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The Role of Investment Hubs in FDI, Economic Development and Trade

Ireland, Luxembourg, Mauritius, the Netherlands, and Singapore

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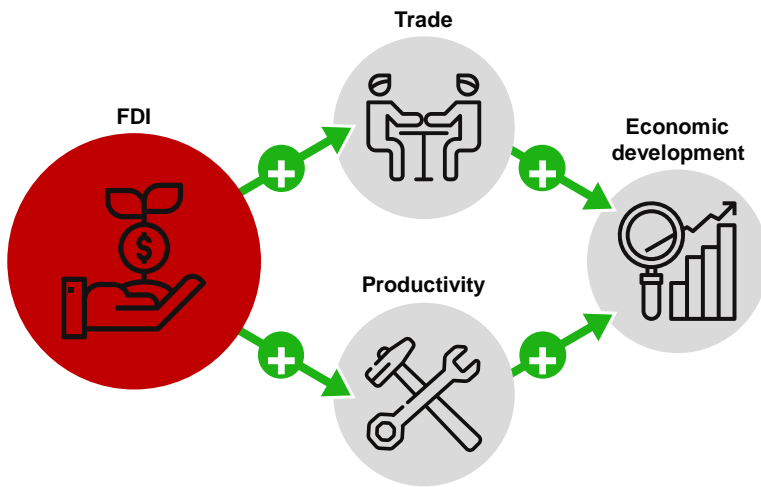
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The role of investment hubs in FDI, economic development, and trade

Economics of FDI



Trade

FDI and trade in goods and services are largely complementary.

Productivity

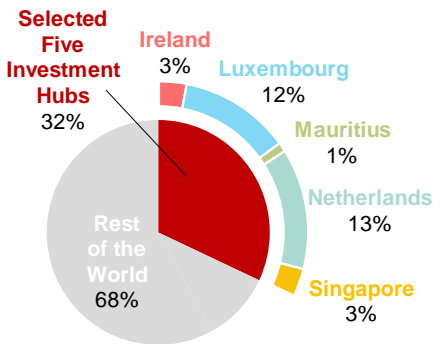
FDI is positively related to productivity. The causal mechanism underlying this effect is vertical and horizontal spillovers.

Economic development

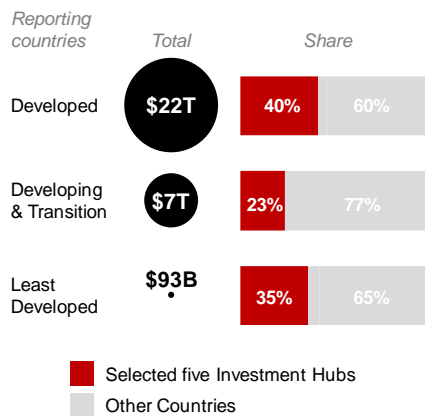
FDI stimulates economic development through trade and productivity.

Five Investment Hubs and FDI

Important on a global scale...
Share of total inward FDI stocks

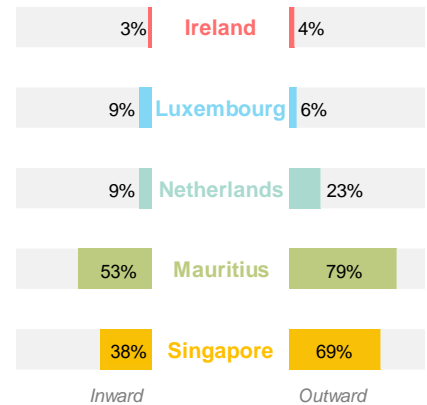


...for all levels of development.
Total inward FDI and share by source



Differences in Hub functions

Developing countries as share of total FDI



Destruction and diversion of FDI

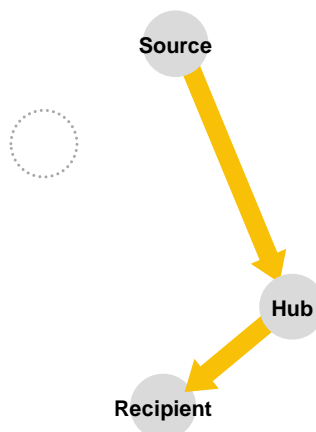
What would happen if investors could no longer make use of these investment hubs?

Two effects on FDI:

1. Some investments will no longer be profitable or secure, and will thus disappear (FDI destruction)
2. Other investments will still be profitable (albeit less), for which a new 'route' must be found either directly or through other jurisdictions (FDI diversion)

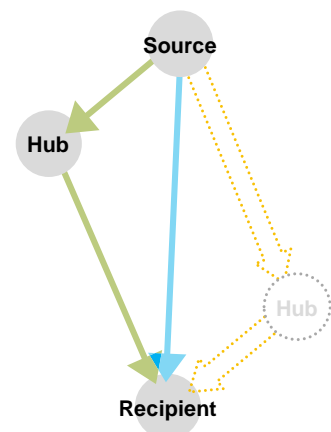
Initial situation

Investments flow through the hub



When the hub is no option

Investments diverted and reduced



Executive Summary

International data reveal that a significant part of Foreign Direct Investment (FDI) flows through (onshore and offshore) financial centres. With respect to (offshore) financial centres the United Nations Conference on Trade and Development (UNCTAD) (2015) differentiates between tax havens and investment hubs. Tax havens are jurisdictions whose economies are (almost) entirely dedicated to the provision of offshore financial services and mainly used to defer taxation in originating countries. Investment hubs or conduit countries are jurisdictions that facilitate transit of investments due to favourable tax and investment conditions (including stable legal environments and political regimes). These favourable conditions help reduce information and transaction costs associated with international capital investments, including those stemming from the lack of supra-national coordination on (corporate income) tax policy. Hubs thus help to reduce (market) frictions that prevent an efficient flow of capital.

Commissioned by the Investment Facilitation Forum (IFF), SEO Amsterdam Economics has studied the role of investment hubs in global Foreign Direct Investment (FDI) and the importance of FDI for international trade and economic development. At the request of IFF, particular attention has been given to Ireland, Luxembourg, Mauritius, the Netherlands, and Singapore as investment hubs and to developing economies as FDI recipients. The study has sought to answer the following research questions:

- What are the economics of FDI?
- How much FDI flows through these investment hubs, where from and where to?
- How important are investment hubs to FDI recipient countries and to investors?

FDI is associated with more trade and higher productivity in receiving economies. FDI and international trade are largely complementary: higher FDI is associated with more international trade, although the direction of causality amongst the two is not clear. The empirical literature concludes that FDI stimulates productivity in both developing and developed countries. As a result, FDI contributes to economic growth and development.

Ireland, Luxembourg, Mauritius, the Netherlands, and Singapore as investment hubs accommodate around one-third of total global FDI stocks. The majority of this FDI takes place between developed economies: over 80 percent of inward and outward FDI from these investment hubs originates in or is directed to developed economies. It is primarily the Corporate Service Provider (CSP) sector that facilitates the (large) majority of both inward and outward FDI in these investment hubs. CSPs offer investor services, such as registered domiciliation to companies in other countries, set up and structure companies, manage companies and provide accounting, financial management, legal, tax and advisory services.

These investment hubs accommodate a significant share of FDI towards developing countries, and 35% of FDI towards least developed countries. While Ireland, Luxembourg, and the Netherlands as investment hubs mainly source FDI from and direct the investments to developed countries, the other two investment hubs present a different picture. Mauritius receives 53 percent of inward FDI from developing countries, and 79 percent of its outward FDI is directed towards

developing and least developed countries. Singapore attracts 38 percent of inward FDI stocks from developing countries, but holds 69 percent of outward FDI stocks in developing and least developed economies.

Should investors no longer be able to use certain investment hubs, total FDI is likely to decrease through FDI destruction and diversion. According to the available empirical literature, proximity to investment hubs is associated with higher inward FDI and economic growth. In the case that investors can no longer make use of investment hubs, the distance to possible investees is increased and FDI is reduced and diverted. If, for example, an investor in a developed country can no longer make use of Mauritius as a hub for investments in Africa, the following effects are expected to materialise. First, part of the investments will flow directly from the developed country to the African developing countries. Second, part of the investments will flow through other hubs or havens. Third, part of the investments will no longer be profitable and will cease (FDI destruction). The overall effect is rerouted and reduced FDI. As a consequence, productivity gains associated with FDI may be lost by FDI recipient countries, and investment opportunities may be lost by investors.

In addition, effects on tax revenues arise. Reduced access to investment hubs can increase the effective tax rate – the short-term static effect being increased tax revenues in receiving economies. However, in the longer run, the dynamic effect will also reduce FDI and economic growth, with a negative effect on the future tax base and tax revenue.

These findings are consistent with the reasons for the existence of investment hubs. International capital flows have to deal with barriers resulting from transaction and information costs and diverging tax and legal systems, and investment hubs facilitate the flow of international investments. As such, decreased access to investment hubs and associated services increases transaction and information costs, in turn depressing overall investments. To quantify the size of these effects on a global scale, further econometric modelling and research is necessary.

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1 Introduction

Investment hubs or offshore financial centres with well-developed Corporate Service Provider (CSP) sectors are subject to international debate between policymakers, economists, and politicians. Critics argue that investment hubs solely contribute to profits of large corporate companies and wealth accumulation by the rich by facilitating tax avoidance. Furthermore, critics argue that investment hubs hardly contribute to the real economy of both developed and developing countries in terms of value added and employment but are instead depressing tax revenues and facilitating tax evasion. On the other hand, advocates argue that the sector helps capital to find its most productive use by facilitating international capital movement. As such, advocates argue that investment hubs help investors to prevent non-compliant transactions and realise the returns necessary to cover, for example future pension obligations and to stimulate economic activity in developing economies.

The Investment Facilitation Forum (IFF)¹ wants to contribute to the current debate on the role of investment hubs by providing an analysis of the importance of Foreign Direct Investment (FDI) for economic development and the role that investment hubs play in facilitating FDI, by answering the following research questions:

1. What are the economics of FDI in terms of its role in trade, economic growth, and development?
2. How much FDI flows through Ireland, Luxembourg, Mauritius, the Netherlands, and Singapore as investment hubs? And which countries are the main sources and main beneficiaries, with a special focus on developing countries?
3. What are the potential effects on investors and FDI recipient countries when investors can no longer make use of the investment hub infrastructure?

In defining ‘investment hubs’, this report follows UNCTAD (2015) by distinguishing between two groups of jurisdictions:

- Jurisdictions identified as tax havens, or small jurisdictions whose economy is (almost) entirely dedicated to the provision of offshore financial services;
- Jurisdictions offering investor services that facilitate international investment. These are larger jurisdictions with substantial real economic activity that act as major global investment hubs for multinational enterprises due to their favourable investment conditions.

This report focuses on this latter group of countries and refers to them as investment hubs. Where tax havens primarily attract and retain foreign capital, these selected investment hubs are often considered to be conduit or transfer countries acting as intermediate destinations in the routing of investments. These countries do not necessarily fit the archetype image of exotic small islands that cannot be regulated, as many of these are highly developed countries with developed legal systems (Garcia-Bernardo et al, 2017). In particular, we focus on the following selected (non-exhaustive) subset of these investment hubs:

¹ The Investment Facilitation Forum is a platform for enterprises and organisations involved in investment facilitation and currently consists of SGG Group, TMF Group and Vistra.

- Ireland;
- Luxembourg;
- Mauritius;
- the Netherlands; and
- Singapore.

The reason for IFF to focus on these selected investment hubs is that they are characterised by: a large stock of incoming and outgoing FDI compared to the size of their GDP; a significant financial sector facilitating substantial flows of transit FDI; a large number of tax and investment protection treaties with other countries; a strong overall business, legal and regulatory environment and an attractive fiscal climate. These countries are furthermore strongly connected to both high-tax and low-tax jurisdictions as well as to each other. It should be noted that other jurisdictions may fit this description as well.

Because of this ambiguity, a remark on terminology is needed. The literature refers to (various) jurisdictions in various ways. Common labels include tax haven, offshore financial centre, international financial centre, conduits, and investment hubs. This report uses the term investment hubs to refer to offshore financial centres which operate as conduits between investors and countries of destination, and the term “selected investment hubs” to refer to the five selected jurisdictions. We compare these selected investment hubs with a group of jurisdictions including both other investment hubs and tax havens, which we term “other hubs and tax havens” (cf. Appendix A), and the rest of the world.

Approach and set-up

This report is structured as follows. Chapters 2 and 4 address research questions 1. and 3. respectively (on the effects of FDI on the economy and the effects of investment hubs on FDI) and are largely based on a review of the relevant academic economic literature. Chapter 3 addresses research question 2. (FDI stocks) and is based on an analysis of (IMF) data on bilateral FDI.

2 Economics of Foreign Direct Investment

FDI can contribute to economic development of recipient countries via increased investments, economic activity, and knowledge spillovers through new technology and human capital. The link between FDI and trade is more diffuse: trade and FDI can be substitutes as well as complements. Empirical evidence points towards positive productivity effects in recipient countries, both advanced and developing, and towards complementarity between FDI and trade: trade and FDI go hand in hand.

This section addresses research question one: *What are the economics of FDI in terms of its role in trade, economic growth and development?* The first subsection discusses research into the link between FDI and productivity, the second subsection on FDI and trade.

FDI and productivity

Theory

In theory, FDI leads to positive short and long-term effects on economic growth. In the short term, economic growth can profit from higher capital accumulation and additional economic activity. There might also be a composition effect when general productivity of the foreign investing firm is high compared to that of firms in the receiving economy. In the longer run, FDI leads to positive productivity spillovers to local firms through human capital, new technology, and product and process innovations. Spillovers can take place in the same sector (e.g. competitors adopting new products, or new technology and process innovations), termed horizontal productivity spillovers. Productivity spillovers can also be vertical: backwards to firms in other sectors providing inputs to the incoming firm and forwards to domestic firms using its outputs.

Spillovers can be broadly defined as a transfer of managerial practices, production methods, marketing techniques or any other knowledge embodied in a product or service and may occur through a number of channels (Gorodnichenko et al, 2014). Domestic firms may imitate a new process or improve the quality of their products or services through observation or learn about better processes or marketing methods through interaction with foreign managers in business chambers and from former employees of incoming firms. Domestic firms benefit from the entry of new professional services or suppliers as a result of the entry of foreign firms. Those act as catalysts for domestic suppliers to improve quality or time efficiency by demanding higher standards. On the other hand, there are negative effects on domestic firms. If domestic firms cut back production in the face of foreign competition, they experience a higher average cost as fixed costs are spread over a smaller scale of production. Similarly, if the best employees leave for foreign firms, efficiency declines. Whether positive or negative effects on productivity dominate, is an empirical question.

Empirical evidence on FDI and productivity

Empirical evidence supports vertical spillovers (forward or backward) in advanced and developing economies. The evidence for (intra-sectoral) horizontal spillovers is mixed, with positive effects for many advanced economies and mixed results for developing economies.

Recent research by Rojec and Knell (2017) stresses the importance of distinguishing between horizontal and vertical spillovers. Evidence – mainly for emerging economies rather than low-income countries – indicates strong empirical support for vertical spillovers but mixed support for horizontal spillovers. A distinction should also be made between advanced and developing economies because spillovers differ between these countries (e.g. Wooster and Diebel, 2010).

Empirical studies of horizontal spillovers analyse productivity growth in an industry and its intensity of FDI. Early studies for Morocco, Russia, and Venezuela find no support for such productivity spillovers in manufacturing industries; instead, and counterintuitively, they all report negative correlations (Haddad and Harrison, 1993; Aitken and Harrison, 1999; Yudaeva et al., 2003). Gorodnichenko et al. (2014) find that horizontal spillover effects are generally insignificant in an analysis for Eastern Europe and Central Asia. In a meta-analysis on technology spillovers from FDI, Wooster and Diebel (2010) conclude that evidence for intra-sectoral FDI spillovers in developing countries is weak. However, a recent meta-analysis by Demena and van Bergeijk (2017) concludes that horizontal spillovers in developing countries are positive and significant.

Evidence for advanced economies is usually more supportive of horizontal spillovers. For instance, studies using data for the US and the UK typically report positive correlations between domestic plants' productivity and FDI intensity (Keller and Yeaple, 2009; Haskel et al., 2007). Belderbos and van Roy (2010) report positive horizontal spillovers for Belgium. Here, spillovers also tend to be more prevalent in high-technology sectors and when own R&D is undertaken, reflecting a greater ability to understand and assimilate new technologies (Griffith et al., 2004). Lack of absorptive capacity, for example financial sector limitations or lack of human capital, may explain why horizontal spillovers are less prevalent in developing countries (see Alfaro et al. 2009).

Studies on vertical spillovers usually explore backward effects of FDI on domestic suppliers, again by measuring productivity gains in the manufacturing sector. Rojec and Knell (2017) find strong evidence that studies looking at vertical spillovers are more likely to find evidence of positive effects of FDI both for advanced and developing economies. A study for Zambia, for instance, finds significant knowledge transfers from foreign to local firms (Bwalya, 2006). Similar positive spillover effects are found for Lithuania and Indonesia (Javorcik, 2004; Girma et al., 2007). Using firm-level data, Reganati and Sica (2007) find positive vertical spillovers for Italian manufacturing. Also using firm-level data for 15 OECD countries, Leshner and Mirodout (2008) find forward and backward spillovers, especially from FDI in services. For Eastern Europe and Central Asia, Gorodnichenko et al. (2014) consistently report positive backward productivity spillovers. For strategic industries in China, Du et al. (2011) find support for backward and forward vertical FDI spillovers. Lin et al. (2009) and Jeon et al (2013) also find strong and robust vertical spillovers for China.

FDI and trade

Theory

FDI and trade can be substitutes or complements. In earlier trade models (Mundell, 1957), international factor mobility, including FDI, is a substitute for international trade. Free mobility in both goods and factor markets would eventually converge prices of goods and factor proportions be-

tween countries. In case of barriers to trade, FDI and trade would be alternative methods of involvement in cross border transactions. International mobility of goods and services and factors of production are substitutes in this theoretical model.

On the other hand, Helpman and Krugman (1984, 1985) developed a model predicting that if there are substantial differences in factor proportions (capital and labour), firms from a relatively capital- abundant country will become multinationals. These will export headquarter activities such as management, marketing skill and product- specific R&D into the labour- abundant country in exchange for both intra- industry products and intra-firm goods. This implies that inward FDI *complements* trade for the recipient country, and outward FDI will also complement home-country trade as parent firms may export intermediary inputs to their affiliates (Seyoum et al, 2014). The issue of substitutability or complementarity between trade and FDI remains an empirical question.

Empirical evidence on FDI and trade

Most empirical evidence points towards FDI and trade being complements. For instance, Fontagne (1999), combining previous work by the OECD, showed a positive influence of foreign direct investment on international trade particularly after the mid-1980s. Empirical results show that foreign direct investment abroad stimulates the growth of exports from countries of origin, and consequently this investment is complementary to trade. At country level, studies by Grubert and Mutti (1991), Clausing (2000), Head and Ries (2001), and Hejazi and Safarian (2001) have found that FDI and trade are complementary. Several studies use a gravity model. Grubert and Mutti (1991) show FDI relates to exports and imports for the United States. The study finds complementarity between FDI and both imports and exports on a bilateral basis. Clausing (2000) studies the interaction between outward FDI and exports in the United States with 29 countries; and he also studies the relationship between inward FDI into the US and American imports. He finds complementarity between trade and FDI. Moreover, Lim and Moon (2001) asserted that FDI would have a positive effect on home-country exports if the foreign subsidiaries were located in less-developed countries, or if they were relatively new, and in a declining home industry. Goh et al (2013) confirm complementarity of FDI and trade for Malaysia. Seyoum et al (2014) find a positive relation between trade openness and FDI for 25 Sub-Saharan economies.

