Measuring the sustainable development impacts of FDI

Foreign direct investment (FDI) can play a crucial role in making progress toward the Sustainable Development Goals (SDGs). From the viewpoint of host countries, it has the potential to enhance growth and innovation, create quality jobs and develop human capital, raise living standards and environmental sustainability and more. By linking domestic firms to multinational enterprises, FDI can serve as a conduit for domestic firms to access international markets and integrate global value chains. However, realising these positive contributions to sustainable development is not a given.

Maximising benefits and minimising potential risks associated with FDI may not be a primary concern for profit-seeking investors and may not receive sufficient attention by policy makers seeking to attract investment. While, in principal, FDI has the potential to advance sustainable development, private sector incentives and both home and host country policies require careful consideration as they play a critical role in realising this potential. How FDI relates to sustainable development in different country and policy contexts is still unclear. In 2018, the OECD launched the FDI Qualities initiative in an effort to fill this information gap. This work contributes to the OECD Action Plan on the SDGs and complements the OECD’s longstanding interest and expertise in shaping the policy environment to improve the social impact of private investment, including through the Policy Framework for Investment and the OECD Guidelines for Multinational Enterprises.

The FDI Qualities Indicators contribute to this initiative by measuring the sustainable development impacts of FDI in host countries. These indicators focus on four clusters derived from the 17 Sustainable Development Goals (SDGs): productivity and innovation, job quality and skills, gender equality, and decarbonisation.

This paper updates a report on FDI Qualities Indicators first released in 2019. Find out more at: https://www.oecd.org/investment/fdi-qualities-indicators.htm.
## Key insights

- **30%** of global investments in renewables were foreign investment in 2020. But in some countries considerable **FDI goes into fossil fuel-based electricity generation.**

- **FDI most often flows into sectors which employ smaller shares of women** but foreign firms tend to **hire more women** than comparable local firms.

- Foreign firms are **60% more likely** to invest in R&D and **twice as likely** to use new technologies but in developing countries **FDI is concentrated in low-tech and low-productivity sectors.**

- FDI creates around **180,000 direct jobs** every month and contributes to **higher living standards and upskilling** but the benefits are often not **equally shared** across society.

## Sustainable development performance of foreign and domestic firms

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Domestic</th>
<th>Foreign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offers formal training</td>
<td>34%</td>
<td>50%</td>
</tr>
<tr>
<td>Uses technology licensed from a foreign company</td>
<td>14%</td>
<td>31%</td>
</tr>
<tr>
<td>Strategic objectives mention environmental issues</td>
<td>10%</td>
<td>28%</td>
</tr>
<tr>
<td>Introduced a new product/service</td>
<td>20%</td>
<td>35%</td>
</tr>
<tr>
<td>Monitors energy consumption</td>
<td>34%</td>
<td>54%</td>
</tr>
<tr>
<td>Implemented measures to reduce environmental impacts</td>
<td>59%</td>
<td>77%</td>
</tr>
<tr>
<td>Female top manager</td>
<td>20%</td>
<td>19%</td>
</tr>
<tr>
<td>Female participation in ownership</td>
<td>37%</td>
<td>33%</td>
</tr>
<tr>
<td>Spends on R&amp;D</td>
<td>35%</td>
<td>44%</td>
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<td></td>
<td>12%</td>
<td>19%</td>
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The COVID-19 pandemic and its devastating human, social and economic consequences have challenged efforts to achieve the Sustainable Development Goals (SDGs) and the commitments made in the 2016 Paris Agreement. This global crisis has increased the risk of slowing down, or even reversing, progress to make our societies and economies more resilient, inclusive and sustainable. Russia’s war against the people of Ukraine has thrown the trajectory of the recovery into doubt, weakened economic prospects and generated further uncertainty. In this context, a key challenge for the international community is to mobilise significant financial resources to accelerate the implementation of the 2030 Agenda for Sustainable Development and ensure that plans for a “decade of action” to advance the SDGs are not side-tracked.

