statutory FDI restrictions—legal limits on the extent of foreign equity ownership, employment, investment, and other limitations on foreign firms. However, progress by EMDEs in reducing regulatory restrictions on FDI inflows made in the 2010s has stalled and reversed recently (figure 3.9.A). Since 2019, the number of restrictive FDI measures announced in EMDEs and their relative share in all FDI policy measures have increased. The level of restrictions remains much higher in EMDEs than in advanced economies, on average, particularly for foreign investors' equity and foreign personnel (figure 3.9.B). Overall, capital accounts have remained more open in advanced economies than in EMDEs, especially LICs.

FDI screening mechanisms have become more widespread in recent years (figure 3.9.C). The number of countries with FDI screening in place more than doubled in the past decade, from 17 countries in 2014 to 41 countries in 2023. Some countries have adopted a general safeguard clause on national security in their investment laws. Others have imposed restrictions on FDI in specific sectors deemed to be sensitive from a national security standpoint, such as limits on

foreign participation, which may provide formal grounds for rejecting unwanted FDI. Sectors deemed security-sensitive have included semiconductors, ICT, and critical energy and transport infrastructure (Aiyar et al. 2023; IMF 2023a). Screening of outward FDI by advanced economies may also pose a potential threat to FDI flows to EMDEs (Myles 2024).

Likewise, the number of restrictions and trade-distorting policy measures has escalated in recent years (figure 3.9.D). Among newly introduced trade-distorting policies, the use of subsidies has risen sharply since the pandemic. These policies have often been coupled with "buy local" provisions that further incentivize localized production and reduce reliance on foreign-sourced inputs.

As a result of these developments, further re-configuration of global value chains will likely be accompanied by a shift in FDI to alternative locations, possibly including the source economies. For example, U.S. firms have recently diverted some investment from China to Mexico and Viet Nam, while U.S.-based MNEs in some sectors, such as semi-conductors, plan to establish more activity within the United States (Alfaro and Chor 2023; Kurilla 2024; World Bank 2024d). Such reconfiguration of trade and investment networks could hinder global economic growth. For instance, re-shoring may lead to global output losses of up to 5 percent (IMF 2023b; Javorcik et al. 2022).

Unlike advanced economies, many EMDEs have continued to adopt policies favorable to foreign investors. Over four-fifths of the policy measures adopted by developing countries in 2023 were conducive to foreign investment, especially investment facilitation measures taken to increase the transparency and efficiency of investment-related regulations (UNCTAD 2024a). Similarly, FDI screening mechanisms are more widespread among advanced economies than EMDEs. As of 2023, about 40 countries had investment screening mechanisms in place, and a further eight countries were expected to implement new ones. However, only 10 EMDEs had established screening mechanisms, and none were expected to implement new ones (UNCTAD 2023).

Policy priorities

The challenges associated with escalating trade tensions and fragmentation, policy uncertainty, and macroeconomic risks jeopardize global FDI flows and call for redoubled policy efforts in EMDEs. A comprehensive policy strategy should focus on a three-pronged approach: attract FDI, amplify FDI benefits, and advance global cooperation to mitigate the costs of fragmentation. Key policy priorities include strengthening institutions, promoting macroeconomic stability, deepening financial markets, easing restrictions on cross-border investment and trade, reducing economic informality, and improving human capital. These policies can also help EMDEs to leverage FDI inflows to address key development challenges, including reduction of poverty and inequality, job creation, climate change, and greater economic inclusion for women. Coordinated global efforts are needed to uphold a rules-based international system for investment and trade, channel FDI toward countries with the largest investment gaps, and provide support for structural reforms.

Attract FDI

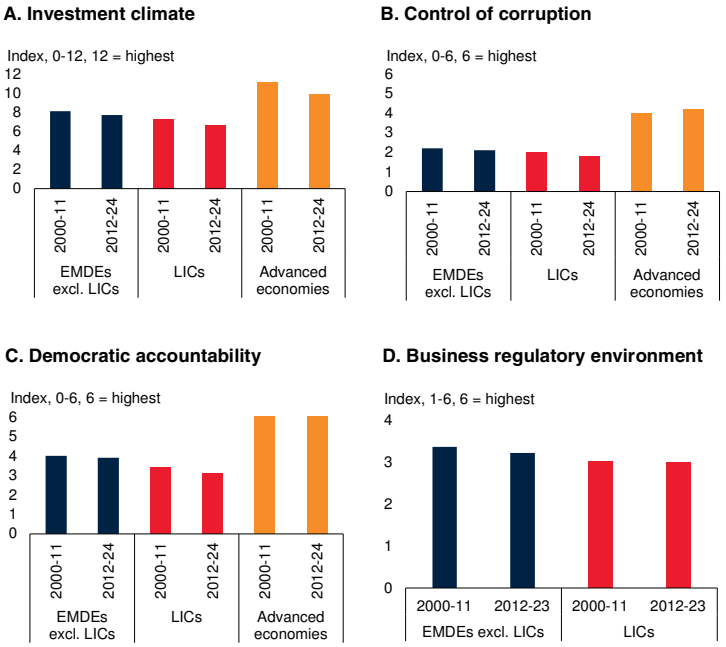
To attract FDI to their economies, policy makers in EMDEs should improve institutional quality, promote macroeconomic stability, and ease trade and investment restrictions. They should also pursue FDI-specific policies—in particular, easing regulatory restrictions on FDI. Other FDI-specific policies should be implemented after carefully considering their potential effects and tradeoffs, as evidence of their effectiveness has been mixed.