3 Quantifying Foreign Direct Investment

Selected investment hubs accounted for a third of global FDI stocks in 2016. The majority of FDI takes place between developed economies and there are substantial inter-hub FDI positions. At the same time, FDI from these hubs to developing economies accounts for a substantial part of total incoming FDI in developing economies. FDI from Singapore and Mauritius especially contributes significantly to total FDI to developing regions such as East and South-Asia and Sub-Saharan Africa.

In light of the preceding evidence for positive effects of FDI on economic development, this chapter turns to quantifying FDI and analyses where investment capital comes from, where it goes, and what role the selected investment hubs play in channelling these investments.

To this end, this chapter largely relies on (disaggregated) bilateral FDI (stock) data from the IMF's Coordinated Direct Investment Survey (CDIS), augmented with data from the OECD, the Central Bank of Mauritius, Singstat, the WorldBank, and UNCTAD where applicable.

The analysis mainly takes a 'big picture' view in order to provide some structure to a myriad of international FDI stocks. At the same time, analysis of individual hubs is useful to provide a more tangible description of hub investment behaviour. Hence, this chapter also presents a summary of analyses of individual selected hubs, supporting material for which is relegated to Appendix B.

3.1 The big picture

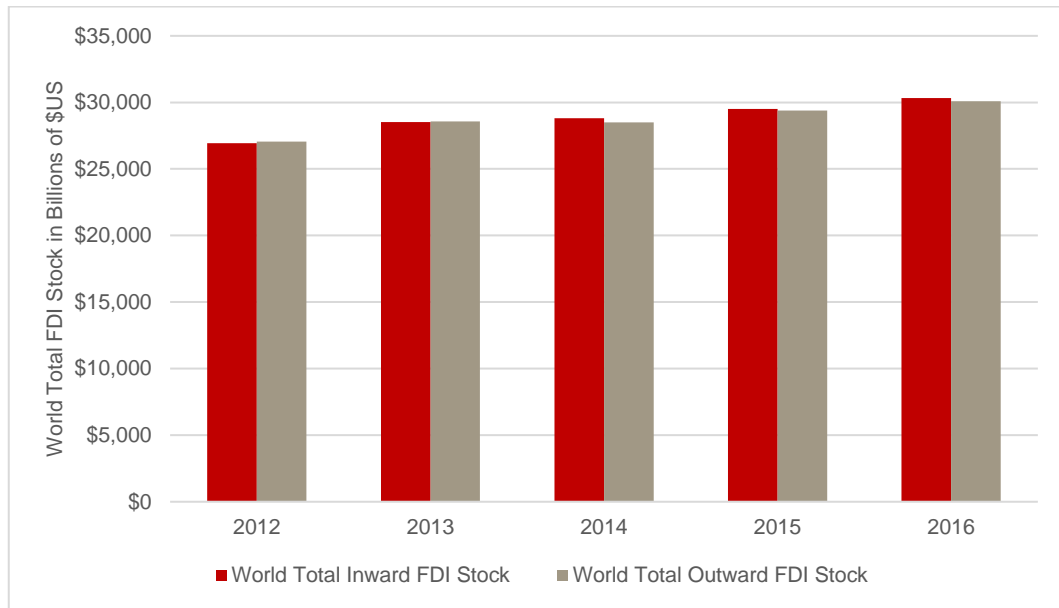
The 'big picture' overview of (quantified) global FDI stocks has several ingredients. First, world total inward and outward FDI stocks and the shares the selected investment hubs (and 'hub companies') account for in these global total figures provide context to the remainder of this chapter. Second, charting where hubs source and destine their investments sheds light on investment hub activities and behaviour. Lastly, turning to a description of individual investment hubs provides a more tangible view of the role investment hubs play in global FDI and their importance for directing FDI to developing countries.

World FDI

Global FDI stocks in 2016 amounted to over 30,000 billion \$US (Figure 3.1). For comparison: world nominal GDP in 2016 amounted to close to 76,000 billion \$US. This means that 2016 global FDI stocks were equivalent to nearly 40 percent of world GDP.

Figure 3.1 further reveals that there are small differences in FDI volume depending on whether total global FDI is calculated based on inward or outward FDI stocks. These differences are attributable to measurement error (see Box 3.1 for further details on the collected data).

Figure 3.1 World FDI exceeded 30,000 billion \$US in 2016, up 12% from 2012



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

Box 3.1 Collected data

Data

The main data source underlying this report is the IMF's *Coordinated Direct Investment Survey* (CDIS) database. To support this main data source, data from the OECD's *FDI Statistics according to Benchmark Definition 4th Edition* (BMD4) dataset, the Central Bank of Mauritius, Singstat, the WorldBank, and UNCTAD, has been collected as well.

Coordinated Direct Investment Survey

The IMF's *Coordinated Direct Investment Survey* (CDIS) contains bilateral data on inward and outward FDI stocks. Each year, *reporting countries* report the amount of inward FDI and outward FDI (stocks) from and to *counterparty countries*. Based on this data we can analyse which countries or groups of countries invest in which countries or other groups of countries (and vice versa) and derive aggregate statistics on global FDI.

CDIS does have its limitations. Relevant here, are partial completeness, potential 'noisy' measurement, and the level of measurement.

Partial completeness refers to the fact that not all country pairs report observed FDI. Data can either be simply missing or reported as 'Not specified (including confidential)'. The latter category is used as a placeholder category by reporting countries to maintain coherence in country totals without revealing (bilateral) sources and destinations of FDI. Both missing data and 'Not specified'-data affect the analysis in this section of the report. The 'Not specified' category typically cannot be analysed in depth. In terms of missing data, a critical limitation is that Singapore does not report observed outward FDI. As a result, it is not possible to include Singapore consistently in aggregate statistics of global outward FDI. Similar issues may affect other countries as well.

Potential 'noisy' measurement reflect the fact that FDI is difficult to measure. Despite the best efforts of the reporting countries, this means that, in some cases, there are questions surrounding the data quality. This becomes apparent especially when we try to reconcile the observed data with the 'mirrored' or 'derived' data (the observed level of inward/outward FDI for a reporting country calculated by summing over the outward/inward FDI stocks of counterparty countries). Observed and 'derived' data do not always align.

The level of measurement refers to the fact that FDI is reported at the 'country level'. This means that CDIS not directly observes investments 'travelling' through countries. Instead, CDIS observes the stocks of investments by country A outstanding in country B. This sheds no (direct) light on pass through of individual investments or FDI relations in terms of 'ultimate beneficiaries'.

FDI Statistics according to Benchmark Definition 4th Edition

The OECD's FDI Statistics according to Benchmark Definition 4th Edition contains some more detailed data on bilateral FDI stocks and flows, but only for OECD countries. This means this data generally is not suitable for analysis of global FDI stocks. However, for specific countries this additional data sheds light on individual hub activities.

Other data sources

Beyond these large centralised sources, this report employs unstructured data from the Central Bank of Mauritius (press releases, reports), data from Singstat on Singaporean holding companies, and WorldBank and UNCTAD data on country classifications by region and level of development.

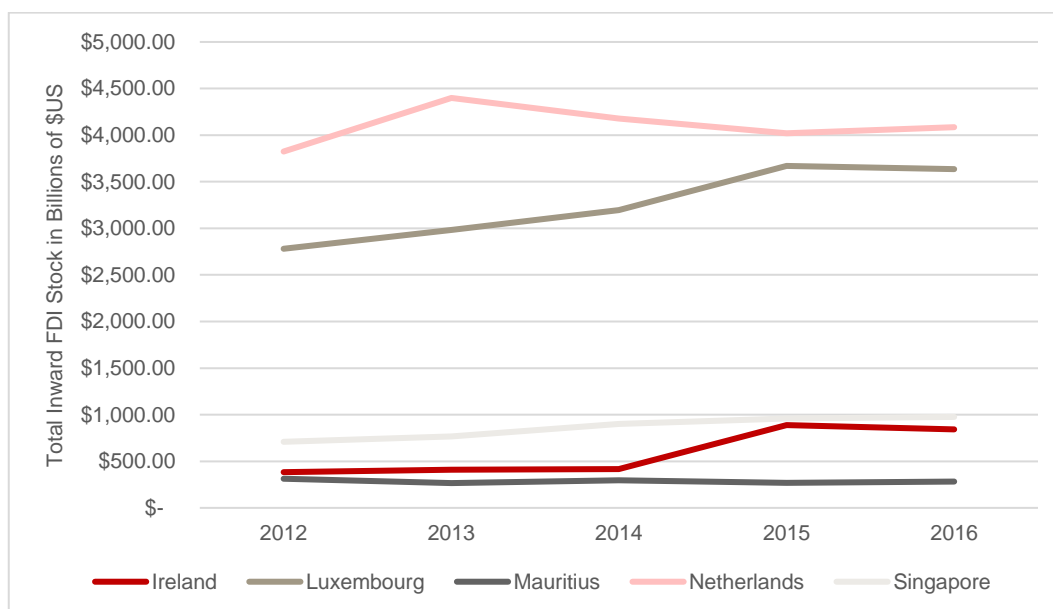
Source: SEO Amsterdam Economics.

Selected investment hubs

This report largely focuses on Ireland, Luxembourg, Mauritius, the Netherlands, and Singapore as investment hubs. These countries both receive and make substantial investments.

Figure 3.2 reveals that – in absolute terms – especially Luxembourg has large inward FDI stocks. In 2016, the inward FDI stock of the Netherlands was close to 4,000 billion \$US. Luxembourg had inward stocks north of 3,600 billion \$US. The other three jurisdictions received less FDI (in absolute terms), although inward stocks in these countries are still sizable. Singapore approached an inward FDI stock of 1,000 billion \$US in 2016. Ireland hovered around 850 billion \$US that same year, and Mauritius' inward FDI was approximately 280 billion \$US.

Figure 3.2 Highest inward FDI stocks in the Netherlands and Luxembourg

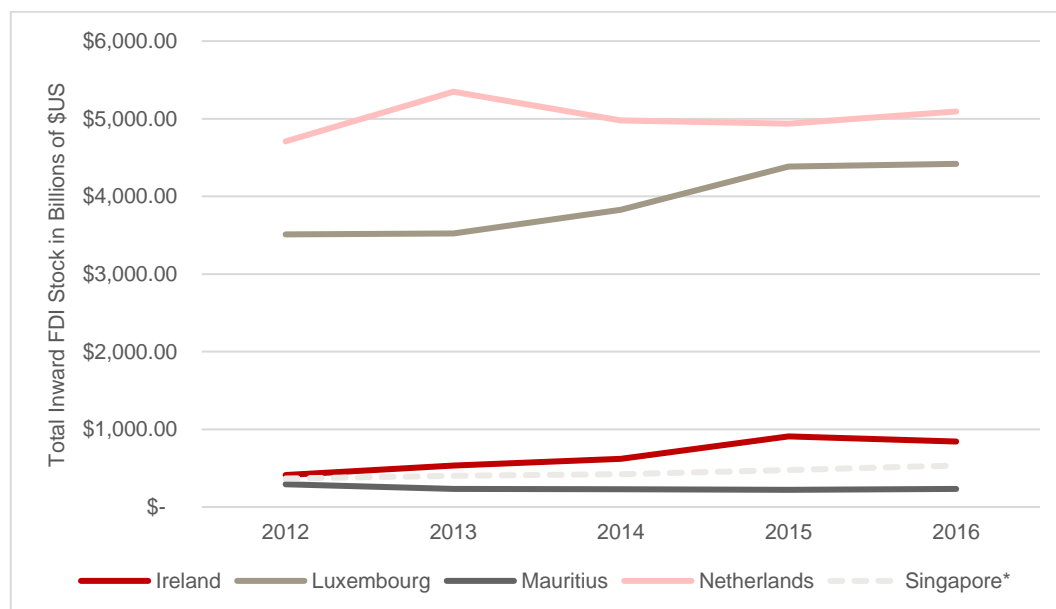


Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

A similar picture appears in terms of outward FDI stocks (Figure 3.3), with Dutch outward FDI stocks being the largest out of the five selected investment hubs, followed by Luxembourg's. The

Netherlands' outward FDI stocks in 2016 amounted to close to 5,100 billion \$US, and those of Luxembourg to in excess of 4,400 billion \$US. Again, Ireland (close to 850 billion \$US), Singapore (around 530 billion \$US), and Mauritius (roughly 230 billion \$US) have smaller outward FDI stocks.

Figure 3.3 Highest outward FDI stocks in the Netherlands and Luxembourg

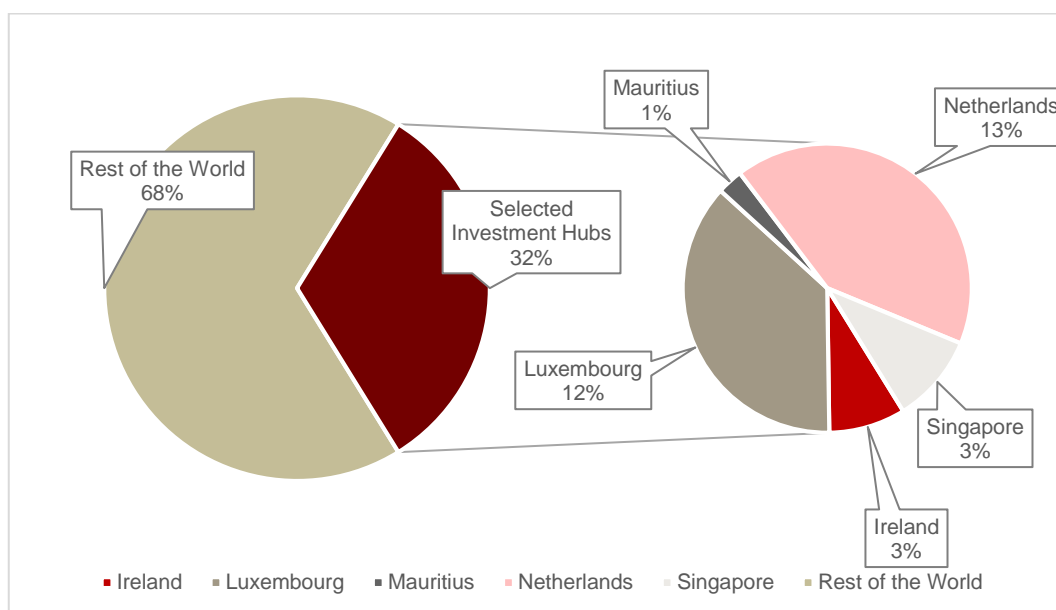


Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018). * Outward FDI Stock for Singapore is based on CDIS mirror data.

Comparing inward and outward FDI stock, Figure 3.2 and Figure 3.3 reveal that, for the Netherlands, outward FDI stocks exceed inward FDI stocks. The same holds for Luxembourg, but for Singapore and Mauritius, the opposite is true. Ireland's inward and outward stocks are roughly balanced.

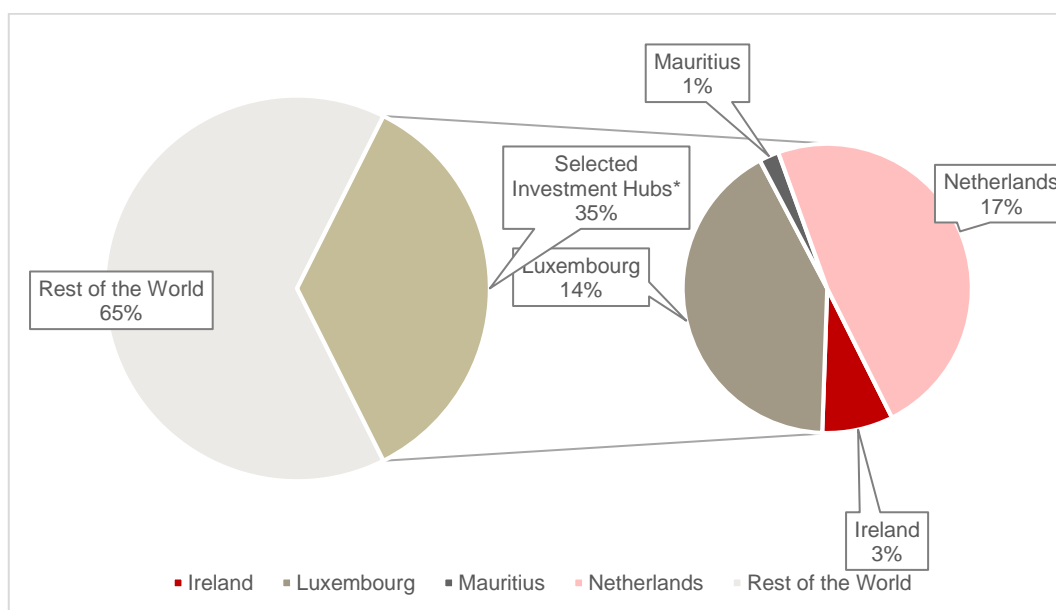
The large inward and outward FDI stocks of the selected investment hubs reflect on their relative importance in global FDI as well. Figure 3.4 shows that the selected hubs accounted for around a third of global inward FDI in 2016. The Netherlands and Luxembourg are important jurisdictions in relative terms as well, accounting for 13 percent and 12 percent of global inward FDI respectively. Ireland's, Singapore's, and Mauritius' shares are smaller, but still sizable at 3 percent, 3 percent, and 1 percent respectively. In terms of outward FDI the picture is similar: the selected hubs account for roughly a third of the global total FDI stock (see Figure 3.5). Note that this estimate in terms of outward FDI is based on the sample of investment hubs excluding Singapore, as Singapore does not report observed outward FDI to the IMF's CDIS dataset (see Box 3.1 for further details on data limitations). Inclusion of Singapore in Figure 3.5 would increase the share of the selected hubs in global outward FDI.

Figure 3.4 Sample represents around a third of global inward FDI stocks



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018).

Figure 3.5 Selected Investment Hubs (excl. Singapore) represent a third of outward FDI stocks

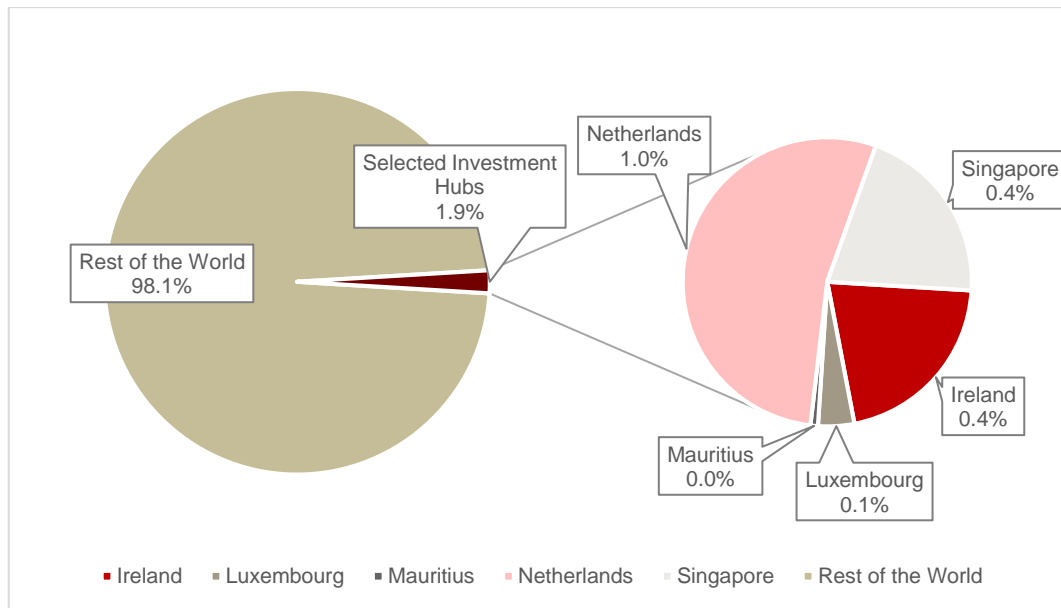


Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018).