The OECD FDI Qualities Initiative is about improving the impact of investment on sustainable development and focuses on four areas of the Sustainable Development Goals (SDGs): productivity and innovation; employment, job quality and skills; gender equality; and, low-carbon transition. The initiative comprises three components:

- The FDI Qualities Indicators, originally developed in 2019, seek to measure the sustainable development impacts of FDI in host countries.
- The FDI Qualities Policy Toolkit helps governments identify priorities for policy and institutional reforms to enhance the impacts of investment on sustainable development. For each area of sustainable development covered, it describes how to assess the impacts of FDI and provides policy recommendations related to governance, domestic and international regulation, financial and technical support, and information and facilitation services. The forthcoming development co-operation companion guide will provide targeted advice to donors for greater policy coherence of aid and FDI in support of the 2030 Agenda for sustainable development.
- The FDI Qualities Policy Network provides a platform to engage in policy dialogue and stakeholder consultations with development partners, international organisations, businesses, civil society and academia.

The OECD Council Recommendation on FDI Qualities draws on these three core elements and is the first government-backed agreement to help policy makers to leverage FDI to finance the SDGs and optimise the strength and quality of the recovery.

FDI and sustainable development

Foreign firms are more innovative. Significantly more foreign firms introduce new products, improve processes, invest in R&D, and use sophisticated foreign technologies than their domestic counterparts across OECD and non-OECD countries (Figure 1). Domestic firms perform better in OECD countries than non-OECD countries on average, but the gap between foreign and domestic firms is somewhat similar across the two groups. The greater innovation capacity of foreign investors suggests that there is potential for knowledge and technology to spill over from foreign to domestic firms, in both advanced and developing countries.
FDI creates more jobs per USD invested in emerging economies than in low- or high-income countries. Governments devote ample resources to attract FDI with the hope that it will create new employment prospects. Greenfield FDI projects generate on average three direct jobs per million USD invested, but the intensity of job creation varies substantially across countries according to their level of development and economic structure. FDI projects in mining and biotechnology (capital-intensive), for instance, generate fewer jobs per USD invested than those in garment manufacturing or healthcare (labour-intensive). Many low-income economies attract FDI in natural resource extraction, which generates relatively few direct jobs. Emerging economies with solid industrial capabilities exhibit the highest intensity of job creation per USD invested (Figure 2). Advanced economies attract FDI in high-tech manufacturing and knowledge-intensive services, which require relatively fewer human resources. Consequently, greenfield FDI in upper-middle income countries like Costa Rica and Thailand create around 6 jobs per million USD invested, three times as many as in Burundi, Myanmar, Italy or Ireland (Figure 3).

FDI contributes to higher living standards and upskilling but can exacerbate income inequality. Higher productivity of foreign firms typically translates to higher average wages paid to employees. In most OECD countries, the foreign wage premium is almost as high as the productivity premium, while in a number of non-OECD countries, foreign firm performance premium only partially translates into wage benefits for workers (Figure 4). In other words productivity is an engine for enhancing living standards, but only to a certain extent. Foreign firms are also significantly more likely to employ higher-skilled workers – at least in OECD countries – and provide training opportunities to workers in order to cope with ever-changing global markets (Figure 5). By raising the demand for skilled labour, foreign firms may contribute to raising living standards unevenly across the population, particularly when skills shortages are severe.
Figure 2. FDI effects on job creation vary with sectoral specialisation and stages of development

A. Value of investments by sector and income group

Source: OECD calculations based on FDI Markets (2022)

Figure 3. Jobs created per million USD invested

Source: OECD calculations based on FDI Markets (2022)
Figure 4. Productivity and wages of foreign and domestic firms

- Average wage premium
- Average labour productivity premium

Source: OECD calculations based on World Bank Enterprise Surveys (2022)

Figure 5. Training opportunities and worker skills

- Domestic
- Foreign

Source: OECD calculations based on World Bank Enterprise Surveys (2022)
Foreign firms invest in sectors with higher risk of non-fatal occupational injuries. Sectors with a higher average incidence of non-fatal injuries - like manufacturing - attract relatively high shares of greenfield investments, while sectors with a higher average incidence of fatal injuries - like construction and transport - attract considerable, yet lower, shares of greenfield projects (Figure 6). Considering construction activities only, countries that receive more FDI exhibit relatively fewer fatal and non-fatal injuries in the sector, suggesting that foreign multinationals may be more attentive to health and safety measures related to construction. As reporting of occupational injuries varies across countries, further investigation of the relationship between FDI and injuries is necessary.