Strengthen institutions and foster an investment-friendly business environment

In light of heightened geopolitical tensions, EMDEs should seek to assuage investor concerns by demonstrating a strong and stable commitment to improving the investment environment. EMDEs generally, and LICs in particular, have far lower institutional quality than advanced economies (figure 3.10.A-D). Yet progress in the quality of the business regulatory environment, control of corruption, and other institutional measures has largely stalled during the past decade in both LICs and EMDEs excluding LICs. Besides

FIGURE 3.10 Quality of institutions

Progress with institutional reform has stalled in the past decade. EMDEs score lower than advanced economies across a range of measures of institutional quality. Institutions tend to be especially weak in LICs. These conditions hinder both FDI inflows and their macroeconomic benefits.



Sources: PRS Group's International Country Risk Guide (ICRG); World Bank; World Bank's Country Policy Institutional Assessment (CPIA) database.
Note: EMDEs = emerging market and developing economies; LICs = low-income countries. Bars show group medians of institutional quality index values.
A.-C. ICRG's investment profile, control of corruption, and democratic accountability indexes. Sample includes 36 advanced economies and 102 EMDEs, of which 18 are LICs.
D. CPIA's business regulatory environment index. Sample includes 83 EMDEs, of which 22 are LICs.

other factors important for the investment climate, expropriation risks can adversely affect investor sentiment (Akhtaruzzaman, Berg, and Hajzler 2017; Busse and Hefeker 2007).

Structural reforms should be prioritized, especially in economies that are lagging in terms of institutional quality, such as many in SSA. Besides facilitating FDI inflows and bolstering their positive macroeconomic effects directly, strengthening institutions is important for improving other key structural characteristics that are conducive to FDI inflows, such as human capital development and financial market depth.

Promote macroeconomic stability, growth, and financial markets

Reforms promoting economic growth and macroeconomic stability are critical to attracting FDI. Policies that facilitate financial development and reduce sovereign risk also improve the investment climate. EMDEs—and LICs in particular—have much-less-developed financial markets than advanced economies. Sovereign risk in EMDEs also tends to be worse than in advanced economies, with only marginal improvement between 2000-11 and 2012-23 (World Bank 2024a). Although economic growth in EMDEs is stabilizing, significant downside risks remain.

Reduce barriers to cross-border trade and financial flows, including through investment and deep trade agreements

More open economies tend to be attractive destinations regardless of FDI motive. Integration agreements, especially those with deep trade and investment integration provisions, have been effective in facilitating cross-border investment (Mattoo, Rocha, and Ruta 2020; World Bank 2023b). Regional integration can be increasingly important for EMDEs to facilitate a conducive investment environment and mitigate the adverse effects of global economic fragmentation (Baek et al. 2023; Parente and Moreau 2024; UNCTAD 2024b). For the effectiveness of such agreements, it is crucial to align domestic investment laws with the standards set out in international agreements, ensure streamlined investment processes—via simplification of work permits, electronic access to laws and regulations, and technology transfer promotion—facilitate navigation of the country's regulatory landscape, and strengthen institutions that prevent and resolve investor disputes (World Bank 2024f). To facilitate integration, regional infrastructure improvements will be critical, while support for small and medium-sized enterprises (SMEs)—via transparency of regulations and simplified procedures—will be important as regional FDI is more likely to involve SMEs rather than large MNEs (UNCTAD 2024b).

Investment treaties are particularly effective in encouraging FDI in sectors and projects with higher sunk costs and capital intensity, which may face greater challenges in raising private sector funding (Colen, Persyn, and Guariso 2016). For instance, the African Continental Free Trade Area has the potential to increase FDI received in Africa

by up to about 85 and 120 percent from countries in the region and from the rest of the world, respectively (Echandi, Maliszewska, and Steenbergen 2022).