Figure 3.6 provides context for the large shares in global (inward) FDI of the selected hubs, by plotting their shares in 2016 world nominal GDP. Together, the selected investment hubs account for less than 2 percent of world GDP – of which the Netherlands accounts for more than half. In short, the selected hubs account for a third of global FDI, whilst only being worth less than 2 percent of GDP. This statistic bears testament to the hub-function of the selected countries: their

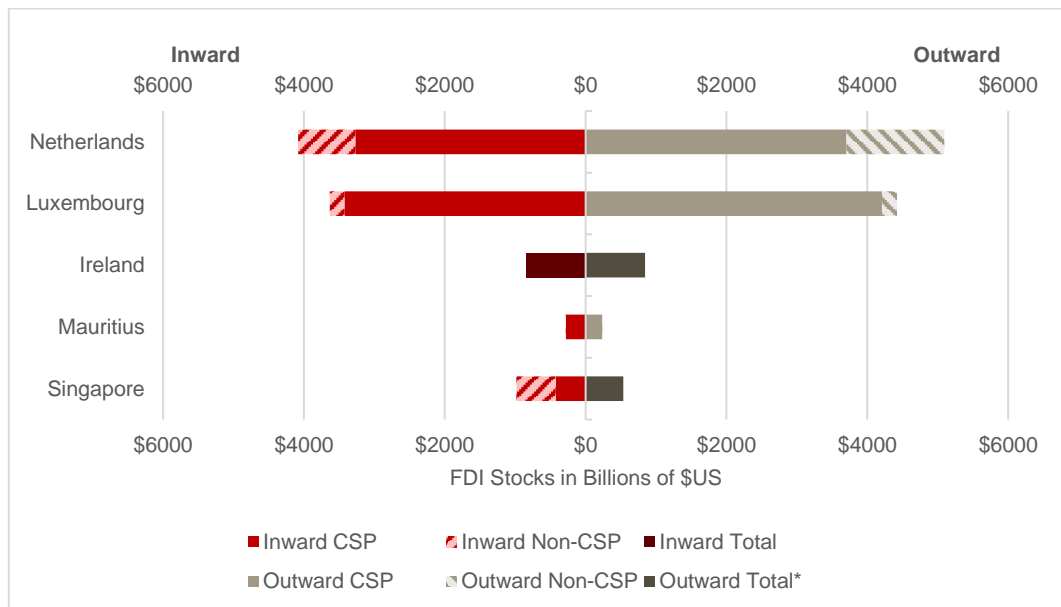
role in international direct investment is (much) larger than their share in global output would suggest.

Figure 3.6 For comparison – Shares of selected jurisdictions in world GDP



Source: SEO Amsterdam Economics based on WorldBank *World Development Indicators – Gross Domestic Product (Current \$US)* (retrieved, March 2018).

Figure 3.7 CSPs account for a large share of selected Investment Hub FDI



Source: SEO Amsterdam Economics based on ^a OECD, FDI Positions by Partner Country, BMD4, retrieved February, 2018. ^b Central Bank of Mauritius, Press Release – Coordinated Direct Investment Survey (CDIS) Results for Mauritius: End-December 2016, press release dated February, 2018. ^c Singstat, M084831 – Foreign Direct Investment in Singapore By Industry (Stock As At Year-End), Annual, Millions of Singapore Dollars, retrieved February 2018. Singapore Dollars (\$S) are converted to \$US at the average exchange rate between the \$S and \$US over the year 2016. ^d IMF, Coordinated Direct Investment Survey database, retrieved February 2018. All \$US figures are in Billions of \$US. * Outward FDI Stock for Singapore is based on CDIS mirror data.

Corporate Service Providers

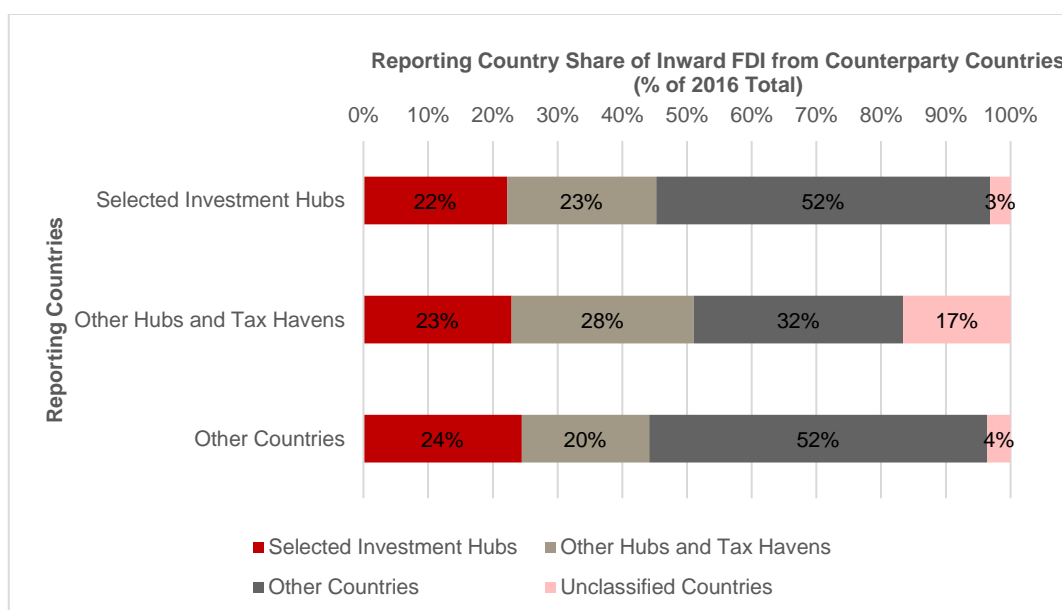
CSPs providing investor services play a key part in the selected investment hubs. Figure 3.7 shows that large shares of inward and outward FDI stocks in the Netherlands, Luxembourg, and Mauritius, and a large share of inward FDI stocks in Singapore, are related to this sector. There is no data available on this share in inward and outward FDI stocks for Ireland, nor for outward Singaporean FDI.

For the Netherlands, 80 percent of inward and 73 percent of outward FDI facilitated by CSPs. For Luxembourg, this share is around 95 percent for both inward and outward FDI, and for Mauritius it is effectively 98 percent to 100 percent. Inward Singaporean FDI relies less on CSPs, accounting for 43 percent of inward FDI stocks.

Links between hubs

Investment hubs operate in relation to other investment hubs. This means that in practice there will be ‘links’ between hubs in terms of inward and outward FDI.

Figure 3.8 Strong linkages in FDI stocks between Investment Hubs I (inward stocks)



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018). For details on the classification methodology refer to Appendix A. Some countries could not be classified (see Box 3.1 for a discussion on data limitations).

Figure 3.8 explores these ‘links’ for inward FDI. Countries are classified by whether they are considered an investment hub or not (Appendix A outlines the classification methodology). Based on these classifications, the figure plots the shares of inward FDI flowing into country groups by investment hub classification from country groups by investment hub classification (e.g. 22 percent of total inward FDI stocks in the selected hubs stem from other selected hubs).

Figure 3.8 differentiates between four specific groups, namely selected investment hubs, other hubs and tax havens, other countries, and unclassified countries. The ‘selected investment hubs’ correspond to the main hubs of interest of this report. ‘Other hubs and tax havens’ are other countries

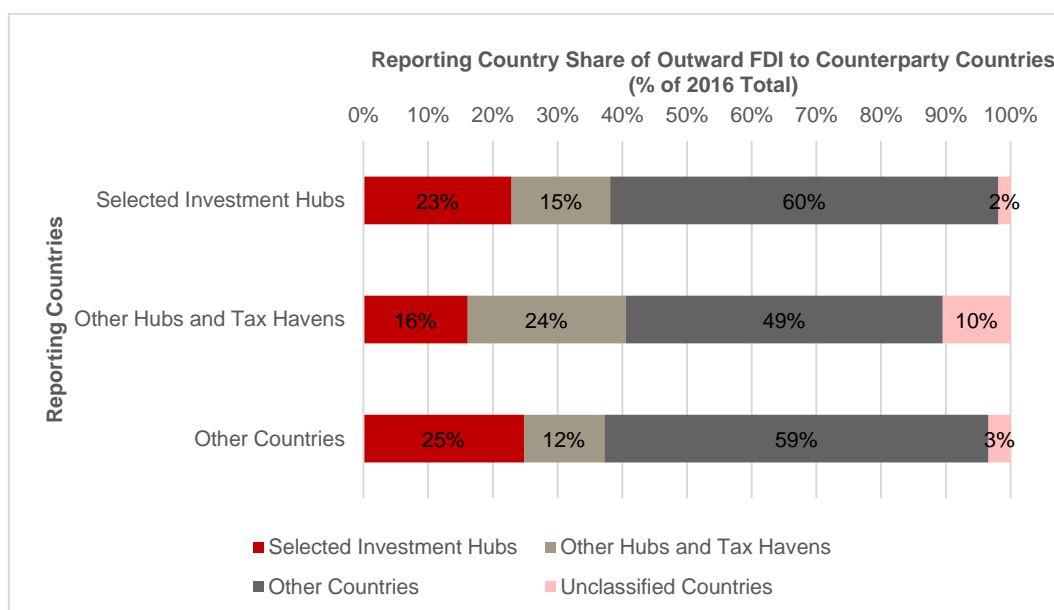
that are often considered conduit countries or tax havens (see introduction and Appendix A). ‘Other countries’ are the rest of the world. In some cases, it is not possible to classify countries.²

Figure 3.8 shows first and foremost that hubs are strongly interlinked, in the sense that 22 percent of inward FDI into the selected investment hubs originates from other selected hubs. Furthermore, 23 percent of inward FDI into these countries comes from other hubs or tax havens. Such inter-linkages are even stronger for this latter group of countries, with over 50 percent of inward FDI stocks in these jurisdictions coming from either the selected hubs or other hubs and tax havens.

At the same time, it is clear that other countries also receive large shares of their FDI through hub countries or tax havens. Furthermore, large shares of inward FDI originate from other countries. Despite noting the strong linkages between hubs in terms of intra-hub FDI, it would thus be wrong to characterise international investment as being a fully ‘inter-hub affair’.

The picture in terms of outward FDI is similar to the picture in terms of inward FDI (Figure 3.9). Substantial portions of FDI originating in investment hubs go towards other hub jurisdictions (either to the hubs selected in this study, or to other hubs or tax havens). Links in terms of outward investment, however, appear weaker: relatively more FDI originating in investment hubs goes towards non-hub jurisdictions than the other way around; this illustrates the hub-function of these countries.

Figure 3.9 Strong linkages in FDI stocks between investment hubs II (outward stocks)



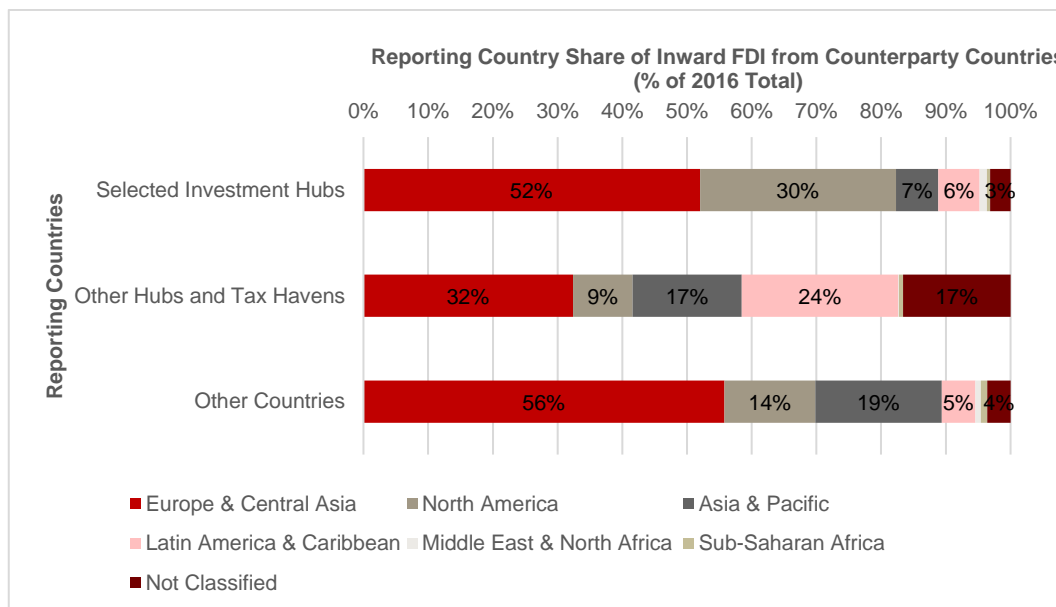
Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018). For details on the classification methodology refer to Appendix A. Some countries could not be classified (see Box 3.1 for a discussion on data limitations).

² This is due to the fact that the IMF CDIS data contains a ‘Not Specified (Including Classified)’ category. See Box 3.1 for further details.

Regional spread of investments

Figure 3.10 shows from what regions selected hubs, other hubs and tax havens, and other countries source their inward FDI.

Figure 3.10 Source regions of inward FDI stocks differ by country type



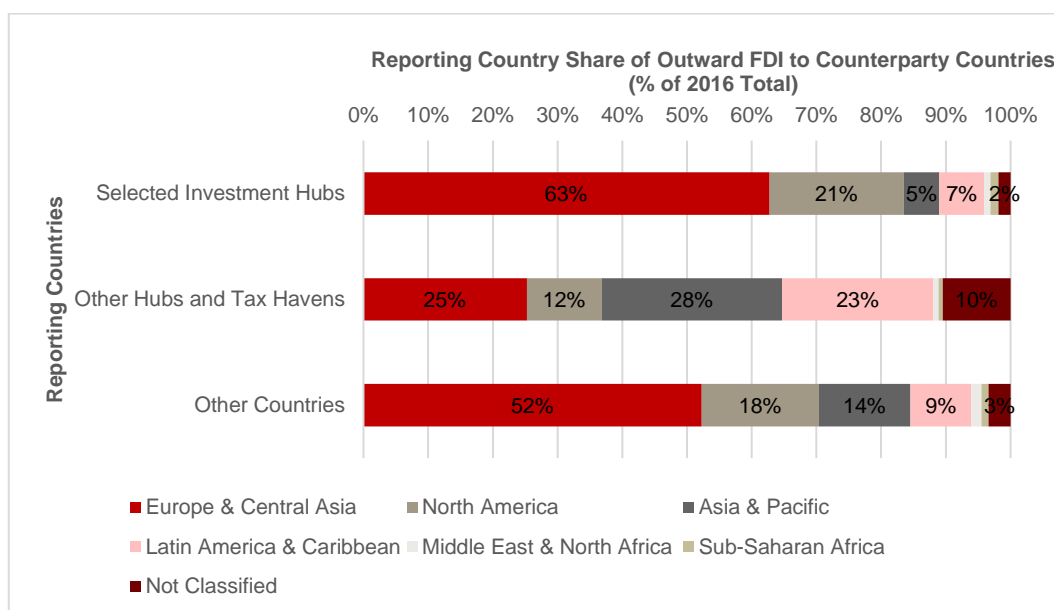
Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018). Country classification is per the WorldBank. Some countries could not be classified (see Box 3.1 for a discussion on data limitations).

The selected investment hubs receive more than 80 percent of their inward FDI from Europe & Central Asia and North America. Other jurisdictions receive only around 40 percent of their inward FDI from these regions. Other countries receive around 70 percent of their inward FDI from these regions.

Both other hubs and tax havens and other countries receive substantially more FDI from Asia & the Pacific than the selected hubs – 17 percent and 19 percent respectively, vis-à-vis 7 percent. The share of other jurisdictions received from Latin America & Caribbean is noteworthy as well: 24 percent compared to 6 percent and 5 percent for the selected hubs and other countries respectively. This also means that these countries have a less concentrated distribution of regions where they source their inward FDI from.

These findings also approximately hold for the distribution of outward FDI by region: selected hub FDI mainly goes towards Europe & Central Asia and North America; the Asia & Pacific region is a more important destination for other hub and other country outward FDI; Latin America & Caribbean is a relatively important destination for investments from other hubs and tax havens; and overall, the distribution of outward investments by region is less concentrated for other investment hubs than for the rest of the world (see Figure 3.11).

Figure 3.11 Destination regions for outward FDI stocks differ by country type

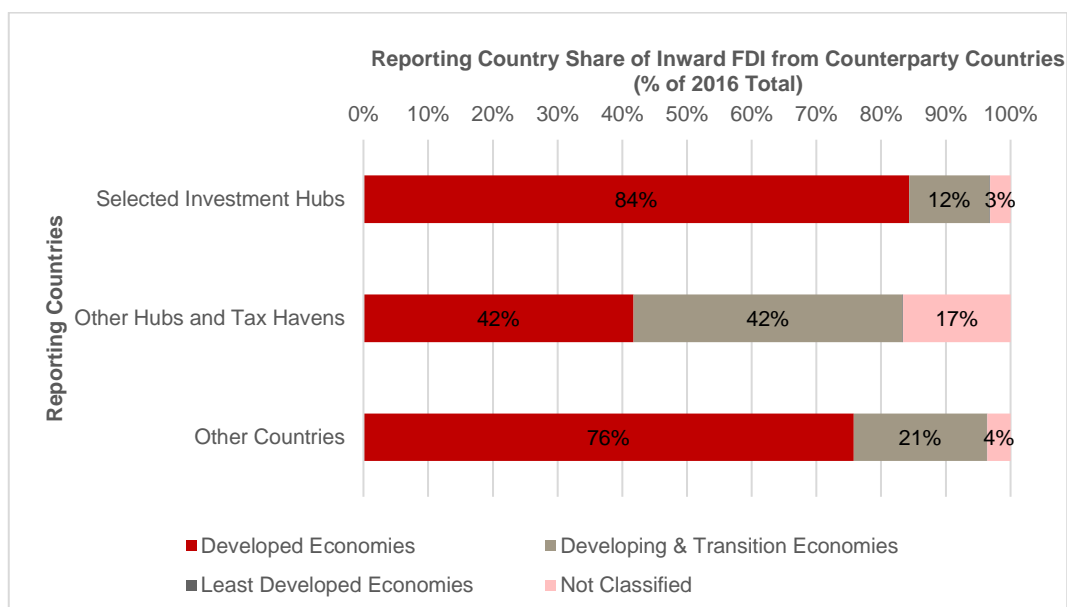


Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018). Country classification is per the WorldBank. Some countries could not be classified (see Box 3.1 for a discussion on data limitations).