Figure 6. FDI and occupational injuries

FDI implications on gender equality in the workplace vary by sector. From a sectoral perspective, the gap between female and male employment is inversely related to the gap between female and male earnings. In other words, sectors like manufacturing and services employ large numbers of women but pay them relatively little compared to men; conversely, sectors like mining, construction and transport employ very few women, but offer a more equitable pay compared to men. By expanding activities in lower-wage but higher-employment sectors like manufacturing, FDI may be exacerbating gender wage gaps while attenuating employment gaps (Figure 7. Panel A). Within service sectors, countries with higher levels of FDI exhibit lower female employment relative to men, suggesting that foreign investment is not necessarily increasing employment opportunities for women in addition to perpetuating gender wage gaps (Figure 7. Panel B). In sectors like construction, mining and electricity generation, on the other hand, countries that receive more FDI also display lower gender wage gaps, suggesting that FDI in these sectors may be associated with more equitable remuneration of women and men (Figure 7. Panel C).
Figure 7. FDI and gender outcomes

A. Overall gender outcomes

<table>
<thead>
<tr>
<th>Sector</th>
<th>% of FDI</th>
<th>Female employment / Male employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td></td>
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<tr>
<td>Mining &amp; Electricity</td>
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<td>Construction</td>
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<td>Services</td>
<td></td>
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<tr>
<td>Transport</td>
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B. Gender employment gap

<table>
<thead>
<tr>
<th>Sector</th>
<th>% of FDI</th>
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<tr>
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C. Gender wage gap

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OECD based on ILO Statistics (2022) and FDI Markets (2022)
Foreign firms perform poorly in terms of career advancement opportunities for women. There is little difference in the performance of foreign and domestic investors when it comes to employment opportunities for women, at the global level. The shares of women employed are roughly similar, averaging around 36% in both OECD and non-OECD countries, with only marginally higher shares observed in foreign firms. At the regional level, little difference is observed across foreign and domestic firms in Latin Europe and Central Asia, America, Sub-Saharan Africa, while foreign firms employ significantly more women than their domestic peers, on average, in the Middle East and North Africa, South Asia, and the East Asia Pacific region. When it comes to career advancement opportunities for women, measured as the share of firms with a female top manager, companies in East Asia and the Pacific are the top performers in terms of inclusion of women in senior management positions (averaging 33-37%), followed by Latin America and Europe (18-20%), while under 10% of firms in the Middle East and North Africa employ female top managers. Foreign firms underperform relative to domestic firms in most regions, with the exception of Europe and Central Asia, (though the difference is not always statistically significant). When considering female participation in ownership of firms, foreign firms in Latin America and the Asia-Pacific significantly underperform compared to domestic peers, while similar shares of foreign and domestic firms are at least partially owned by women in Europe, Africa and the Middle East.

Figure 8. Gender outcomes of foreign and domestic firms by region

Notes: Regional groups correspond to the World Bank classification: AFR = Sub-Saharan Africa; EAP = East Asia & the Pacific; ECA = Europe & Central Asia; LAC = Latin America & the Caribbean; and MNA = Middle East & North Africa. No data are available for North America (i.e. Canada and USA).

Source: OECD calculations based on World Bank Enterprise Surveys (2022)
Special focus: Green economy

FDI goes to low-emissions activities. Globally, FDI is negatively related to carbon emissions because services and light manufacturing activities tend to attract the bulk of international investments, while the most emissions-intensive activities – i.e. transport and electricity generation – attract relatively little FDI. Notable exceptions include countries where considerable FDI has gone to fossil fuel-based electricity generation (e.g. Bangladesh, Greece, Jordan) or transport activities (e.g. Albania, Ecuador, Guatemala). Manufacturing activities and their emissions performance vary considerably across countries, but generally speaking the scale effect dominates, whereby more FDI in manufacturing results in more economic activity and consequently more emissions. The relation of FDI to emissions in electricity generation is less clear-cut, as some countries attract substantial FDI in renewables, while others attract little FDI in electricity generation altogether. A closer look at energy-related FDI is necessary to understand this relationship.

Figure 9. FDI and CO₂ emissions

Source: OECD calculations based on FDI Markets (2022)

MNEs help disseminate clean energy technologies across borders. Large-scale diffusion of renewable energy technologies is crucial as it reduces the indirect emissions of all electricity-consuming activities. Electrifying transport, industry, and emissions-intensive activities will only help
reduce global emissions if electricity generation itself is decarbonised. Thanks to their financial and technical advantages and their global operations, MNEs are key players in disseminating clean energy technologies across borders. FDI accounts for 30% of new investments in renewable energy globally (Figure 10, Panel A). FDI in the energy sector has also shifted considerably away from fossil fuels and into renewables, reaching close to 90% of energy FDI in OECD economies in 2020 (Figure 10, Panel B).