Ease FDI restrictions

The trend in EMDEs has been to reduce FDI restrictions, but policies in EMDEs still tend to be more restrictive than those in advanced economies (figures 3.7.E and 3.9). Reductions in statutory restrictions on FDI have been found to boost cross-border investments (Mistura and Roulet 2019). For instance, in Türkiye, the reduction of FDI screening, accompanied by a simplified registration process for foreign firms, was associated with a ten-fold increase in FDI inflows between 2003 and 2006 (World Bank 2021c).

Carefully consider investment promotion agencies, special economic zones, and fiscal incentives

Investment promotion agencies (IPAs) can establish a broad framework of arrangements to attract foreign investors with such goals as job creation and productivity and technology spillovers (EBRD 2024; Harding and Javorcik 2011, 2013; Steenbergen 2023). IPAs can facilitate a strategic approach to FDI that is consistent with national development strategies. Among other objectives, they can help steer investment toward sectors with the greatest needs and projects that support the energy transition and sustainable development. However, the effectiveness of IPAs depends on the quality of monitoring, evaluation, and other investment management processes (OECD 2019; World Bank 2021c; World Bank 2022b). EMDEs, especially LICs, often suffer from the poor quality of their investment management processes and need to accelerate structural reforms to improve relevant institutions and regulatory frameworks (Adarov and Panizza 2024; World Bank 2024c).

Special economic zones (SEZs)—specific geographic areas within which governments establish preferential regulations for private investors—have been used to attract FDI via tax incentives, import duty exemptions, special customs procedures, land access, streamlined employment regulations, and other measures.[23] After the creation of the Masan SEZ in the Republic of Korea in 1970, for example, the SEZ succeeded in attracting more than $80 million in FDI in 1975—this resulted in over a ten-fold increase in the share of locally sourced inputs in the country's electronics sector over 1971-86 (Aggarwal 2012; Farole 2011b). In Poland, 14 SEZs had, by 2018, cumulatively attracted investments worth $35 billion and created nearly half a million jobs (UNCTAD 2019). Although SEZs can help attract FDI and steer investment to where it is needed most, they can also be costly, and the net benefits are not always clear. By some estimates, many of the over 5,000 SEZs active in the world fail to generate significant investment or create much positive economic impact (UNCTAD 2019).

Taxes and subsidies can alter the incentives of MNEs to invest in a country. However, fiscal incentives should be used judiciously by policy makers to avoid market distortions and ensure that their long-run economic benefits outweigh the costs. FDI can be stimulated through investment allowances, as well as tax credits and deductions related to investment and reinvested earnings. Fiscal incentives can also be implemented to steer or discourage FDI in certain sectors or business activities. For instance, emissions can be penalized or accelerated depreciation may be offered to investors (Sauvant, Stephenson, and Kagan 2021; Wermelinger 2023). Subsidies have also been used extensively to increase the attractiveness of certain locations or sectors for foreign investors. However, subsidies can also be costly and distortive, and thus their net long-run benefits must be carefully assessed. For instance, subsidies given with the goal of job creation may lead to employment in MNEs, but without an increase in employment in non-targeted firms and with little improvement in human capital and technology (Burger, Jaklic, and Rojec 2012; Delevic 2020). Similarly, tax incentives can lead to a loss in government revenue (UNCTAD 2000).

[23] For SEZs, see also Farole (2011a), Javorcik and Steenbergen (2017), UNCTAD (2019), and World Bank (2017).

Amplify FDI benefits

Beyond attracting FDI, it is equally important for EMDEs to accelerate policy interventions that amplify the social and economic benefits of FDI. The policies outlined below—some of which also help to attract FDI—can help ensure that EMDEs reap benefits that align with country-specific needs.

Undertake reforms to maximize the positive effects of FDI

A range of country-specific conditions and policies can support stronger positive effects of FDI. For example, stronger institutions not only promote FDI inflows but also help to improve the effects of FDI on output growth. The empirical analysis in this chapter suggests that FDI may fail to generate significant growth benefits when country characteristics are not conducive. The results indicate that facilitating trade integration, improving the quality of institutions, fostering human capital, and decreasing informality can all boost the macroeconomic benefits of FDI. With supportive conditions in place, FDI can help trigger sustained investment accelerations, facilitate job creation, and support potential output growth in recipient countries.[24]