Developed and developing economies

In addition to regional spread, hubs may also be compared to other countries by how much they receive from and spend in developed and developing economies. Figure 3.12 does so for inward FDI, and Figure 3.13 for outward.

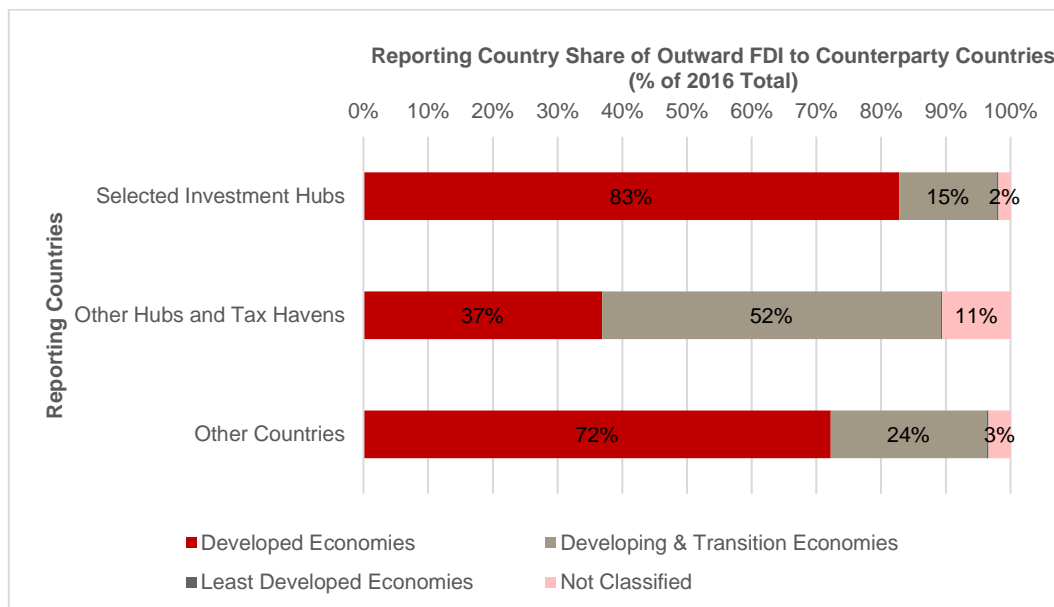
Figure 3.12 Inward stocks by level of development



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018). Country classification is per the WorldBank. Some countries could not be classified (see Box 3.1 for a discussion on data limitations).

Both for inward and outward FDI, the picture that emerges is similar to the picture for the distribution of FDI by region. This is because developed and non-developed economies are concentrated in specific regions. Developed economies are concentrated in Europe and North America, and many countries in other parts of the world are developing economies. Least developed economies are concentrated in Sub-Saharan Africa.

Figure 3.13 Outward stocks by level of development



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018). Country classification is per the WorldBank. Some countries could not be classified (see Box 3.1 for a discussion on data limitations).

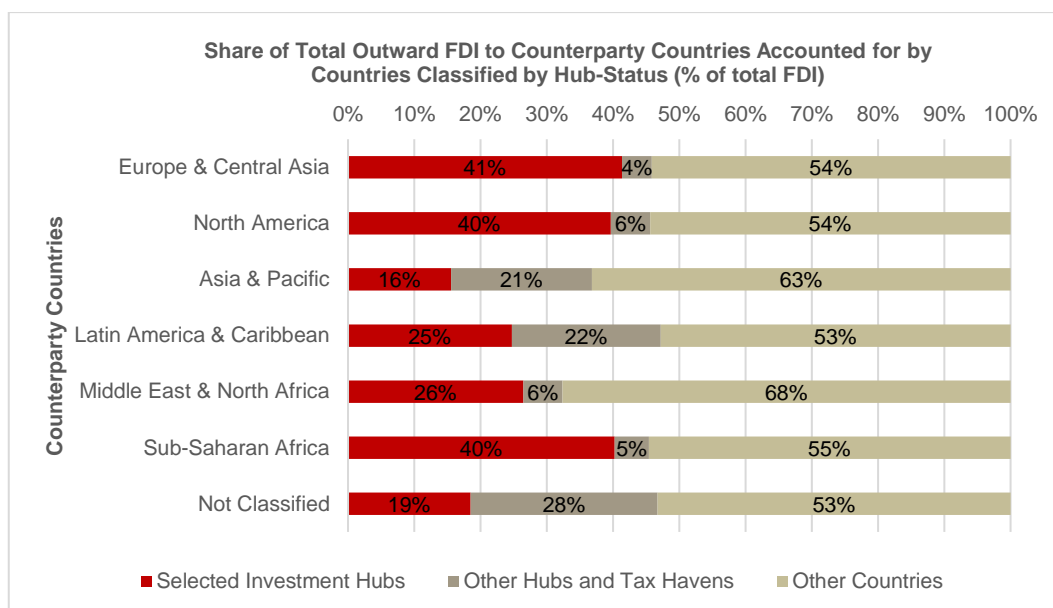
As a result, Figure 3.12 shows that the selected investment hubs receive over 80 percent of their inward FDI from developed economies. Non-hub jurisdictions again receive slightly less from these countries (76 percent), and other hub countries receive substantially less (42 percent). Similarly, the distribution of inward FDI by development status in other investment hubs and tax havens is less concentrated, with for instance 42 percent of inward FDI originating in developing & transition economies. By and large, these conclusions also hold for outward FDI stocks (cf. Figure 3.13)

Relative importance of hubs for developing economies

The preceding discussion could give the impression that the selected investment hubs are unimportant for FDI to and from developing economies. After all, only small fractions of inward and outward FDI stocks of investment hubs originate in or go towards developing economies. This can be explained by the fact that these economies in general are relatively small. On the other hand, despite the fact that relatively small amounts of FDI by the selected investment hubs are, for example, destined for Sub-Saharan Africa or developing economies, these small amounts constitute a large share of overall FDI inflows in these regions or countries.

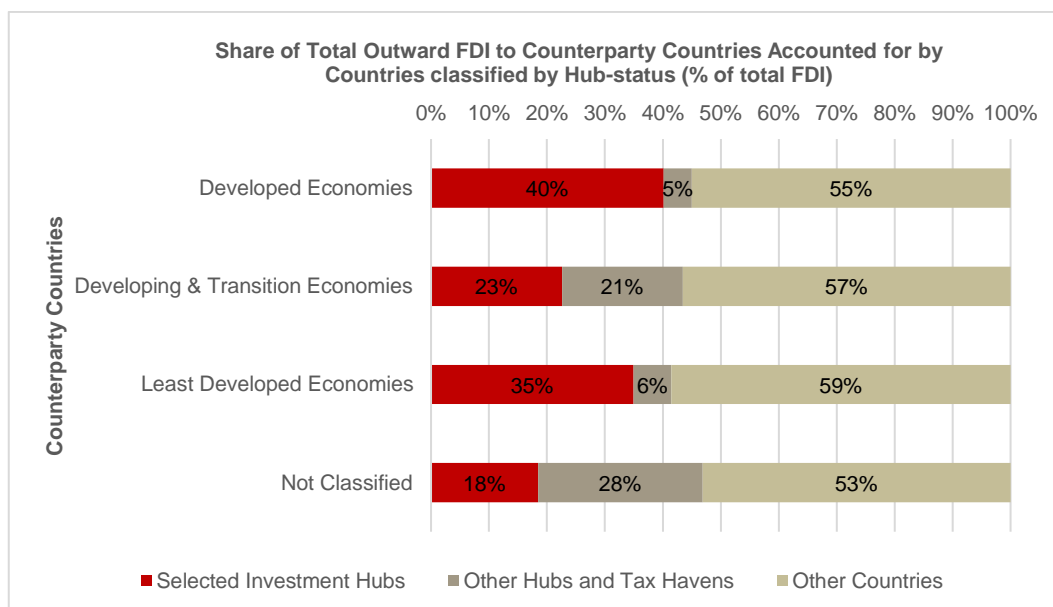
This is corroborated by Figure 3.14 and Figure 3.15. Figure 3.14 shows the shares of FDI going towards regions by the type of originating jurisdictions (whether jurisdictions are investment hubs or not). Figure 3.15 shows the same for FDI going towards developed and developing economies.

Figure 3.14 Selected hubs contribute significantly to outward FDI in Europe and North America, but also Sub-Saharan Africa



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018). Country classification is per the WorldBank. Some countries could not be classified (see Box 3.1 for a discussion on data limitations).

Figure 3.15 Selected hubs contribute significantly to both developed and developing economies



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018). Country classification is per the WorldBank. Some countries could not be classified (see Box 3.1 for a discussion on data limitations).




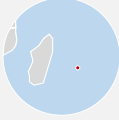

Several features stand out in Figure 3.14. First, despite the fact that the lion's share of outward FDI by investment hubs goes towards Europe & Central Asia and North America, these investments only account for around 40 percent of total outward FDI to these regions. Second, the large role of other hubs and tax havens in investments in Asia & Pacific and Latin America & Caribbean is

reflected as well. Third, and perhaps most interesting, 40 percent of FDI towards Sub-Saharan economies are accounted for by the selected investment hubs – a share on par with investments in Europe and North America. Despite the fact that only a small amount of FDI by the selected investment hubs goes towards these economies, these investments constitute a substantial part of total international investments in these economies. Figure 3.15 expresses this result perhaps more acutely. The five selected investment hubs turn out to account for 35 percent of international investments in least developed economies (mainly in Sub-Saharan Africa), and 23 percent of outward FDI to developing & transition economies (other investment hubs account for another 21 percent).

3.2 Selected investment hubs

Although FDI in and by the individual selected investment hubs broadly aligns with the ‘big picture’ presented above, each hub also has its own interesting features. A full characterisation of each hub is relegated to Appendix B. Here, we present a summarised typology.

Table 3.1 Summary Analysis of Individual Investment Hubs

	Developed economies		Focus on developing economies	
	Total inward FDI (% of total)	Total outward FDI (% of total)	Top destinations for hubs (Top 3 absolute value)	Top destinations for recipients (% of recipient total)
Category A				
Ireland 	80%	87%	1. Cayman Islands 2. Hong Kong 3. Turkey	1. Seychelles (16%) 2. Cayman Islands (3%) 3. Hong Kong (2%)
Luxembourg 	91%	94%	1. Brazil 2. Hungary 3. Singapore	1. Former Netherlands Antilles (70%) 2. Tokelau Island (69%) 3. Anguilla (57%)
Netherlands 	88%	75%	1. Brazil 2. Singapore 3. Curacao	1. Curacao (86%) 2. Kazakhstan (75%) 3. Brunei (67%)
Category B				
Mauritius 	44% (53% developing)	12% (79% developing)	1. India 2. Singapore 3. China	1. Rwanda (90%) 2. Mayotte (79%) 3. South Sudan (69%)
Singapore 	60% (38% developing)	31% (69% developing)	1. China 2. Indonesia 3. India	1. Myanmar (33%) 2. Indonesia (25%) 3. Malaysia (21%)

Source: SEO Amsterdam Economics. Supporting evidence for the contents of this table are presented in Appendix B.

The five selected hubs broadly fall into two categories. On the one hand, there are the Netherlands, Ireland, and Luxembourg, and on the other, Mauritius and Singapore. These two groups of hubs differ in interesting dimensions.

First, the Netherlands, Ireland, and Luxembourg all receive and spend the lion's share of their FDI in other developed economies. Mauritius and Singapore, on the other hand, receive substantial fractions of their inward FDI from both developed and developing economies. Moreover, these countries have the majority of their outward FDI stock placed in developing economies. In the case of Mauritius, a significant part of outward FDI even goes towards least developed economies.

Turning to the interactions the five hubs have with developing economies again reveals a dichotomy between the Netherlands, Ireland, and Luxembourg on the one hand, and Mauritius and Singapore on the other. The former group of hubs mainly interacts (in terms of top inward and outward sources and destinations of FDI stocks) with other (developing) hubs and tax havens, and non-hub interactions are centred around relatively rich developing economies. The latter group deals with other developed economies as well, but both also receive and invest substantial FDI stocks from and in developing economies.

A different metric to judge the importance of each of the five hubs for developing economies by, is the relative importance of the selected hubs for individual developing economies in terms of their contribution to total FDI outflows going towards developing economies. Again, the difference between the two groups is maintained: the Netherlands, Ireland, and Luxembourg contribute dominantly towards FDI in other (developing) hubs and tax havens, whereas Mauritius and Singapore contribute significantly to total FDI in Africa and East-Asia respectively.

It should be stressed that this distinction need not necessarily debase the contribution of the Netherlands, Ireland and Luxembourg to channelling investments to developing economies in Asia and Sub-Saharan Africa. Two facts should be kept in mind. First, although it is not their focus, these countries still invest sizeably in developing economies. Second, the fact that Singapore features prominently in the 'top destinations for hubs' lists for these three countries in the table above suggests that part of the FDI through Ireland, Luxembourg and the Netherlands reaches developing economies by way of Singapore.

4 Economic Effects of Investment Hubs

If investors can no longer make use of the five investment hubs, the countries currently receiving FDI through these hubs are expected to experience diverted and reduced FDI. Proximity to an investment hub generates a positive effect on incoming FDI and on economic growth, and indirectly contributes to lower cost of capital because of increased financial sector competition from the hub. As FDI abroad earns a relatively high rate of return compared to direct investments in originating advanced economies, investors in these economies will most likely be worse off.

This section addresses the third research question: *What are the potential effects on investors and FDI recipient countries when investors can no longer make use of the investment hub infrastructure?* To answer this question, we conduct a thought experiment: what if investors can no longer make use of investment hubs. We consider this question from three angles and look at the question why investment hubs exist and what their effects are on investee and investor countries.

Prior to analysing the effects of investment hubs, it is useful to consider why investment hubs exist. After all, capital is mobile and should flow naturally to countries where the marginal return on capital is highest (Samuelson, 1948). However, capital flows face (market) frictions in the sense that information and transaction costs are not zero, and in addition face barriers as a result of internationally diverging tax and legal systems. These costs and barriers affect international investments. Hubs offer a (partial) solution to this problem, by offering legal services and tax benefits that increase the after-tax (expected) profitability of investments and by indirectly reducing the costs of investments through its role in international capital flows or investor services provided by hub CSPs.

Similar to the benefits of a domestic financial sector mitigating market frictions, investment hubs improve information and reduce transaction costs for international investments. Assessing the relationship between financial development and economic growth, Levine (1997) points to several functions of financial systems. Primarily, financial systems facilitate the allocation of resources across space and time in an uncertain environment (Merton & Bodie, 1995). Levine (1997) states that well-developed and trustworthy financial systems

- facilitate the trading, hedging, diversifying, and pooling of risk;
- allocate resources;
- monitor managers and exert corporate control;
- mobilise savings; and
- facilitate the exchange of goods and services.

These and similar functions are reflected in investment hubs as well. For instance, it is typically costly for individual investors to evaluate firms, managers and market conditions before making an investment. Centralising the collection of ex-ante information in, for example, investment hubs is efficient in that case. As Levine (1997) notes: ‘economizing on information acquisition costs facilitates the acquisition of information about investment opportunities and thereby improves resource allocation’. Via CSPs and other providers of investor services in hub jurisdictions, hubs can provide such ‘economies of scale’. Likewise, the monitoring of firm behaviour after investments have been made is costly as well, especially for individual investors. Having a single party monitor the ex-post

behaviour of investees removes the necessity for individual creditors to monitor investee behaviour.³

Delegating information collection, monitoring or risk management requires that investors trust fiduciaries to uphold their duties. In part, such trust can stem from the quality of the legal system in (hub) jurisdictions. A well-functioning legal system protects property rights or allows investors to credibly claim compensation if fiduciaries fail to uphold their duties. La Porta et al. (1998) underpin the importance of legal protection for investors by showing that firm ownership is highly concentrated in countries with poor investor protection, the reasoning being that a large controlling share in a company partially substitutes for poor (legal) investor protection. This is likely an inefficient solution: La Porta et al. (1997), for instance, show that countries with poor investor protection have comparatively smaller capital markets. Legal protection, then, is also likely to be an attractive feature of investment hubs for many international investors. Continuing the reasoning of La Porta et al. (1998), if hubs in addition to tax advantages provide superior legal protection compared to investee jurisdictions, investors need not always acquire large controlling stakes in investee companies as a substitute for poor legal institutions.

4.1 Effects on recipient countries

In analysing the economic effects on recipient countries, we make a distinction between direct effects on FDI and growth and indirect effects on financial sector competition.

4.1.1 Direct effects on FDI and growth

If investors can no longer make use of the five investment hubs, there will be two effects on FDI. First, diversion of FDI: FDI that used to flow through the investment hubs to recipient countries, will either flow directly from originating countries to recipient countries or will be diverted through other investment hubs. As empirical research has demonstrated that FDI is highly sensitive to tax parameters such as bilateral tax treaties (e.g. Blonigen, 2014, Lejour et al 2013), investment protection treaties (e.g. Berger et al 2013, Lejour et al 2015), and legal climate (see box on Mauritius), it is plausible that FDI will be diverted through other investment hubs. Second, total FDI will decrease because there will be an increase in barriers to FDI. This can take the form of increased barriers as a result of higher taxation, less investment protection, or higher transaction costs. The magnitude of this negative effect on FDI is difficult to estimate and will differ between investment hubs.

One reason for this is that distance to an investment hub is a barrier in itself, explaining the volume of FDI: countries close to investment hubs are large sources of and destinations for FDI. Based on year-end 2006 portfolio investment data, Hines (2010) reports that:

- investments in investment hubs by non-hub counterparties and investments by investments hubs in non-hub counterparties are decreasing in distance between the hubs and the non-hub counterparties;

³ This argument is similar to the one used by Guiso et al. (2004), who argue that social capital yields higher financial development. Akcomak and Ter Weel (2011) show that it even induces higher levels of innovation.

- the ‘distance effect’ is stronger for investments by the investment hubs in the non-hub counterparty countries; and
- non-hub GDP is positively associated with investments in investment hubs by non-hub counterparties, and with investments by investment hubs in non-hub counterparties.

The substantial effect of distance on FDI is striking, especially given the ability of portfolio investments to flow to anywhere in the world. Hines (2010) argues that ‘part of the explanation surely lies’ with investment hubs catering their practices, procedures, and regulations to clients in nearby jurisdictions, thus developing regional networks and expertise. The fact that proximity to an investment hub has a positive effect on FDI, implies that countries that are close to one of the five investment hubs will experience a decrease in incoming FDI, as investors can no longer make use of these hubs. If there are alternative investment hubs nearby, this effect will be smaller compared to cases where the nearest alternative hub is farther away (see box Mauritius).

Box 4.1 Mauritius

Mauritius functions as an investment hub for the African continent and South Asia, particularly India. For example: 90% of incoming FDI to Rwanda is channelled through Mauritius, and for South Sudan this is 69%. For India, Mauritius’ outward FDI stocks in India amount to 40% of the global total FDI going towards India.