**Figure 10. FDI in renewable energy (RE)**

![Graph showing FDI in renewable energy](image)

**Source:** OECD calculations based on FDI Markets (2022)

**Renewable energy FDI creates more jobs than fossil fuel investments.** Electricity generation, both from renewable and non-renewable sources, is highly capital-intensive, and investments in the sector create few direct jobs (around 0.5 per million USD) compared to greenfield FDI more broadly (averaging 3 per million USD). Until recently, FDI flows to conventional energy-generation activities were creating more jobs in absolute terms than FDI in renewables, due to their larger volumes. This gap dropped significantly starting in 2011, when renewable energy began to attract more FDI than other forms of energy generation. Since in 2019, investment in renewables started to create more jobs in absolute terms than investments in coal, oil and gas, and the gap between the two is rapidly increasing as FDI shifts almost entirely to renewable sources of electricity generation (Figure 11). While it is unlikely that the new jobs created by FDI flows into renewables will offer employment opportunities to workers that are displaced from phasing out fossil fuels, the increasing contribution of these investments to job creation along with other support measures can help achieve a fairer transition.

**Emerging economies are major competitors for investments in renewable energy.** The most sought-after investment destination for renewable energy technologies remain advanced economies in North America and Europe, notably the Unites States and the United Kingdom, where the largest investments are realised (Figure 12). Across the globe, emerging economies are positioning themselves as major competitors for international investment in renewable energy, and their attractiveness is likely to grow as their economies and energy needs outpace those of their more advanced peers. In Latin America, Brazil and Chile have accumulated foreign investments in renewables that exceed those of EU economies. In Asia, China and India are closely followed by Pakistan and Indonesia as booming renewable energy investment destinations. In Africa, South Africa, Egypt and Nigeria have reached levels of FDI in clean energy comparable to European peers and are likely to supersede them in the near future.
European countries are by far the largest outward investors in renewable energy projects. Germany, Spain, France and Italy account for over a quarter of global FDI in renewables since 2005, and the remaining combined EU and EFTA countries accounting for a third of investments (Figure 13). Unsurprisingly, MNEs tend to invest in host countries with which their home countries share strong economic and cultural ties. EU investors favour European destinations, followed by Latin American and North American destinations; Spain, in particular invests considerably in Latin America. Japanese,
Singaporean and Korean investors favour East, South and Southeast Asian destinations. US and Chinese investors are more diversified across destination regions, but invest most in Europe. The largest investments in South Asia are made by US, Chinese and UK investors, while the top investing EU countries have the largest presence in Sub-Saharan Africa. Mauritius, Morocco and South Africa are also becoming prominent investors in renewable energy in Sub-Saharan Africa.

**Figure 13. Who invests where in renewable energy projects?**

Source: OECD based on FDI Markets (2022)

Foreign firms outperform domestic peers in terms of environmental practices. Environmental management is gaining importance as a business prerogative but is still limited in practice (Figure 14). A minority of domestic firms incorporate environmental or climate change issues into their strategic objectives across OECD (12%) and non-OECD countries (14%), and even fewer employ a manager responsible for environmental issues (5-6%). These practices are considerably more common for foreign investors relative to domestic firms, particularly in OECD countries (36% and 22%, respectively). Perhaps motivated by cost concerns, companies are more likely to monitor energy consumption (48-63%) and implement measures to save energy, for instance by increasing energy efficiency (34-52%), improving lighting and heating systems (54-70%), or upgrading machinery and equipment (48-63%). Only very few companies monitor CO2 emissions along their supply chains (2-6%), or seek to reduce emissions by using renewable energy sources (11-18%) or controlling air pollution (10-20%). Domestic firms in OECD countries perform only marginally better than those in non-OECD countries, with the exception of implementing machinery upgrades or reducing waste. Instead, in all cases foreign firms outperform domestic firms, suggesting that there are significant opportunities for FDI spillovers in terms of greening business practices.
Figure 14. Environmental performance of foreign and domestic firms

- **Strategic objectives mention environmental or climate issues**
  - OECD
  - Non-OECD

- **Manager responsible for environmental or climate issues**
  - OECD
  - Non-OECD