Channel FDI to areas that generate greater impact

It is critical for EMDEs to implement policies to attract FDI that generates greater returns in terms of macroeconomic outcomes, including private capital mobilization and creation of new jobs. Greenfield FDI is particularly important in EMDEs for output growth and domestic investment. Manufacturing sector FDI has often delivered especially large macroeconomic benefits for recipient countries. With conducive reforms, FDI can also help reduce poverty and income inequality, and increase economic opportunities for women. For example, recent evidence shows that foreign affiliates of MNEs tend to have a higher share of female employees than domestic firms, and legal frameworks promoting non-discrimination in hiring, equal pay, and promotion are important for reducing wage disparities between men and women.[25]

Ensure that FDI supports the energy transition and helps address climate change

Policy makers should aim to align their FDI frameworks and related environmental policies more closely with key development goals. Policies in recipient countries can incentivize investment in projects that contribute to climate adaptation and mitigation. They can also encourage greater use of renewable energy and clean technologies while strengthening biodiversity and nature conservation. Recent analysis, however, suggests that private investment in climate adaptation has not been sufficient. FDI can boost the contribution of private capital to addressing these pressing issues (World Bank 2021a, 2021b).

Advance global cooperation

EMDEs can take steps to mitigate risks and re-energize FDI by avoiding restrictive measures and promoting global economic cooperation, including through multilateral organizations.

Improve global cooperation to mitigate risks

Despite rising geopolitical tensions, cooperation through international fora should be reinforced wherever possible, with the goal of restoring a rules-based order. In 2024, for example, 125 members of the World Trade Organization reached an agreement to strengthen cross-border cooperation on FDI to support sustainable development and investment in developing countries. The agreement aims to enhance the transparency and predictability of investment-related measures, facilitate interactions between investors and governments, and encourage sustainable investment.

When formal agreements are not feasible, establishing a consultative framework can be helpful. UNCTAD, for example, recently

[24] For investment accelerations and implications for potential output, see World Bank (2024g) and Kose and Ohnsorge (2023), respectively.

[25] For the effects of FDI on poverty reduction and income inequality, see Aloui, Hamdaoui, and Maktouf (2024) and Huang, Sim, and Zhao (2020). For the implications of FDI for gender equality, see Heckl, Lennon, and Schneebaum (2025), Montinari (2023), and UNCTAD (2021).

launched a Multi-Stakeholder Platform on IIA Reform to foster cross-country dialogue and identify ways to fast-track reforms to bolster international investment agreements (UNCTAD 2024a). The OECD/G20 Inclusive Framework on BEPS (base erosion and profit shifting) is another example. The framework is designed to create a level playing field for high-tax and low-tax jurisdictions by eliminating distortions affecting investment, which give rise to profit shifting by MNEs. This is particularly important for EMDEs adversely affected by profit shifting in terms of losses of government revenue (Crivelli, De Mooij, and Keen 2016). The framework will also help create a more favorable business environment, as competition for investment will be more likely to occur through non-tax measures (Owens and Wamuyu 2024).

Enhance multilateral support for private capital mobilization and structural reforms, especially in LICs

The global community should accelerate policy initiatives that can help direct FDI flows to countries with the largest investment gaps, especially LICs. Technical and financial assistance are essential to support the implementation of reforms critical for promoting FDI inflows and maximizing their benefits. LICs have particularly large investment gaps but limited capacity to implement the necessary structural reforms.

Multilateral development banks and development finance institutions have taken an increasingly active role in mobilizing private capital. In 2023, these institutions mobilized a record $88 billion in private capital for investment in low- and middle-income countries (African Development Bank et al. 2025). Greater cooperation among multilateral institutions can maximize such outcomes. The World Bank and the African Development Bank, for example, formed a partnership to provide electricity to 300 million people in Africa by 2030, an initiative that is expected to generate $9 billion in private investment for renewable energy (World Bank 2024c). The World Bank's recent initiatives to accelerate global policy efforts to reduce barriers to private investment, such as the Private Sector Investment Lab and the new World Bank Group Guarantee Platform, can help mitigate risks for private investors and mobilize private capital in EMDEs, including FDI (Bjerde et al. 2024; World Bank 2024b).

For much of the last 50 years, global economic integration has powered the growth and development of EMDEs—with FDI constituting one of the main propellants. Slowing momentum in global integration could leave EMDEs—especially LICs—in a particularly precarious position, given their large investment gaps. It risks derailing progress toward key development goals. Turning the tide will depend on robust policy responses, both at the national and global levels.

Conclusion

Investment growth in EMDEs has slowed markedly over the past decade. This slowdown has left vast infrastructure gaps unmet and severely hampered efforts to end global poverty, inequality, and address the urgent challenges of climate change. FDI offers an important source of funding to close investment gaps and can bring multiple additional benefits by boosting economic growth, facilitating private capital mobilization, creating jobs, and contributing to progress toward development and climate related goals.