Many investment funds, including Development Finance Institutions (DFIs) use Mauritius when operating in Africa. There are several reasons for this. Mauritius is a developed country with a relatively high GDP per capita (\$21,102 in 2016 PPP international \$). The country also scores well on the World Bank Ease of Doing Business index (25th). It has a strong overall legal and regulatory environment. Furthermore, Mauritius has signed 43 double taxation agreements including with other hubs such as Luxembourg, Singapore, the UK and Guernsey. Mauritius also has treaties with large African economies such as South Africa and Egypt, while treaties with Nigeria, Kenya and Morocco await ratification (Mauritius Revenue Authority, 2018). Besides preventing double taxation, Mauritius promotes investment through Investment Promotion and Protection Agreements (IPPAs) with 28 countries (Mauritius Board of Investment, 2018). These agreements protect investors from the risk of expropriation.

The Global Impact Investing Network (GIIN, 2016) writes about investing through Mauritius:

“General Partners often choose to domicile their funds in Mauritius since this provides them the flexibility to easily structure and deploy capital into promising portfolio companies while providing their Limited Partners with liability protection and tax efficiency. For these reasons, among others, Mauritius is a preferred domicile for many investors focused on Africa and South Asia. In addition to the tax, legal, and financial incentives encouraging funds to locate in Mauritius, investors cite geography, political stability, and local professional service providers as key drivers of their decisions to domicile in the country.”

GIIN (2016) further notes that impact investing (thus aimed at development) through Mauritius mainly occurs through Development Finance Institutions (DFI). GIIN has identified about forty of these DFI transactions for a total 600 million USD. Mauritius’ attractiveness for DFIs is enhanced by the insistence of the African Development Bank that funds in which it invests need to be domiciled in Africa (Overseas Development Institute, 2017).

Source: SEO Amsterdam Economics based on GIIN (2016), Mauritius Revenue Authority (2018), and Mauritius Board of Investment (2018).

Effects on FDI and GDP

The proximity effect for FDI is documented in several studies. Blanco and Rogers (2009), using country-level data on investment flows between 1990 and 2006, find that investments in developing economies are positively associated with proximity to investment hubs as well as the level of investment in the proximate hubs. Hines (2010) interprets this result as a reminder that the ability of investors to make use of investment hubs need not divert economic activity from ‘high-tax juris-

dictions'. These results suggest that firms facing reduced costs of establishing investment hub operations respond in part by expanding their foreign activities in nearby 'high-tax jurisdictions'. Earlier work by Desai et al. (2006a, 2006b) corroborates this notion of complementarity between investments in hubs and 'high-tax jurisdictions'. Desai et al. (2006b) find that greater sales or investment activity outside of hubs correlates with greater demand for hub services. Specifically, they find that for a typical American multinational, a 1 percent greater likelihood of establishing affiliates in an investment hub is associated with around 0.6 percent greater sales and investment growth outside of the investment hubs. The symmetry of complementarities then suggests that if foreign investments make the use of investment hub services more attractive, the use of hubs makes foreign investment more attractive (Desai et al., 2006b).

As higher levels of investment have potential positive effects on economic growth, the proximity effect is also found for growth. Based on country level data between 1992 and 2006, Hines (2010) shows that countries close to investment hubs exhibit faster growth rates than other countries, stressing that this difference in growth rates should be interpreted with care. Although it suggests that investment hubs contribute to economic growth, many other factors could be at play and the location of hubs is likely to be endogenous. Hines (2010) continues: *"the correlation of economic growth and proximity to tax havens may mean that, conditional on there being tax havens in the world, a country benefits from having one nearby – but that is not quite the same as saying that the country is made better off by the existence of tax havens. Still this evidence is suggestive, ..."*

Effects on tax revenues

Investment hubs are subject of debates on tax competition and the consequences thereof for tax revenues in (developing) countries with high capital taxes. Apart from enabling investors to avoid double taxation via bilateral tax treaties, hubs can be instrumental in tax evasion by multinational enterprises (IMF, 2014 and Weyzig, 2013). In the following analysis, the question is what would happen to tax revenues of recipient countries if these enterprises could no longer make use of the five investment hubs?

A possible static effect is that tax revenues of FDI receiving countries will increase as treaty shopping and possibilities for aggressive tax planning are limited. This effect, however, depends on where the investment originates: if it originates from a financial centre with many tax treaties, say the UK, then changing routing via an investment hub to direct FDI in many cases will not increase tax revenues in receiving (developing) countries. A recent example of the Commonwealth Development Corporation (CDC), a Development Finance Institution from the UK which invested in Uganda by using a holding company in Mauritius, illustrates this – even if the fund manager had located its holding company in London, no capital gains tax on equity sales would have been due in Uganda as a result of the tax treaty between the UK and Uganda (Carter, 2017).

In reality, such reasoning does not hold, as investors will respond to the fact that they can no longer use these investment hubs by either diverting FDI through other hubs (in case substitution is easy), deciding to invest in other countries or deciding not to invest at all. It is difficult to predict which of these effects will dominate, and this most likely differs between investment hubs. If alternatives are easy to find and located nearby, diversion is likely to be large. If alternative hubs are difficult to find (as will likely be the case for Mauritius), barriers to FDI into these recipient countries will

increase. In that case, it is more likely that investors will decide to invest elsewhere or not at all. An illustration of this response by investors can be seen in the case of Norfund (see Box 4.2).

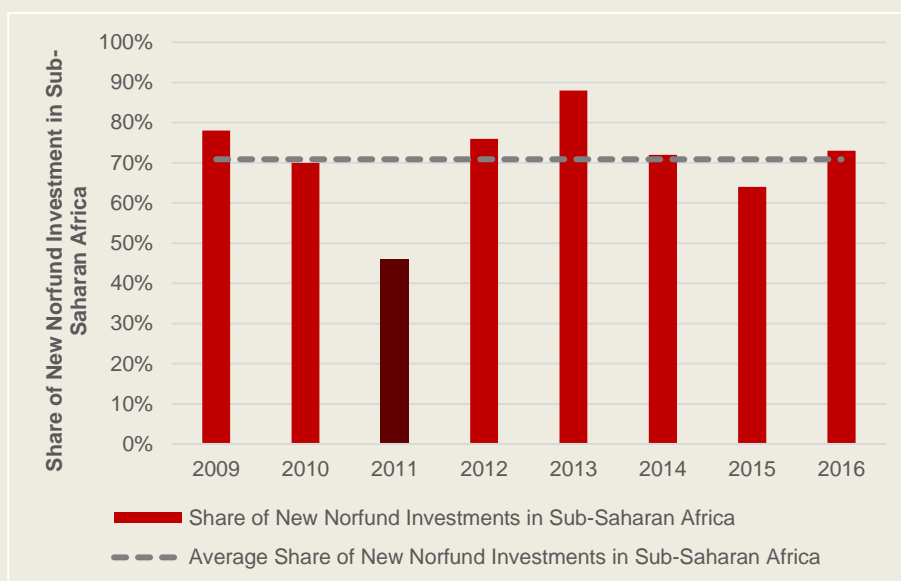
Box 4.2 Norfund

The relevance of Mauritius for investors in the African continent is illustrated by restrictions imposed on the use of offshore financial centres by Norwegian Development Bank Norfund between 2009 and 2011. Norfund could only invest via OECD countries or countries with which it had a tax information exchange agreement. As there was no such treaty with Mauritius, no new investments through Mauritius were conducted until the new treaty was signed in 2012. (Overseas Development Institute, 2017). Instead, new investments were domiciled in South Africa and Kenya. However, there are also indications that Norfund was not able to completely cover for the temporary loss of Mauritius as an investment hub. In 2011, the percentage of investments in Sub Sahara Africa amounted to 46 percent, below the 70 percent average for the 2009-2016 period. Additionally, Norfund wrote in her 2011 annual report:

“The practical consequences of the restrictions on the use of OFCs have made it more difficult to invest in a number of enterprises in Africa”

In 2012 Mauritius and Norway reached an agreement on the exchange of information with respect to taxes. (Mauritius Revenue Authority, 2012). From then on Norfund could again make use of Mauritius as an investment hub. Since 2012, with the new tax information exchange agreement in place, 19 out of 52 new Norfund investments were domiciled in Mauritius. South Africa comes second with three new Norfund investments in that same period (Norfund, 2018).

Figure 4.1 Share of New Norfund Investment in Sub-Saharan Africa



Source: SEO Amsterdam Economics based on various Norfund *Annual Reports*.

The natural experiment described above illustrates what would happen if specific investment can no longer be used by investors. Investments in countries that are primarily served through those hubs would, at least temporarily, receive less FDI. At the same time, investments would likely shift towards second best destinations which are more easily reached either directly or through alternative hubs.

The Overseas Development Institute (2017) puts it this way:

If DFIs stopped routing their investments through offshore financial centres (OFCs) two things would happen, both uncertain. First, the ability of developing countries to tax capital income from those investments that take place in their territory would rise, to some degree. But the arguments presented here suggest that the impact on taxing rights would be minor, either because DFIs and their co-investors would route their investments through onshore OECD financial centres with equally advantageous tax arrangements, or because overseas

investors would be offered tax incentives regardless of domicile. Second, the quantity of investment that DFIs can conduct in developing countries would fall, to some degree. This would come at the cost of lower taxes in developing countries from profits and wages, a fall in investment would result in fewer jobs created and a decrease in the production of goods and services (such as renewable energy). Furthermore, it would be the least developed countries, where investors are more likely to want to use an OFC and where capital is most scarce, that would be most affected.

Source: SEO Amsterdam Economics based on ODI (2017), Norfund (2018), and Mauritius Revenue Authority (2012).

Either way, it is unlikely that tax revenues of the recipient country will increase. In the case of diversion through other hubs, it is plausible that incoming FDI will make use of the same tax treaties and comparable structures. Hence it will not make a difference to developing country tax revenues. The intuition is confirmed by Lejour and van 't Riet (2013). They carried out a simulation with their network model suited to evaluate policy changes in tax parameters on the global effective tax rate, assuming all OECD countries combat treaty shopping by excluding all tax havens from any double tax relief other than deduction of taxes already paid. In their simulation the world average remaining double tax rate is raised from 6.03 to 6.17, characterised as a “modest increase”.

The other possibility is that – as a result of increased barriers – FDI is diverted to other recipient countries, or investors decide to invest at home or not at all. The proximity effect in itself will contribute to this if alternative hubs are located further away. In that case, FDI to recipient countries decreases and direct tax revenues over these investments will also decrease. Moreover, there will be a dynamic effect – as incoming FDI leads to increased economic activity and productivity growth (section 1) the future tax base of the recipient economy will be smaller as a result of the lower foreign direct investments. This dynamic effect will also contribute to lower (than baseline) tax revenues.

Finally, increasing barriers to the use of investment hubs might fuel tax competition between (high tax) economies. Hines (2010, p. 120) describes the mechanism as follows: “*The tax avoidance opportunities presented by tax havens allow other countries to maintain high capital tax rates without suffering dramatic reductions in foreign direct investment. Hence, the widespread use of tax havens may retard what would otherwise be aggressive competition between other countries to reduce taxes in order to attract and maintain investment. In effect, what tax havens do is to permit governments to distinguish investments, subjecting relatively immobile domestic investment to higher tax rates than the highly mobile international investment.*” Following this line of reasoning, limiting investments via investment hubs could trigger more aggressive tax competition between high tax countries, leading to decreasing capital tax rates and tax revenues in these economies.

4.1.2 Indirect effects on financial sector competition

Apart from the direct positive effects of nearby investment hubs on FDI, growth and tax revenues, there is also evidence for indirect positive effects through increased financial sector competition. Hines (2010) remarks that financial sectors in many countries are typically controlled by a small number of banks and/or by governments (e.g. through regulated monopolies or state ownership of banks), especially in low-income countries and those lacking strong (democratic) institutions. The resulting lack of competition in banking leads to high interest rates for consumers and businesses, encourages credit rationing, and adversely affects the financial sector and the economy as

a whole. Research by La Porta et al. (2002) suggests that countries with monopolised banking sectors and (accompanying) underdeveloped financial sectors exhibit low per capita incomes, as well as low productivity growth.

Investment hubs (potentially) compete with underdeveloped financial sectors in developing economies, and thus help to address some of the issues associated with uncompetitive financial sectors (Hines, 2010). Rose and Spiegel (2007) document that interest rate spreads are lower in countries closer to investment hubs. Specifically, they report that – all other things equal – a country twice as far from an investment hub will have interest rate spreads of 1.63 percentage points lower. Other indicators of banking sector competition, such as the C5-ratio, are more favourable as well for countries closer to investment hubs. This has effects on the real economy. Rose and Spiegel (2007) report that financial markets in countries closer to investment hubs extend more credit to the private sector, have higher aggregate borrowing, as well as higher levels of M2, suggesting more private-sector financial market activity overall.

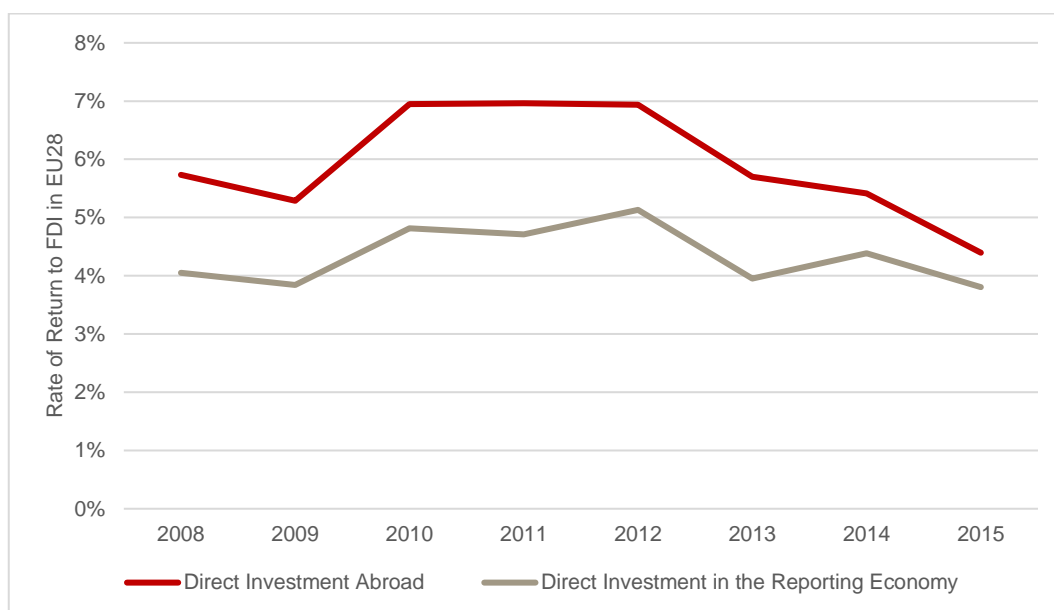
The proximity effect of investment hubs on financial market development and activity should be interpreted with care. It may, for instance, be the case that investment hubs develop closer to more developed financial markets. However, Hines (2010) argues that “while it is difficult to know with certainty how tax havens affect nearby financial markets, the apparent competitive effects are consistent with what one might expect from entry into a monopolised or quasi-monopolised sector that otherwise charges above-market prices to consumers and businesses, that rations capital on the basis of personal relationships, and that thereby serves as a drag on the local economy.”

4.2 Effects on investors in originating countries

Investors in originating countries face a choice between investing at home or investing abroad. This choice is most direct for multinational enterprises, which in many cases make use of investment hubs. Other investors in originating countries such as pension funds face a choice between investing in firms which are active abroad or firms which are only domestically active. What would be the effect on the returns of these direct and indirect investors if foreign direct investors could no longer use the five investment hubs? The answer to this question depends on the effect on the volume of FDI (see Figure 4.2) and on the returns to FDI.

There is, at least for the US, convincing evidence that returns to investments abroad are higher than returns to foreign investments in the US. This is partly (about one third, or between 1.0% and 1.8%) due to higher taxation of investments in the US (Curcuro 2012, 2013 and Bosworth et al 2007) and partly a compensation for higher (sovereign) risk and sunk costs associated with investing abroad. Others (e.g. McGrattan and Prescott, 2010) contribute a large part of the differential to mismeasurement of intangible assets. Also for other advanced economies there is fragmented information that returns to FDI abroad are relatively high. For Denmark, for instance, the Central Bank reports consistently higher returns on FDI abroad (Isaksen et al, 2016). For the EU-28 countries over the period 2008-2015, rates of return on direct investments abroad have been higher than rates of return on direct investment in the reporting countries (Figure 4.2), although both rates of return have fallen since 2012.

Figure 4.2 Rates of return on FDI abroad from EU-28 countries are relatively high



Source: SEO Amsterdam Economics based on Eurostat, *Foreign Direct Investment – Rates of Return* (bop_fdi6_pos, bop_fdi6_inc, and bop_fdi_main) (retrieved March, 2018).

There are other reasons besides tax why the rate of return to FDI in developing countries may be higher. Okafor (2015) writes: *The efficiency seeking motives were tested using rate of return, enrolment rate in education, corruption, trade openness, and inflation. The findings were all as expected. The return on capital was positive and significant both for the full SSA sample and sub-regional groups. SSA countries are regarded as being too risky for investment and thus, high return well enough to compensate for any possible risk can still spur on investment. These results also confirm the hypothesis that all things being equal, capital will flow from capital abundant countries into capital scarce countries such as SSA in order to exploit the higher return on capital.*

This is in line with the findings of Razafimahefa and Harmori (2005), who find that FDI determinants may differ for different regions in writing: *“...The countries with the lowest GDPs in the present sample, that is, the countries of Sub-Saharan Africa, can be expected to have the thinnest stock of capital and the smallest capital-labor ratio, hence the highest rate of return on capital. This stands to reason, as a high return on capital is one of the consequential incentives for FDI. In this scenario, foreign investments use the SSA countries as a production base and export their products rather than targeting the SSA market itself (the level of GDP). In contrast, the sign of the variable (inverse of GDP) is negative for the Asian countries, suggesting that GDP itself (as opposed to its inverse) appears as a determinant of FDI inflows. The market size seems to be the main incentive for FDI inflows in the presently studied Asia economies.”*

If (risk-corrected) returns on investments in foreign subsidiaries are relatively high, limiting the possibilities to investment abroad by limiting the role of investment hubs is likely to have a negative impact on the volume of these investments (see Figure 4.2) and hence on the possibilities for diversification of investment portfolios and for the average return on investments portfolios (as they will be for a larger part composed of domestic investments with relatively low returns). In the end, average returns to investors in originating countries will be lower than in the alternative; given the large differential in investment returns this is possibly a sizeable effect. A natural experiment as described in Choy et al (2017) confirms this perception of a positive market value of the role of

investment hubs by investors: firms with a large number of subsidiaries in tax havens experienced a drop of 0.9 percent in stock prices after publication of a report urging the government to implement appropriate actions to raise the firms' costs of holding tax haven subsidiaries.

This effect may be further enhanced by the fact that investors choose to use investment hubs for their stable political and legal regime in case of investment in particularly risky (high return) countries such as those in SSA (Overseas Development Institute, 2017).

5 Conclusions

Commissioned by the Investment Facilitation Forum (IFF), SEO Amsterdam Economics has studied the role of investment hubs in global Foreign Direct Investment (FDI) and the importance of FDI for international trade and economic development. At the request of IFF, particular attention has been given to Ireland, Luxembourg, Mauritius, the Netherlands, and Singapore as investment hubs and to developing economies as FDI recipients.