- **Monitors energy consumption**
  - OECD
  - Non-OECD

- **Monitors CO2 emissions along its supply chain**
  - OECD
  - Non-OECD

- **Implemented measures to improve energy efficiency**
  - OECD
  - Non-OECD

- **Used energy from own renewable sources**
  - OECD
  - Non-OECD

- **Implemented measures to improve heating or lighting**
  - OECD
  - Non-OECD

- **Implemented measures to upgrade machinary or equipment**
  - OECD
  - Non-OECD

- **Implemented measures to minimise waste**
  - OECD
  - Non-OECD

- **Implemented measures to control air pollution**
  - OECD
  - Non-OECD

Note: The figures are based on firms that operate in 11 OECD and 26 non-OECD countries.
Source: OECD calculations based on EBRD-EIB-WB Enterprise Surveys (2021)
Special focus: Resilience to COVID-19

Job creation has suffered more in developing countries than in the OECD. FDI was already in decline prior to the pandemic, with global capital expenditure in greenfield projects 26% lower in December 2019 relative to its peak in October 2018 (Figure 15). Much of the decline occurred in non-OECD countries, while flows to OECD countries were more stable. Greenfield FDI flows contracted by a further 36% between March and April of 2020 and have since recovered in OECD countries, while their recovery lags behind in developing countries. The impact of the pandemic on job creation has been even more pronounced as it diverted FDI away from labour-intensive industries that suffered greater disruptions from the containment measures (e.g. manufacturing or tourism), toward more capital-intensive investments more resilient to the pandemic (e.g. renewable energy). Prior to the pandemic, FDI flows were creating approximately 180 000 jobs every month, and considerably more in non-OECD countries than in OECD countries. Between January and April of 2020, FDI-induced job creation contracted by over 60% globally. In the months following, OECD countries witnessed a return of job creation levels similar to those in the years preceding the pandemic. This has not been the case in developing economies.

Figure 15. Greenfield FDI and job creation over 2018-2021

Source: OECD calculations based on FDI Markets (2022)
Foreign firms were more resilient to the disruptions caused by the pandemic. Foreign firms are significantly less likely to have experienced drops in sales as a result of the pandemic, and are more likely to have returned to pre-COVID-19 levels of turnover when they had experienced a drop (Figure 16). This is likely because multinationals were better able to absorb shocks to their operations in countries with strict confinement measures by shifting production to alternative locations, in addition to reducing production and sales. Unsurprisingly foreign firms, which are typically more export-oriented than domestic peers, were more likely to observe drops in their exports. Firms operating in OECD countries have fared considerably better than their counterparts in developing countries, particularly with respect to sales, but also with respect to the likelihood of permanent closures.

Figure 16. Impact of pandemic on firm survival, sales and exports

Source: OECD calculations based on World Bank Enterprise Surveys (2022)

Foreign firms were able to offer greater job continuity and security. Much of the discrepancy in resilience across foreign and domestic firms can be attributed to greater flexibility and capacity to adapt production methods and working arrangements. Foreign firms were significantly less likely to reduce hours worked or reduce temporary and permanent workers, at least in OECD countries, are more likely to have returned to pre-COVID19 employment levels than their domestic peers (Figure 17, Panel A). Foreign firms were better able to mitigate disruptions caused by widespread lockdown measures by switching to remote working arrangements, which tend to be more feasible for skilled workers. Indeed, across countries, there is an almost universal inverse relationship between the extent of remote working and the extent of employment reduction, with domestic firms having more difficulty implementing remote working and consequently resorting to reduced hours (Figure 18, Panel B).
Figure 17. Employment responses to the pandemic of foreign and domestic firms

A. Workforce and hours worked

- Decreased total hours worked per week
- Decreased the number of temporary workers
- Decreased the number of permanent workers
- Currently at pre-Covid workforce level

B. Flexible working arrangements and foreign ownership

Source: OECD calculations based on World Bank Enterprise Surveys (2022)
The pandemic is associated with an increase in some gender disparities in the labour market. There is evidence that the pandemic has resulted in larger labour force withdrawals among women than men, possibly due to their disproportionate employment in occupations that require on-site work or due to their parental roles and limited childcare and schooling options during the months of confinement. From a company perspective, the extent to which female employment dropped relatively more than male employment varies widely across countries (Figure 18). In general, foreign companies were better able to retain female employees in developing countries, while the opposite is true in OECD countries.

Figure 18. Impact of the pandemic on female employment

Percentage point difference in the proportion of female workers since December 2019

Source: OECD calculations based on World Bank Enterprise Surveys (2022)