In the typical EMDE, the ratio of net FDI inflows to GDP dropped from a peak of almost 5 percent in 2008 to just over 2 percent in 2023. This decline was widespread, with FDI-to-GDP declining in three-fifths of EMDEs in 2012-23 relative to 2000-11. The weakness in FDI is likely to continue in the near term in light of subdued growth prospects and loss of reform momentum in EMDEs, elevated global trade tensions, policy uncertainty, and heightened geopolitical risks.

A three-pronged strategy involving national and global policy interventions is needed to attract FDI, nurture its positive effects, and advance global cooperation to support FDI flows. Attracting more FDI and unlocking its full potential to boost economic growth requires sustained policies to strengthen institutions, improve the investment climate, liberalize trade and investment, foster stable macroeconomic conditions, reduce economic informality, and

improve human capital development. These policies are critical especially for LICs that lag behind in most of these dimensions. FDI can play an instrumental role in mobilizing additional private capital, and reforms that enhance the potential of FDI to crowd in domestic private investment should be prioritized.

Cooperative policy efforts at both bilateral and multilateral levels are essential to uphold a rules-based system that promotes cross-border investment flows and mitigates the costs of fragmentation. The balance of risks and opportunities should be considered judiciously by policy makers in the design of FDI policies to avoid market distortions and uphold a non-discriminatory regulatory framework. The global community should also accelerate policy initiatives that can help direct FDI flows to countries with the largest investment gaps, especially LICs, including through the provision of technical and financial assistance to aid implementation of the structural reforms critical for promoting FDI inflows and maximizing their benefits.

ANNEX 3.1 Impact of FDI on economic growth: Data and methodology details

This annex describes the data and the methodological framework used in the estimation of the effects of FDI on economic growth discussed in box 3.1.

Data and sample

The analysis is based on strongly balanced annual data of 74 EMDEs spanning the period 1995-2019. Real net FDI inflows, real GDP, and real gross fixed capital formation data (all in constant 2015 U.S. dollars) are from the World Bank's World Development Indicators (WDI) database, as are private credit, trade openness (sum of exports and imports as a share of GDP), and educational attainment data. Total factor productivity (TFP) and employment data are from Penn World Table 10.1. Institutional quality indexes are from the PRS Group's International Country Risk Guide (ICRG) and the World Bank's Country Policy and Institutional Assessment (CPIA) datasets. Greenfield FDI and mergers and acquisitions (M&A) FDI data are obtained from UNCTAD. Informal employment and output are from Elgin et al. (2021).

Estimation framework

The analysis employs a heterogeneous PVAR framework developed by Pedroni (2013) to study the relationship between FDI and output growth. This approach addresses a range of limitations in conventional panel data estimation approaches that have been used to study the growth effects of FDI, including cross-country heterogeneity of the macroeconomic effects of FDI, two-way causality between FDI and output growth, and heterogeneous time horizons over which the effects of FDI may manifest. These caveats may result in inconsistent or imprecise estimates.

The approach used in this report accounts for cross-country heterogeneity and interdependence among countries. Besides ensuring consistent estimation of endogenous responses—given that the underlying dynamics are likely to be heterogeneous for the relationship between FDI and growth in a broad sample—this approach also enables the analysis of country characteristics that can accentuate or temper the causal mechanisms through which FDI affects growth. If unaddressed, latent heterogeneity would arise in the lagged dependent variables of the VAR, leading to inconsistent estimation. Addressing other limitations in the related empirical literature, this framework can be implemented for a relatively short annual time series—a binding constraint for EMDEs—in contrast to estimating individual country VAR models.

The baseline estimations use a bivariate heterogeneous PVAR system that includes the log of FDI and the log of output. The equations are estimated in their demeaned log differenced forms so that, for example, the initial two-variable system can be represented by the vector below, for countries $i = 1, \ldots, N$ and years $t = 1, \ldots, T$: $\Delta Z_{it} = (\Delta lnFDI_{it}, \Delta lnGDP_{it})'$. The estimation procedure includes the following steps:

Step 1. A VAR model based on the specified variables is estimated individually for each country i of the sample. This can be represented as $R_i(L)\Delta Z_{it} = \mu_{it}$ where $R_i(L) = I - \sum_{j=1}^{P_i} R_{ij}$ such that $R_{i,j}$ represents the country-specific matrices of VAR coefficient estimates for lags $j = 1, \ldots, P_i$ where the country-specific lag lengths are selected using the standard Akaike Information Criterion.