This report sought to answer the following research questions:

1. What are the economics of FDI in terms of its role in trade, economic growth, and development?
2. How much FDI flows through Ireland, Luxembourg, Mauritius, the Netherlands, and Singapore as investment hubs? And which countries are the main sources and main beneficiaries, with a special focus on developing countries?
3. What are the potential effects on investors and FDI recipient countries when investors can no longer make use of the investment hub infrastructure?

What are the economics of FDI in terms of its role in trade, economic growth, and development?

FDI can contribute to economic development of recipient countries via increased investments, economic activity, and knowledge spillovers through new technology and human capital. The link between FDI and trade is more diffuse: trade and FDI can be substitutes as well as complements. Empirical evidence points towards positive productivity effects in recipient countries, both advanced and developing, and towards complementarity between FDI and trade: trade and FDI go hand in hand.

How much FDI flows through Ireland, Luxembourg, Mauritius, the Netherlands, and Singapore as investment hubs? And which countries are the main sources and main beneficiaries, with a special focus on developing countries?

Selected investment hubs accounted for a third of global FDI stocks in 2016. The majority of FDI takes place between developed economies and there are substantial inter-hub FDI positions. At the same time, FDI from these hubs to developing economies accounts for a substantial part of total incoming FDI in developing economies. FDI from Singapore and Mauritius especially contributes significantly to total FDI to developing regions such as East- and South-Asia and Sub-Saharan Africa.

What are the potential effects on investors and FDI recipient countries when investors can no longer make use of the investment hub infrastructure?

If investors can no longer make use of the five investment hubs, the countries currently receiving FDI through these hubs are expected to experience diverted and reduced FDI. Proximity to an

investment hub generates a positive effect on incoming FDI and on economic growth, and indirectly contributes to lower cost of capital because of increased financial sector competition from the hub. As FDI abroad earns a relatively high rate of return compared to direct investments in originating advanced economies, investors in these economies will most likely be worse off. To quantify the size of these effects on a global scale, further econometric modelling and research is necessary.

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Appendix A Country Classification

Differentiation and classification

Differentiating between the selected hubs, and other hubs and tax havens and the rest of the world requires a classification of countries. Several international and national authorities maintain lists of countries classified by their investment hub or tax haven status.

Aiming to obtain a comprehensive view of relevant jurisdictions, this report relies on the classification made by Gravelle (2015) as part of a report to the United States Congress. Gravelle (2015) provides a ‘list of lists’ classification, meaning that countries that are included as hubs on several of the lists maintained by international and national authorities are included on Gravelle’s (2015) list, but that countries that are only listed on a few of these lists typically are excluded. This yields a comprehensive overview of hub jurisdictions.

The table below displays the resulting classifications. Panel A displays the countries that are commonly considered ‘investment hubs’ or ‘tax havens’. Panel B displays countries that are less frequently mentioned, but that can be argued to display ‘investment hub/tax haven characteristic’. With the exception of the Netherlands, the selected investment hubs are part of the list in Panel A. The Netherlands is part of Panel B.

For the remainder of the present study, this means that when we refer to ‘investment hubs’, we refer to the countries in Panel A + the Netherlands. ‘Selected investment hubs’ are the Netherlands, Ireland, Luxembourg, Mauritius, and Singapore. ‘Other hubs and tax havens’ are the jurisdictions listed in Panel A, excluding Ireland, Luxembourg, Mauritius, and Singapore.

A. Jurisdictions Listed on Various ‘Tax Haven’ Lists

Andorra	Cayman Islands	Isle of Man	Marshal Islands	<u>Singapore</u>
Anguilla	Cook Islands	Jersey	<u>Mauritius</u>	St. Kitts and Nevis
Antigua and Barbuda	Costa Rica	Jordan	Monaco	St. Lucia
Aruba	Cyprus	Lebanon	Montserrat	St. Vincent and Grenadines
Bahamas	Dominica	Liberia	Nauru	Switzerland
Bahrain	Gibraltar	Liechtenstein	Netherlands Antilles	Seychelles
Barbados	Grenada	<u>Luxembourg</u>	Niue	Tonga
Belize	Guernsey	Macau	Panama	Turks and Caicos
Bermuda	Hong Kong	Maldives	Samoa	U.S. Virgin Islands
British Virgin Islands	<u>Ireland</u>	Malta	San Marino	Vanuatu

B. Jurisdictions with ‘Tax Haven Characteristics’

Netherlands

Various other countries with Tax Haven characteristics according to some sources, including the United States, the United Kingdom, Denmark, Iceland, Israel, Portugal’s Madeira Island, Hungary, Brunei, Uruguay, Labuan (Malaysia), Puerto Rico, Campione d’Italia, Poland, the Slovak Republic, Sao Tome e Principe, Somalia, Dubai, Belgium, and the Mariana Islands.

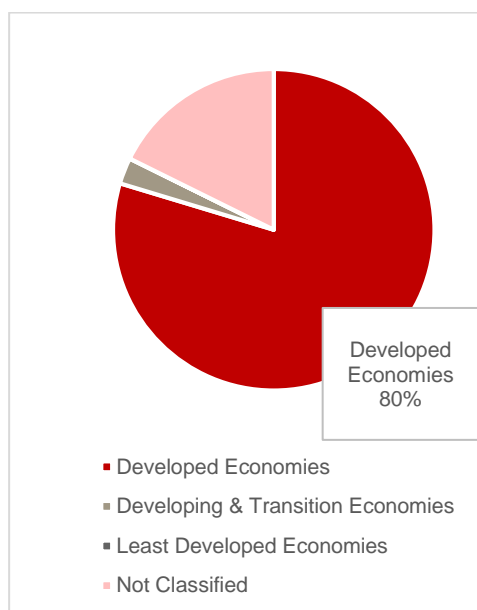
Source: Gravelle, J.G., (2015), *Tax Havens: International Tax Avoidance and Evasion*, Congressional Research Service: Washington D.C., the United States.

Appendix B Investment Hub Cases

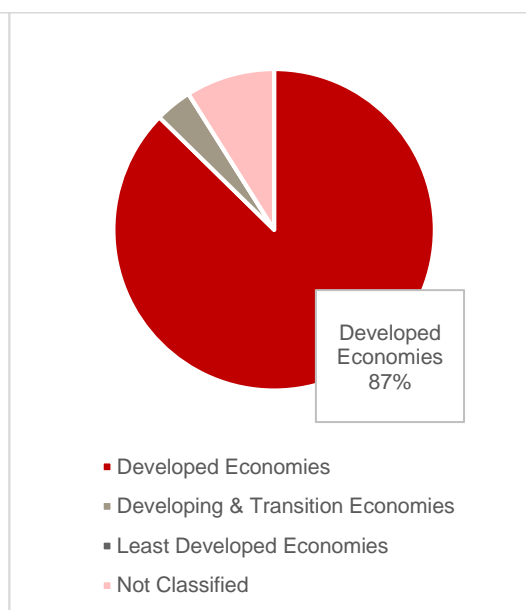
Ireland

Inward FDI Stock (2016)	846 billion \$US (±3% of world total)
Outward FDI Stock (2016)	842 billion \$US (±3% of world total)

Distribution Inward FDI (2016)



Distribution Outward FDI (2016)

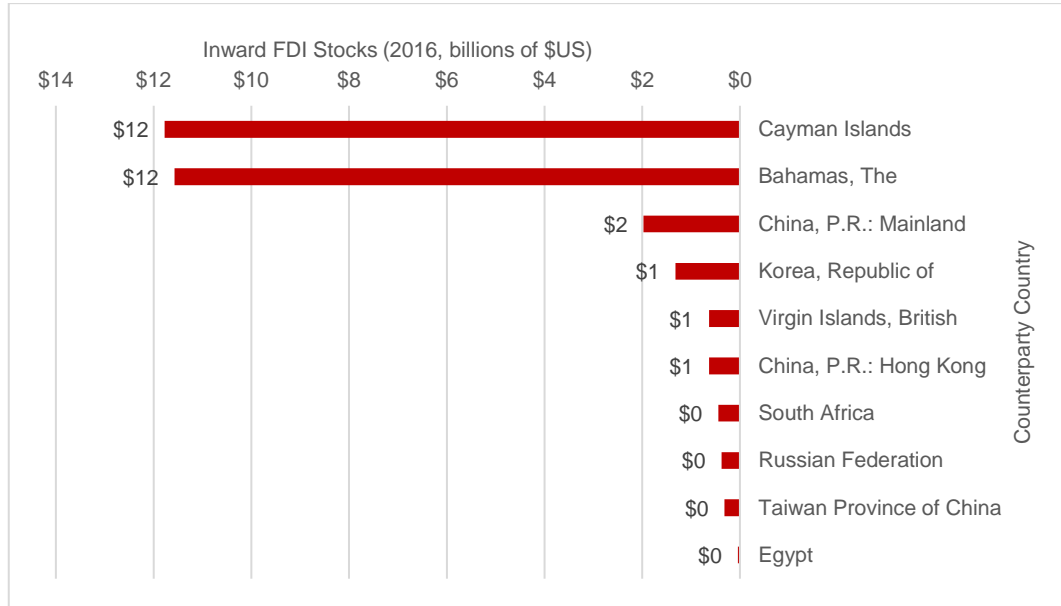


Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018).

Inward FDI stocks in Ireland amounted to 846 billion \$US in 2016, of which 80 percent came from developed economies. The lion’s share of outward FDI was related to developed economies as well: 86 percent of 842 billion \$US came from developed countries. In general, Ireland was a large player in global FDI stocks in 2016, comprising 3 percent of the global total in inward and outward stock terms.

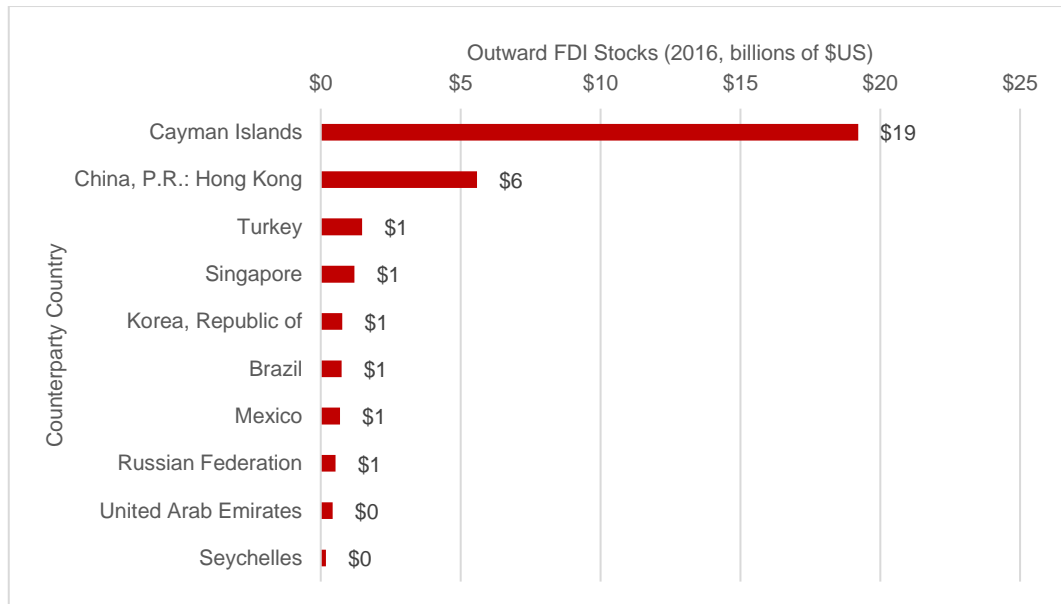
Figure B. 1 shows the top-10 developing economies for Ireland in terms of inward FDI in 2016. This reveals that developing economies invest negligible amounts into Ireland and that those that do typically are other hubs or tax havens: the Cayman Islands and the Bahamas are the largest contributors with 12 billion \$US each. The outward ‘top-10 picture’ (Figure B. 2) shows roughly the same: Ireland invests negligible amounts in developing economies (arguably with the exception of other hubs or tax havens). In relative terms, these investments are largely unimportant as well (see Figure B. 3 & Figure B. 4).

Figure B. 1 Top 10 Sources of Inward FDI from Developing Economies



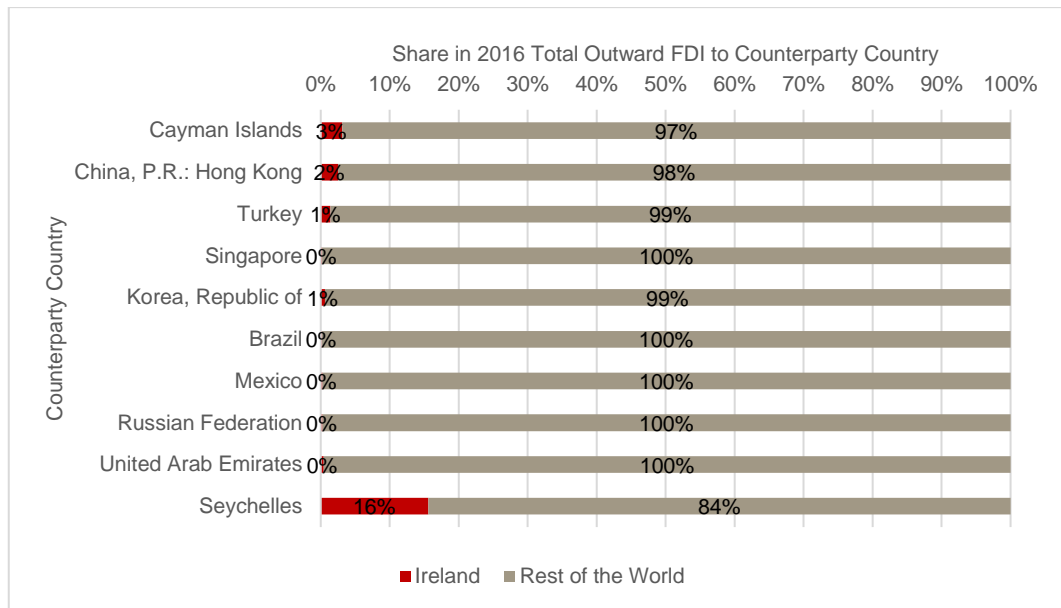
Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

Figure B. 2 Top 10 Destinations of Outward FDI to Developing Economies



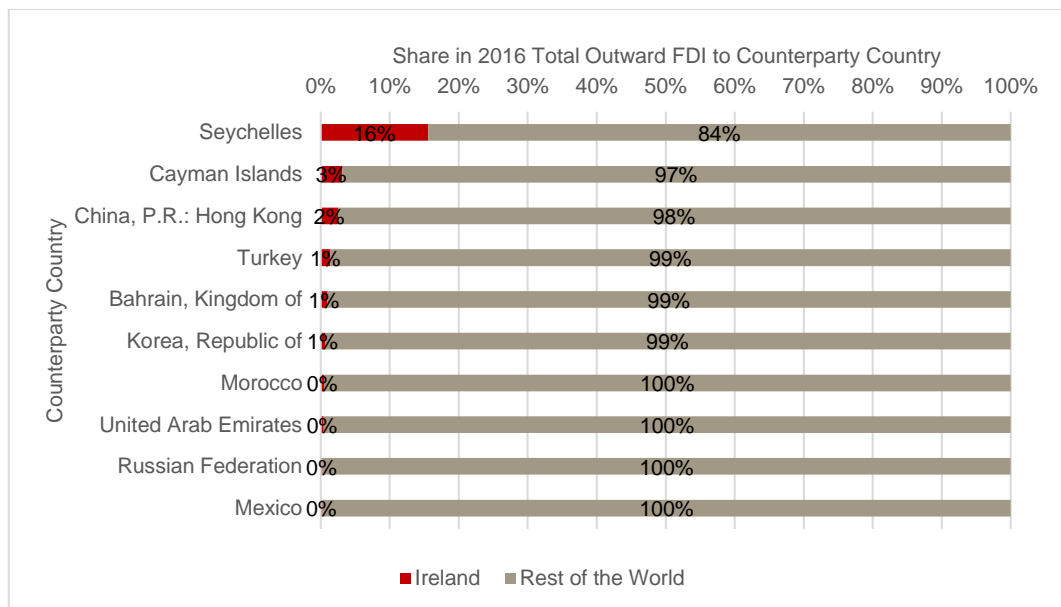
Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

Figure B. 3 Importance of Outward FDI for Developing Economies I



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

Figure B. 4 Importance of Outward FDI for Developing Economies II

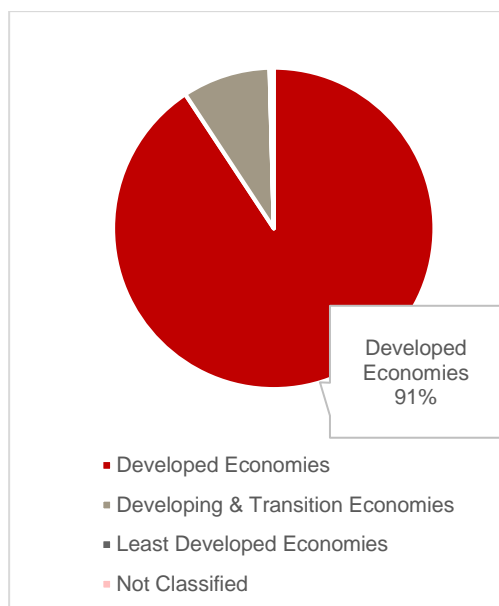


Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

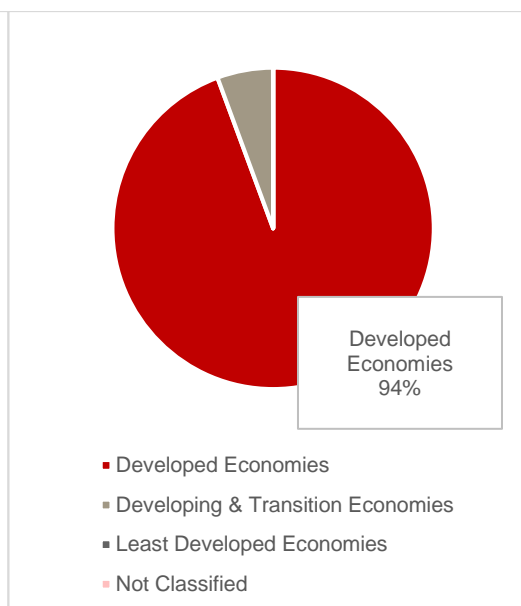
Luxembourg

Inward FDI Stock (2016)	3,634 billion \$US (±12% of world total)
Outward FDI Stock (2016)	4,419 billion \$US (±14% of world total)

Distribution Inward FDI (2016)



Distribution Outward FDI (2016)



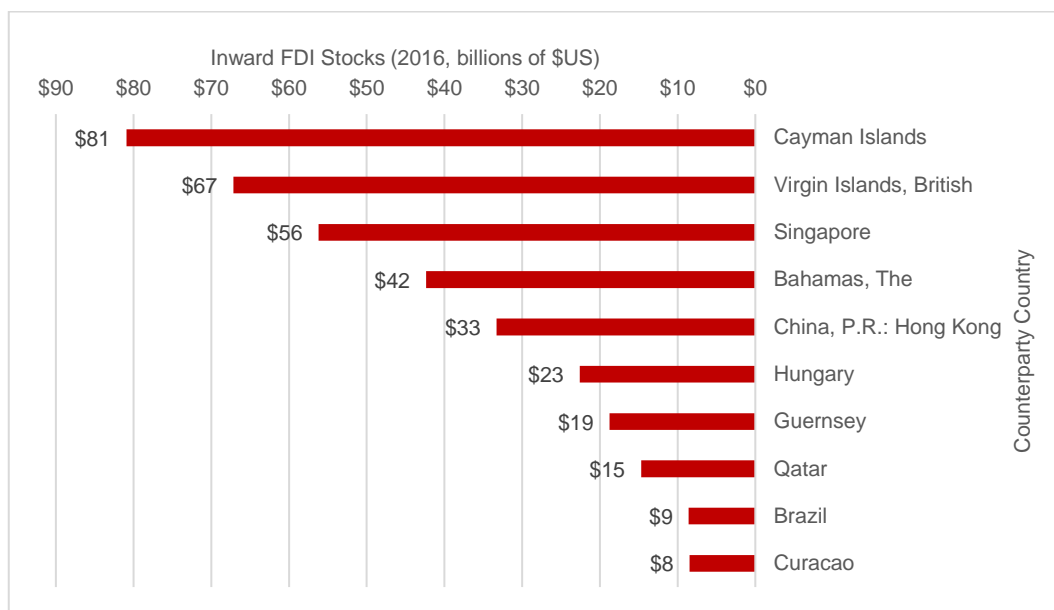
Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

Luxembourg is one of the largest global investment hubs, with 3,634 billion \$US of inward FDI stocks in 2016 and 4,419 billion \$US outward FDI. In terms of the global total of FDI stocks, these figures account for ±12% and ±14% of global inward and outward FDI respectively. The majority of these investments is related to developed economies. Specifically, 91 percent of inward and 94 percent of outward either stems from or goes towards developing economies.

The top-10 developing jurisdictions in terms of inward FDI in Luxembourg is dominated by other investment hubs, featuring the Cayman Island, the British Virgin Island, Singapore, the Bahamas, Hong Kong, Guernsey, and Curacao. At the high end of this spectrum, the Cayman Islands invests 81 billion \$US in Luxembourg. At the lower end, Curacao invests 8 billion \$US. At the same time, fairly sizable investments stem from some non-hub countries as well, including Hungary (23 billion \$US) and Brazil (9 billion \$US).

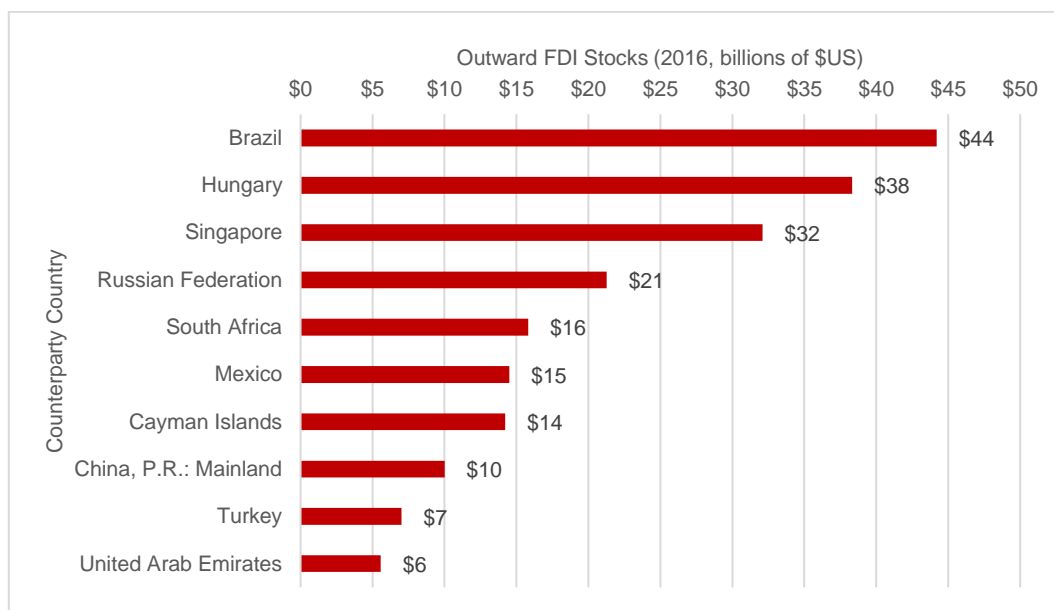
Interestingly, the picture in terms of outward FDI is slightly different. Although several other hubs and tax havens still feature prominently in Figure B. 6 (e.g. Singapore and the Cayman Islands), non-hub countries also appear prominently. Outward FDI stocks in Brazil amounted to 44 billion \$US in 2016, and those in Hungary to 38 billion \$US. Other non-hub nations that receive relatively large investments include Russia, South Africa, Mexico, China, and Turkey – each receiving an investment stock in 2016 of between 7 billion \$US and 21 billion \$US.

Figure B. 5 Top 10 Sources of Inward FDI from Developing Economies



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018).

Figure B. 6 Top 10 Destinations of Outward FDI to Developing Economies

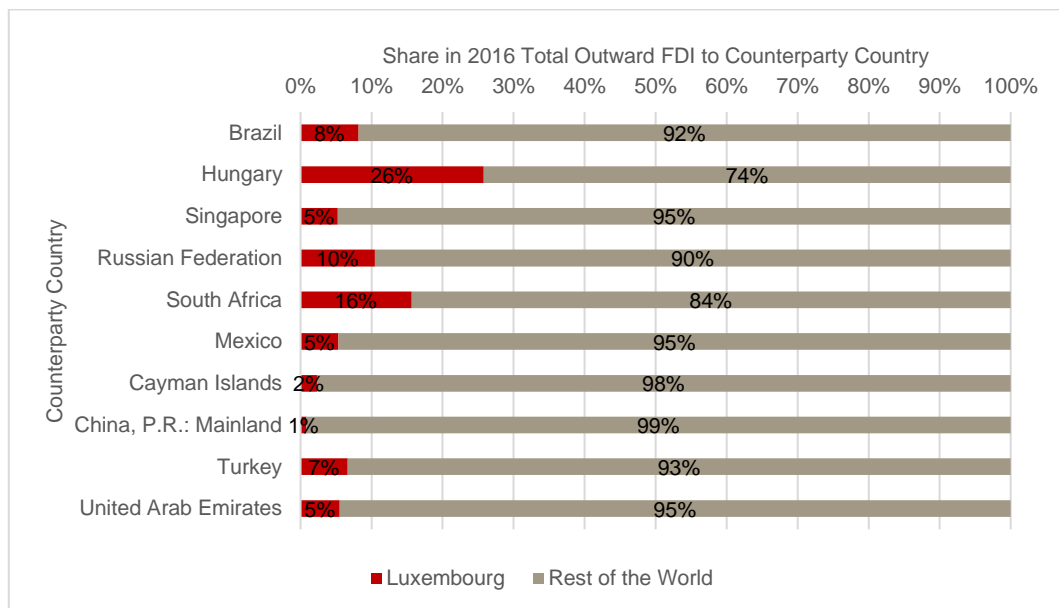


Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018).

Figure B. 7 shows how these investments contribute to total FDI stocks in these countries. Luxembourg turns out to be a sizable contributor to investments in several non-hub countries. For instance, Luxembourg accounts for more than 20 percent of total world FDI stocks invested in Hungary, 10 percent of those to Russia, 16 percent of those to South Africa. Smaller but still notable beneficiaries include Brazil and Turkey (8 percent and 7 percent respectively).

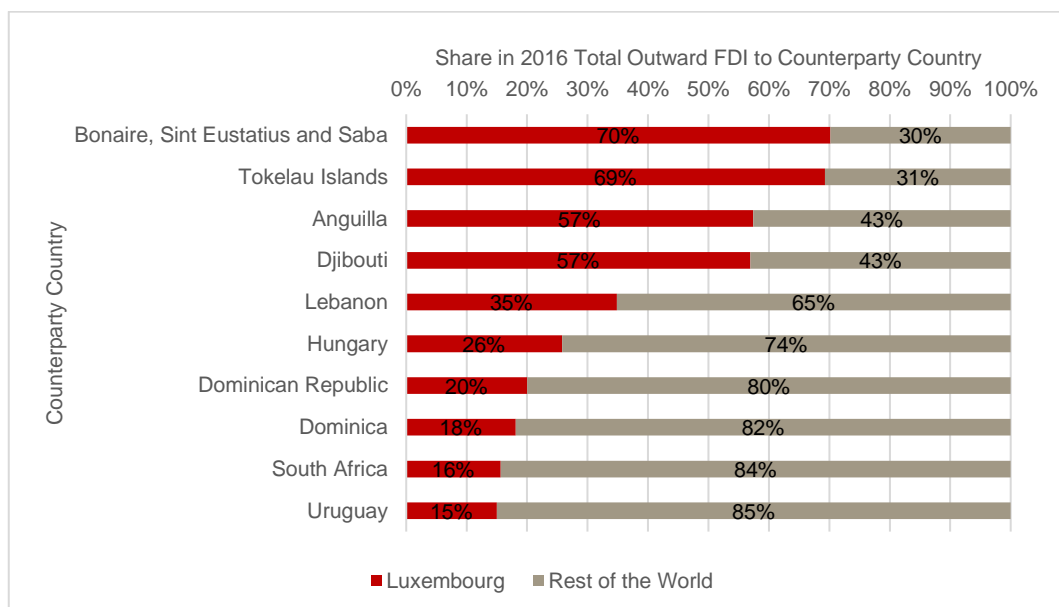
Figure B. 8 extends this analysis of the relative importance of Luxembourgian investments by listing the top-10 recipients of Luxembourgian FDI in relative terms. Based on this figure, Luxembourg appears to be a key link between various islands such as Bonaire, St. Eustatius, Saba, the Tokelau Islands, Anguilla, Dominica, and the Dominican Republic. At the same time, Luxembourg is also a sizable player in some developing and transition countries, including Hungary (26 percent), Uruguay (15 percent) and South Africa (16 percent).

Figure B. 7 Importance of Outward FDI for Developing Economies I



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

Figure B. 8 Importance of Outward FDI for Developing Economies II

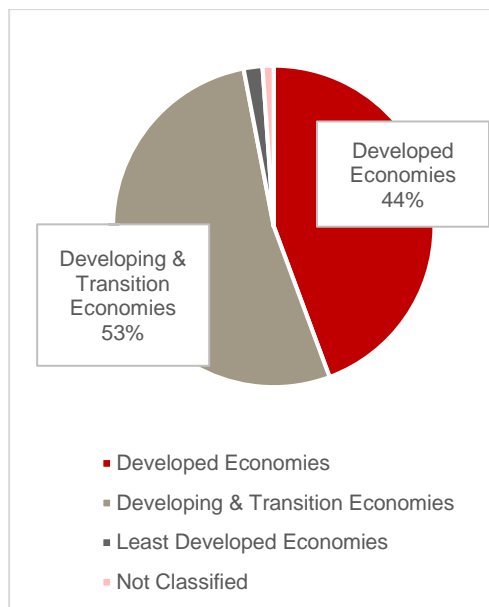


Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

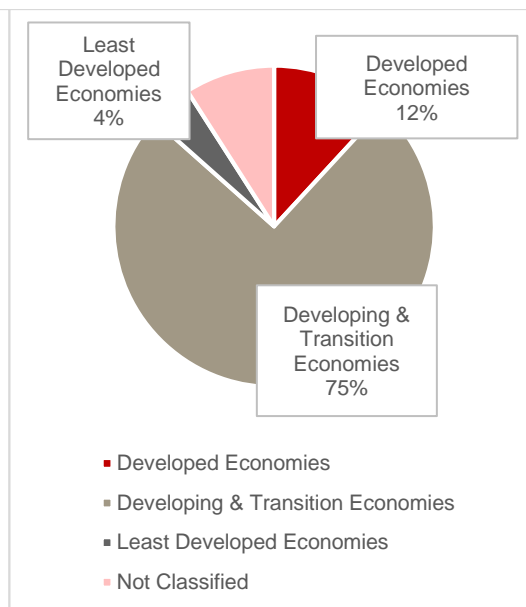
Mauritius

Inward FDI Stock (2016)	283 billion \$US (±1% of world total)
Outward FDI Stock (2016)	234 billion \$US (±1% of world total)

Distribution Inward FDI (2016)



Distribution Outward FDI (2016)



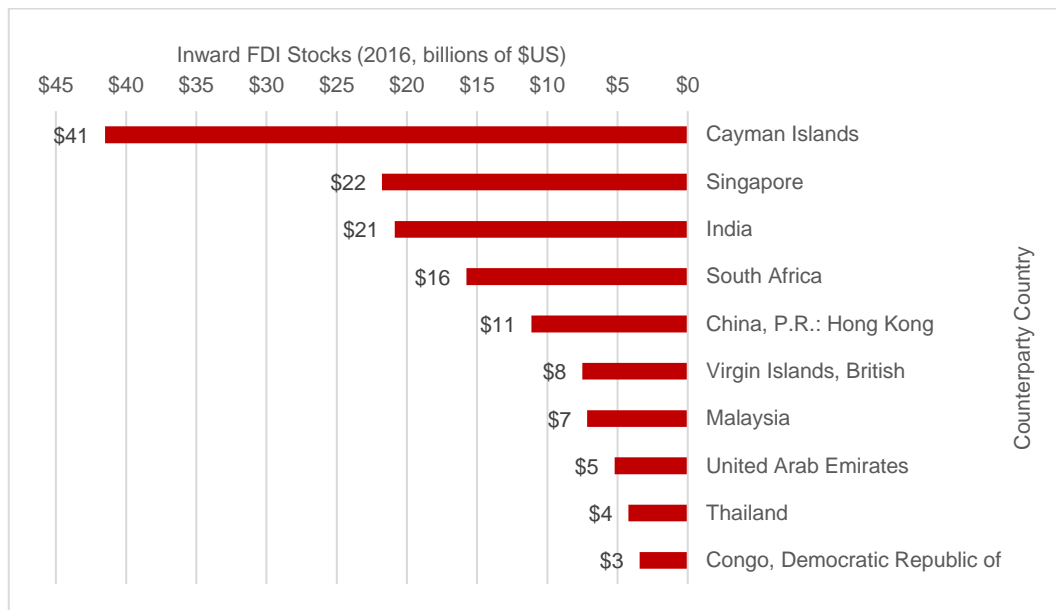
Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018).

Inward FDI in Mauritius amounted to 283 billion \$US in 2016 (±1% of the global total). Outward FDI totalled 234 billion \$US (±1% of the global total). In contrast to the Netherlands, Luxembourg, and Ireland, Mauritius receives large inward FDI stocks from both developed (44 percent of total) and developing economies (53 percent of total). Moreover, three quarters of outward Mauritian FDI stocks are in developing economies and 4 percent in least developed economies. This difference in the ‘development spread’ of inward and outward FDI stocks illustrates Mauritius’ role as FDI hub between developed and developing economies (including least developed economies).

Figure B. 9 shows from which developing economies Mauritius sources inward FDI stocks. Large holdings stem from other investment hubs such as the Cayman Islands (41 billion \$US), Singapore (22 billion \$US), Hong Kong (11 billion \$US), and the British Virgin Islands (8 billion \$US). At the same time, non-hub countries such as India (21 billion \$US), South Africa (16 billion \$US), Malaysia (7 billion \$US), and Thailand (4 billion \$US) also feature prominently.

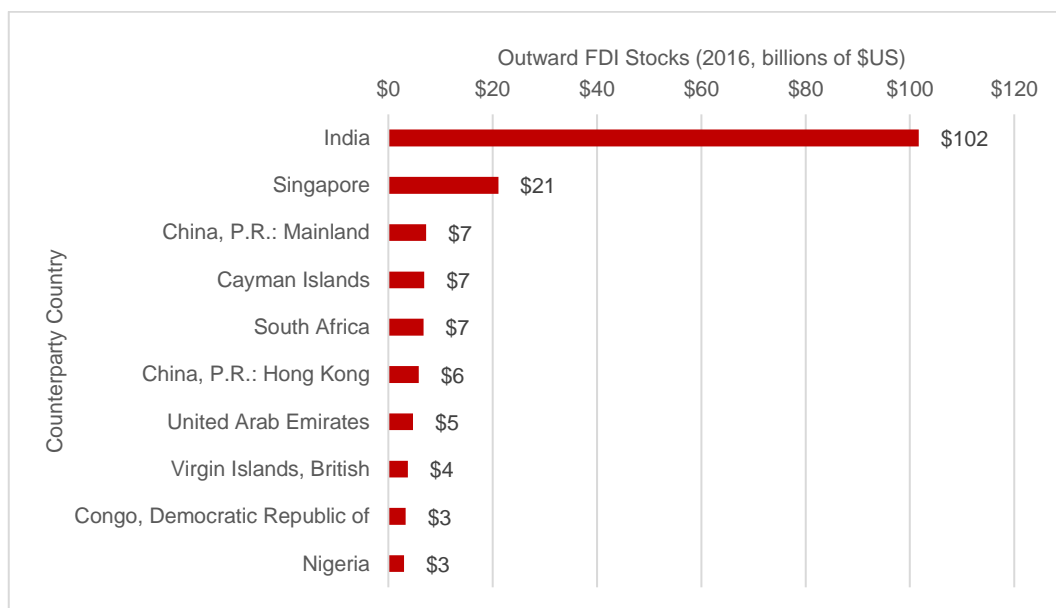
Figure B. 10 gives an impression of the top beneficiaries of Mauritian FDI. Investment in India amounts to 102 billion \$US or 44 percent of total Mauritian outward FDI stocks. Beyond other hubs and tax havens such as Singapore, the Cayman Island, and Hong Kong, other non-hub countries featuring in Figure B. 10 include China (7 billion \$US), South Africa (7 billion \$US), the UAE (5 billion \$US), and the Democratic Republic of Congo (3 billion \$US).