Step 2. These country VAR models are then supplemented with one additional global-level VAR, based on the cross-sectional averages of the same variables, namely $\Delta\bar{Z}_t = \frac{1}{N}\sum_{i=1}^{N}\Delta Z_{it}$, so that the VAR for the cross-sectional averages takes the analogous form $\bar{R}(L)\Delta\bar{Z}_t = \bar{\mu}_t$. Each of these VAR systems is then inverted into its respective orthogonalized vector moving average representation from which impulse responses can be derived, namely $\Delta Z_{it} = A_i(L)\varepsilon_{it}$,

where $A_i(L) = \sum_{j=1}^{Q_i} A_{ij}L^j$ for the country-specific VAR models, and analogously $\Delta\bar{Z}_t = \bar{A}(L)\bar{\varepsilon}_t$ for the global VAR model based on the cross-sectional averages.

The objects of interest are the responses of the log levels. The VAR estimation is done using the stationary log-differences form, and the responses

of the variables of interest are recovered by accumulating the resulting impulse responses.

The baseline analysis uses the standard Cholesky decomposition of the short-run covariance matrix, which implies a recursive short-run impact matrix. The ordering of the variables in the system implies that FDI impacts output in the same year, because of the direct effect on capital formation incorporated in GDP and productivity spillovers affecting growth. By contrast, FDI is assumed to respond to changes in GDP with a lag as both greenfield and brownfield investment transactions require time to plan and implement in the recipient economy by foreign investors.

For any given orthogonalization of the shocks, the correlation between country-specific shocks ε_{it} and global shocks $\overline{\varepsilon_t}$ can be used to obtain consistent estimates of the loading vector Λ_i and to decompose the composite $\widetilde{\varepsilon_{it}}$ shocks into common global $\overline{\varepsilon_t}$ shocks and idiosyncratic country-specific ε_{it} shocks in a standard factor representation form $\varepsilon_{it} = \Lambda_i \overline{\varepsilon}_t + \tilde{\varepsilon}_{it}$. These Λ_i loadings can in turn be used to obtain the country-specific impulse responses to the idiosyncratic and common shocks as $\overline{A}_i(L) = A_i(L)(I - \Lambda_i \Lambda_i')^{1/2}$ and $\overline{A}_i(L) = A_i(L)\Lambda_i$. This yields a cross-sectional distribution of N country-specific impulse responses to each shock.

As a robustness check, a second scheme is based on the Cholesky decomposition of the long-run covariance matrix which implies a recursive long-run response matrix, sometimes also referred to as a Blanchard and Quah decomposition. The ordering of the endogenous variables is the same as in the first scheme but applied to the long-run covariance matrix rather than the short-run covariance matrix. This approach allows for the assessment of long-run growth responses to permanent shocks in FDI. As part of robustness checks, the analysis also explored models with alternative ordering schemes and a five-variable system that included net FDI inflows, TFP, employment, gross fixed capital formation, and GDP as endogenous variables. The results in all cases were consistent with the baseline model.

ANNEX 3.2 Drivers of FDI: Methodology and estimation details

This annex describes the data and the methodological framework used in the estimation of the factors that affect bilateral FDI flows.

Data and sample

The analysis is based on bilateral FDI data from the IMF, OECD, UNCTAD, and national sources, consolidated by the World Bank (World Bank Group Harmonized Bilateral FDI Database—Steenbergen et al. 2022). The data for the macroeconomic variables are obtained from CEPII Gravity, the World Bank's World Development Indicators (WDI), and Penn World Table 10.1 databases. Institutional quality indexes are from the PRS Group's International Country Risk Guide (ICRG) dataset. The FDI restrictiveness index is from the OECD. The FDI openness index is sourced from the IMF's Structural Reform Database. The investment treaty variable is developed based on data from the Electronic Database of Investment Treaties (Alschner, Elsig, and Rodrigo 2021). The bilateral geopolitical disagreement index based on Bailey, Strezhnev, and Voeten (2017) is sourced from CEPII. The country-specific geopolitical risk index is from Caldara and Iacoviello (2022). Bilateral global value chain (GVC) participation is computed as the share of GVC-related output of an exporter in its gross exports to an importing country, based on data from Borin, Mancini, and Taglioni (2021). Nominal variables are converted to 2015 constant U.S. dollars. The sample includes 189 economies over the period 2000-19.

Gravity model methodology

Under the gravity framework (Bergstrand 1989; Tinbergen 1962), bilateral FDI flows or stocks between FDI source and recipient countries i and j in the basic form are modeled as a function of their economic size, proxied by GDP, and the distance between them. The later empirical literature, in order to capture multilateral and bilateral resistance factors, incorporates a range of additional variables—macroeconomic conditions

and structural characteristics of the source and recipient countries, global factors, and bilateral frictions, such as the existence of an integration agreement, and social and cultural proximity (Anderson and van Wincoop 2003). This analysis consolidates a variety of push, pull, and bilateral factors in a single consistent framework and uses harmonized global bilateral FDI data to gauge their relative importance.

Most of these characteristics can be captured via country-year and country pair fixed effects. However, as the purpose of this analysis is to identify country-specific and bilateral factors influencing FDI flows, the following specification is estimated as a baseline:

$$FDI_{ijt} = exp\,[\beta_1 GDP_{it} + \beta_2 GDP_{jt} + \beta_3 dist_{ij} + \gamma_1 X_{it} + \gamma_2 X_{jt} + \Psi Y_{ijt}] + \varepsilon_{ijt},$$

where FDI_{ijt} denotes the real value of FDI flow from country i to country j in year t; GDP_{it} and GDP_{jt} are the real GDP values of the source and recipient countries (in logs); $dist_{ij}$ is the bilateral population-weighted distance between them (in log). Y_{ijt} is the vector of other bilateral variables, both time-varying and time-invariant, that are conjectured to explain FDI flows from country i to country j, such as the existence of a common border, investment and trade treaties between the countries, and other variables outlined further.

The vectors of variables X_{it} and X_{jt} include country -specific factors that may affect FDI. These variables enter symmetrically in the gravity model specification—that is, they are included for both the source and the recipient country. Conceptually, the characteristics of the source country i can be viewed as "push" factors, while those of the recipient country j—as "pull" factors impacting FDI flows. For clearer exposition, the explanatory variables are partitioned into several thematic categories: macroeconomic characteristics, institutional quality, and economic integration and fragmentation.

Macroeconomic characteristics. The set of variables includes real GDP of the source and recipient countries (in logs); surrounding market potential of the recipient country, computed as the GDP of all countries, weighted by the distance to the recipient country, excluding the latter (log); bilateral exchange rate (source country currency to the recipient country currency, log); financial development (private credit as a percent of GDP); sovereign risk (based on Fitch, Moody's, and S&P ratings, converted to a numerical scale from 1 to 21, where higher values indicate higher risk); labor productivity (output per hour worked, log); cost of business start-up procedures as a percent of GNI per capita; and natural resource rents as a percent of GDP.

Furthermore, to gauge the importance of relative human capital and technological intensity differential between the source and destination countries on a bilateral basis, the model incorporates the following variables.

Relative skill endowment, computed as follows:

$$relskill_{ijt} = ln\left[\frac{skilled_{jt}}{skilled_{it} + skilled_{jt}}\right] - ln\left[\frac{unskilled_{jt}}{unskilled_{it} + unskilled_{jt}}\right],$$

where *skilled* and *unskilled* are the population shares with and without tertiary education, respectively. Higher values indicate relatively more skilled labor in the recipient country j than in the source country i.

R&D expenditure ratio differential, computed as the ratio of R&D expenditures in the recipient country (share of GDP) to the R&D expenditures in the source country (share of GDP). Higher values indicate greater R&D intensity in the recipient country relative to the source country.

In line with the literature, each specification includes bilateral gravity variables capturing geographic and cultural proximity between country pairs: population-weighted distance (log), and dummy variables for a common border, common language, common colonizer in the past, common origin of the country's legal system, and common religion.

Institutional quality. The set of variables includes ICRG indexes of investment profile, law and order, bureaucracy quality, and political risk. Higher values of these indexes indicate better institutional quality.

Economic integration and fragmentation. The vector of variables includes the following bilateral variables: an investment agreement dummy variable (= 1 if there is a bilateral or multilateral investment agreement between the source and the destination countries); a trade agreement dummy variable; the diplomatic disagreement index (higher values indicate greater diplomatic disagreement between the source and the destination countries, based on Bailey, Strezhnev, and Voeten 2017); and bilateral GVC participation (share of GVC-related output in bilateral trade). Country-specific variables include the FDI openness index; the FDI restrictiveness index; trade openness (the sum of exports and imports as a percent of GDP); and the geopolitical risk index (Caldara and Iacoviello 2022).

The model is estimated via a Poisson pseudo-maximum likelihood estimator, which accounts for zero FDI flows and allows for consistent estimation of fixed effects (Santos Silva and Tenreyro 2006). To mitigate possible collinearity, the explanatory variables listed above are included in the model sequentially, controlling for the canonical gravity variables—log of GDP of the source and recipient countries, log of bilateral distance, and dummy variables for common border, language, religion, historical colonizing country, and origin of the legal system. In addition, each specification includes country fixed effects for source and recipient countries to control for time-invariant country characteristics, as well as year fixed effects to control for common shocks such as global commodity shocks and changes in global risk perception. Standard errors are clustered by country pair and year. In addition to the baseline specification, the impact of investment treaties between the source and the recipient countries is estimated using country pair fixed effects and year fixed effects to mitigate endogeneity issues. For robustness, in addition to the full-sample baseline specification, the model was also estimated dropping offshore financial centers (both FDI source and destination countries)—the results were similar to the baseline model.

As the model has a non-linear exponential form, the estimated coefficients for the variables expressed in logarithms directly convey elasticities, while for other variables the marginal effect—the impact on FDI in percent—is computed as $100^{*}(e^{b} - 1)$, where e is the exponent and b is the estimated coefficient.

TABLE A3.2.1 Determinants of FDI

	(1) FDI source country	(2) FDI recipient country	(3) Bilateral factors
A. Macroeconomic characteristics			
A1. Market size			
Real GDP (log)	1.217***	1.010***	
Surrounding market potential (log)	0.283	0.509*	
A2. Macroeconomic conditions			
Exchange rate, source-to-recipient currency (log)			0.186**
Financial development (private credit, percent of GDP)	0.010***	0.006***	
Sovereign risk rating (1-21; 21 = high risk)	-0.230***	-0.167***	
A3. Productivity and competitiveness			
Relative skill endowment			0.801***
R&D expenditure ratio differential			0.031***
Labor productivity (log)	0.109	0.679**	
Cost of starting a business (percent of GNI per capita)	-0.054***	-0.026***	
Natural resource rents (percent of GDP)	0.007	0.038***	
B. Institutional quality			
Investment profile index, ICRG (0-12; 12 = high)	0.059*	0.092***	
Law and order index, ICRG (0-6; 6 = high)	0.078	0.190**	
Bureaucracy quality index, ICRG (0-6; 6 = high)	0.170	0.488***	
Political risk index, ICRG (0-100; 100 = low risk)	0.003	0.020***	
C. Economic integration and fragmentation			
C1. Investment integration			
Investment agreement			0.348**
FDI openness index (0.5-2; 2 = high)	1.385***	0.320**	
FDI restrictiveness index (0-1; 1 = high restrictiveness)	-5.752***	-2.493**	
C2. Trade integration			
Trade agreement			0.163
Trade openness (sum of exports and imports, percent of GDP)	0.147	0.440***	
GVC participation (value-added exports, percent of gross exports)	0.339***	0.300***	
C3. Geopolitical factors			
Diplomatic disagreement index (0-5; 5 = high disagreement)			-0.273***
Geopolitical risk index (log)	0.017	-0.054	

Source: World Bank.
Note: The table shows estimated coefficients from gravity model regressions of bilateral real net FDI flows (in logs) on a set of country-specific and bilateral variables. Additional details are provided in annex 3.2. For brevity, only point estimates are shown, along with their statistical significance based on standard errors clustered by country pair and year. *, **, *** indicate significance at the 10, 5, and 1-percent levels, respectively.

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Foreign direct investment (FDI)—an important source of external financing for emerging market and developing economies (EMDEs)—has weakened since the global financial crisis, heightening the challenges of filling vast infrastructure gaps, reducing poverty, creating new jobs, and addressing climate change.

This study provides a broad perspective on the evolution of FDI inflows to EMDEs since 2000, including patterns across regions and changes in sectoral composition. It presents fresh empirical analysis on the macroeconomic implications of FDI and the key factors driving FDI. Based on the analysis, it develops an FDI policy strategy that can help EMDEs maximize benefits from FDI.

FDI inflows as a share of GDP in the typical EMDE have fallen steadily, dropping to about 2 percent in recent years—less than half of the peak of about 5 percent in 2008. The slowdown has occurred in most economies, and it is evident in four out of six EMDE regions. Nearly 60 percent of EMDEs had lower FDI-to-GDP ratios in 2012-23 than in 2000-11.

EMDEs have also experienced setbacks in several key drivers of FDI. Trade tensions, policy uncertainty, and geopolitical risk have soared. The number of investment treaties—agreements instrumental for bolstering FDI inflows between signatory states—has dropped precipitously since the 2010s. The rising restrictiveness of new FDI policy measures in EMDEs in the 2020s puts them on track to receive lower FDI inflows.

Despite the string of setbacks, policy makers have the power to reinvigorate FDI. A three-pronged strategy geared toward attracting FDI, maximizing the benefits of FDI, and advancing global cooperation is needed. This starts with improving institutional quality, promoting macroeconomic stability, and easing trade and investment restrictions. Of equal importance is sustaining conducive conditions to ensure the lasting benefits of FDI. Global cooperation is essential to uphold a rules-based international system for cross-border investment and trade flows, and to provide technical and financial assistance to support the implementation of necessary structural reforms, especially in low-income countries.

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