Figure B. 9 Top 10 Sources of Inward FDI from Developing Economies



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

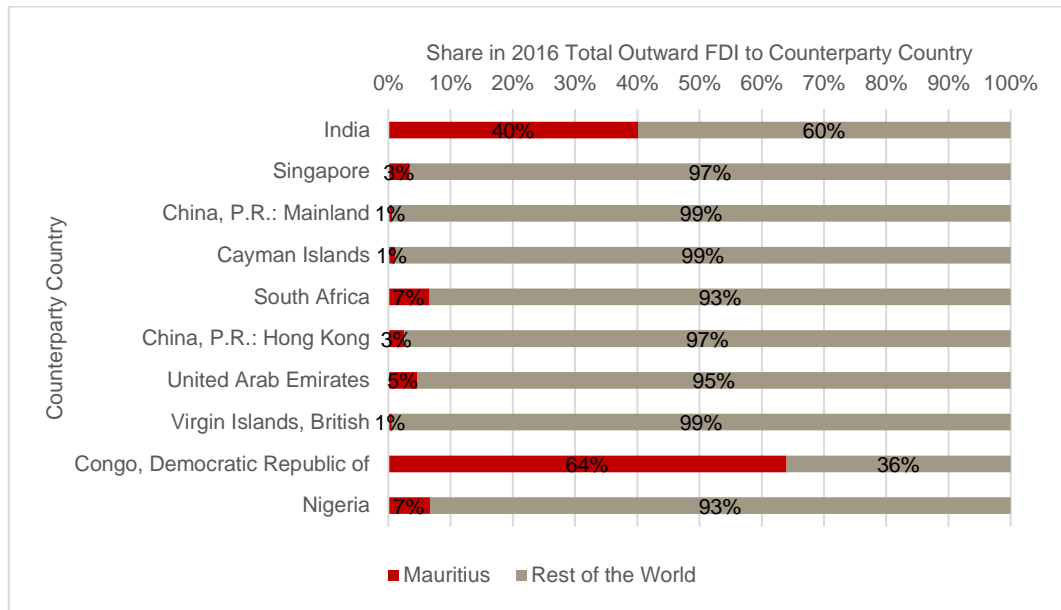
Figure B. 10 Top 10 Destinations of Outward FDI to Developing Economies



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

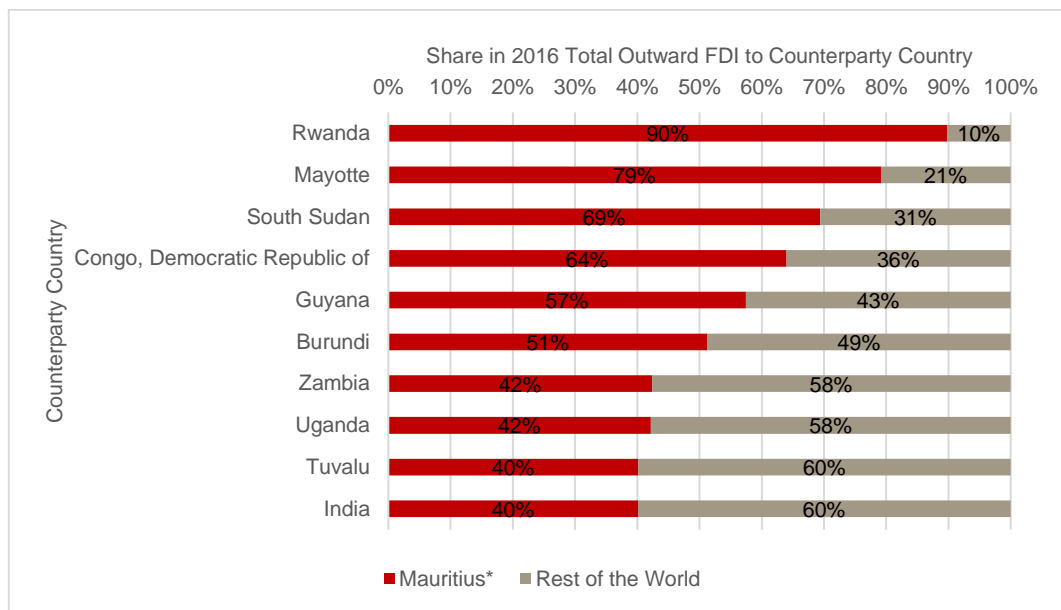
With the exception of two countries, these top-10 investments amount to only a small share of the global total of outward FDI stocks in these countries. These exceptions are India (40 percent of the total FDI stocks) and the Democratic Republic of Congo (64 percent of total FDI stocks). Noteworthy is that these are two relatively poor developing economies that appear to rely strongly on Mauritius' FDI stocks.

Figure B. 11 Importance of Outward FDI for Developing Economies I



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018).

Figure B. 12 Importance of Outward FDI for Developing Economies II



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018). Due to data reliability issues Niue, French Guiana and the Comoros were dropped from this list.

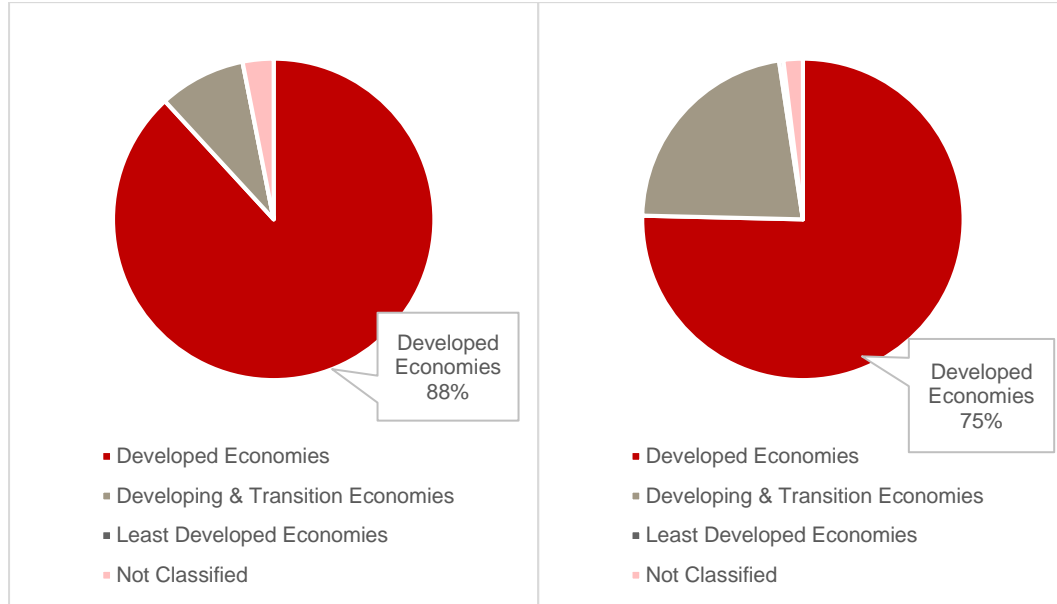
Extending this analysis further, Figure B. 12 plots the top-10 of relative recipients of outward FDI stocks from Mauritius. This yields a striking picture in which Mauritius is the dominant source of international investments for a group of Sub-Saharan African economies including Rwanda, South Sudan, the Democratic Republic of Congo, Burundi, Zambia, and Uganda. Mauritius accounts for between 42 percent and 90 percent of total outward FDI going towards these countries. This data suggests that Mauritius indeed is an FDI hub to Africa.

The Netherlands

Inward FDI Stock (2016) 4,084 billion \$US (±13% of world total)
 Outward FDI Stock (2016) 5,094 billion \$US (±17% of world total)

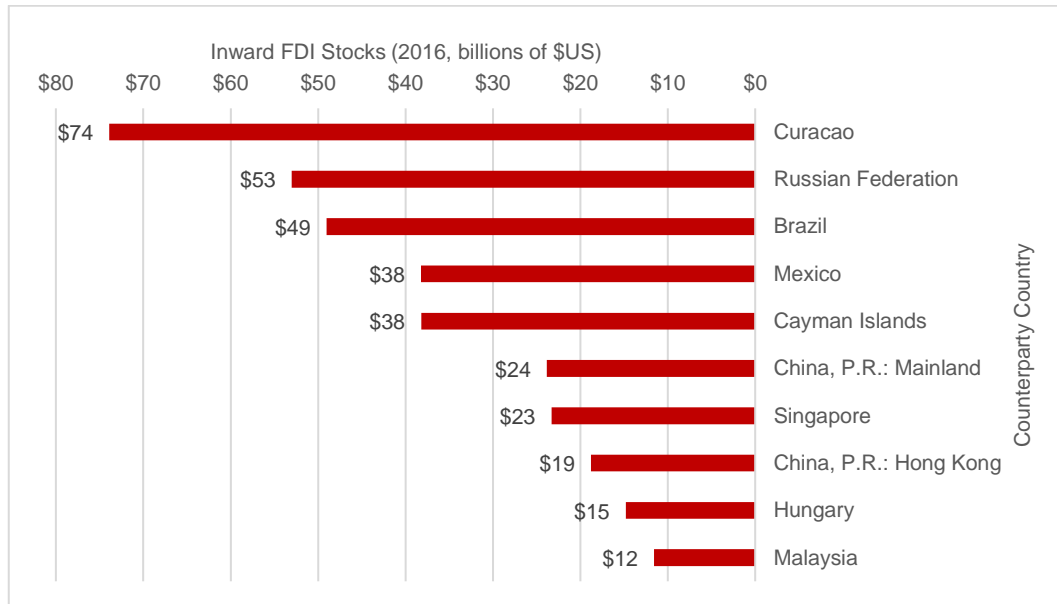
Distribution Inward FDI (2016)

Distribution Outward FDI (2016)



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

Figure B. 13 Top 10 Sources of Inward FDI from Developing Economies

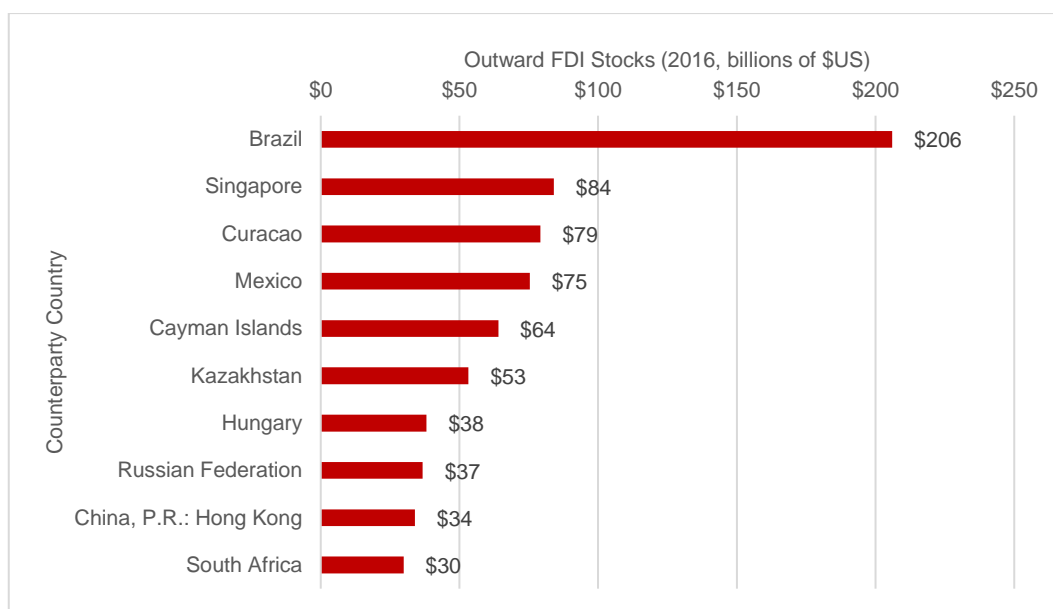


Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

Total inward FDI reported by the Netherlands amounted to 4,084 billion \$US in 2016, or $\pm 13\%$ of the global total. Outward FDI that year amounted to $\pm 17\%$ of total outward FDI, or 5,094 billion \$US. In line with the ‘big picture’ findings for the selected investment hubs, the Netherlands both receives and outlays most of its FDI in developed economies (88 percent of inward, and 75 percent of outward FDI).

Shifting the attention to developing economies, Figure B. 13 shows the ten largest sources of inward FDI into the Netherlands from non-developed economies. Two features stand out. First, other investment hubs feature prominently in this top-10, showing inflows from Curacao (74 \$US), the Cayman Islands (38 billion \$US), Singapore (23 billion \$US), and Hong Kong (19 billion \$US). Second, non-hub countries featuring in the top-10 typically are relatively rich developing economies such as Russia (53 billion \$US), Brazil (49 billion \$US), Mexico (38 billion \$US), and Hungary (15 billion \$US).

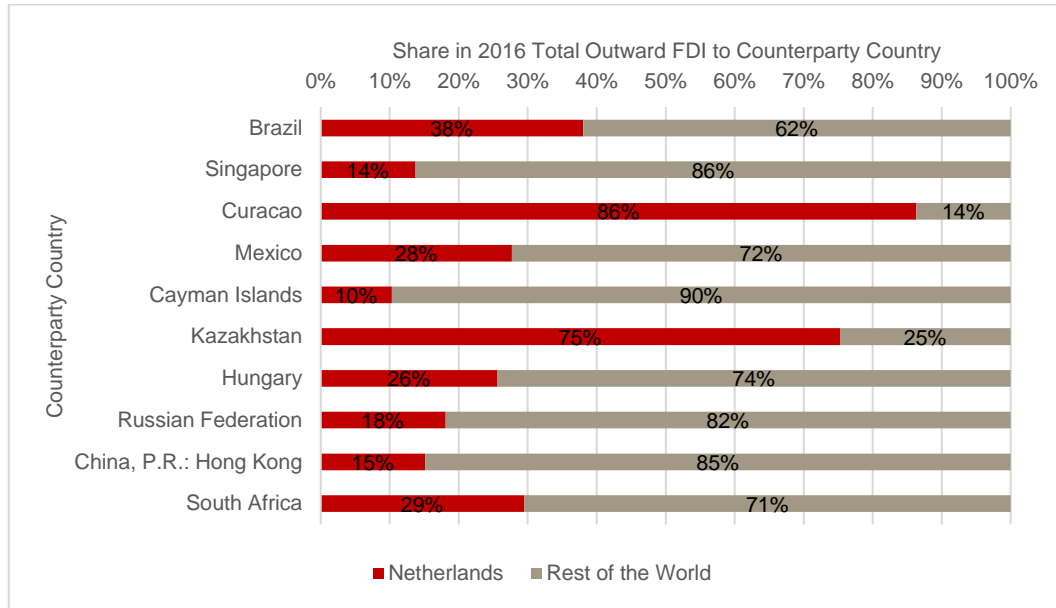
Figure B. 14 Top 10 Destinations of Outward FDI to Developing Economies



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018). Given data reliability issues Puerto Rico was dropped from this list.

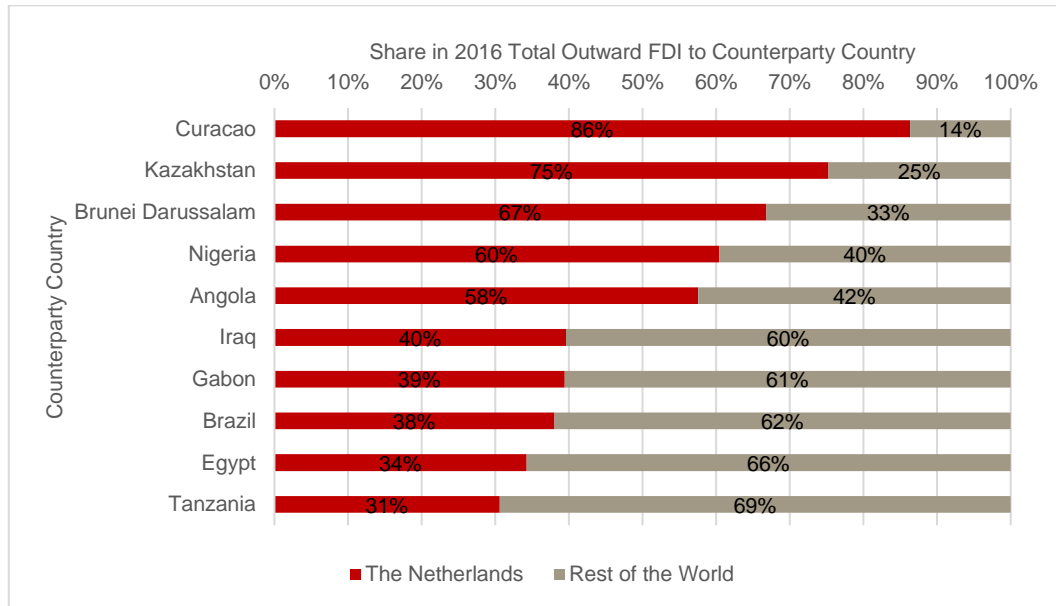
In terms of outward FDI to developing economies a similar picture appears (Figure B. 14). Other hubs and tax havens like Singapore (84 billion \$US), Curacao (79 billion \$US), and the Cayman Islands (64 billion \$US) are well represented. Comparatively rich developing economies like Brazil (206 billion \$US), Mexico (75 billion \$US), Kazakhstan (53 billion \$US), Hungary (38 billion \$US), and Russia (37 billion \$US) are again better represented than poorer developing economies.

Figure B. 15 Importance of Outward FDI for Developing Economies I



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018). Given data reliability issues Puerto Rico was dropped from this list.

Figure B. 16 Importance of Outward FDI for Developing Economies II



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018).

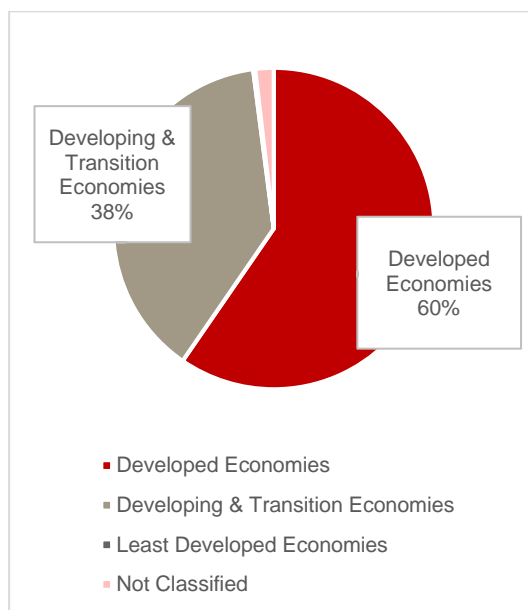
These outward investment stocks are very important for some countries. For instance, the Netherlands contributes 38 percent of the global total of outward FDI stocks in Brazil, 28 percent of those in Mexico, and 75 percent of those in Kazakhstan. Beyond showing the importance of Dutch outward FDI stocks in these non-hub jurisdictions, Figure B. 15 also provides another way to look at hub linkages in the sense that the Netherlands accounts for 14 percent of the outward FDI stocks in Singapore, 86 percent of those in Curacao, and 10 percent of those in the Cayman Islands.

Figure B. 16 provides a more detailed insight into which countries receive large shares of their FDI from the Netherlands. Some of the countries featured in Figure B. 15 also feature in this figure. These countries are both relatively important destinations of Dutch FDI for the Netherlands (within the subset of developing economies), but this Dutch FDI also makes up a large share of the total FDI going towards these developing economies. Striking examples in this category are Curacao and Kazakhstan. Beyond this group of countries, there is a group of countries that is of marginal importance to the Netherlands but for which the Netherlands appears to be highly important. These are countries like Nigeria, Angola, Iraq, Gabon, Egypt and Tanzania, all of which receive between 30 percent and 60 percent of their FDI through the Netherlands.

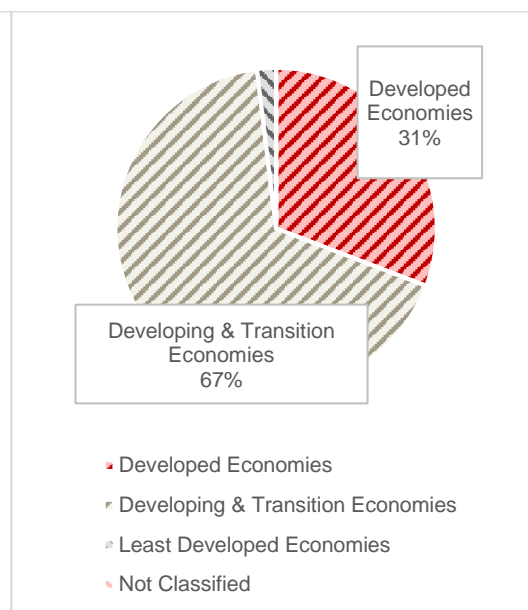
Singapore

Inward FDI Stock (2016)	976 billion \$US (±3% of world total)
Outward FDI Stock (2016)	535 billion \$US*

Distribution Inward FDI (2016)



Distribution Outward FDI (2016)

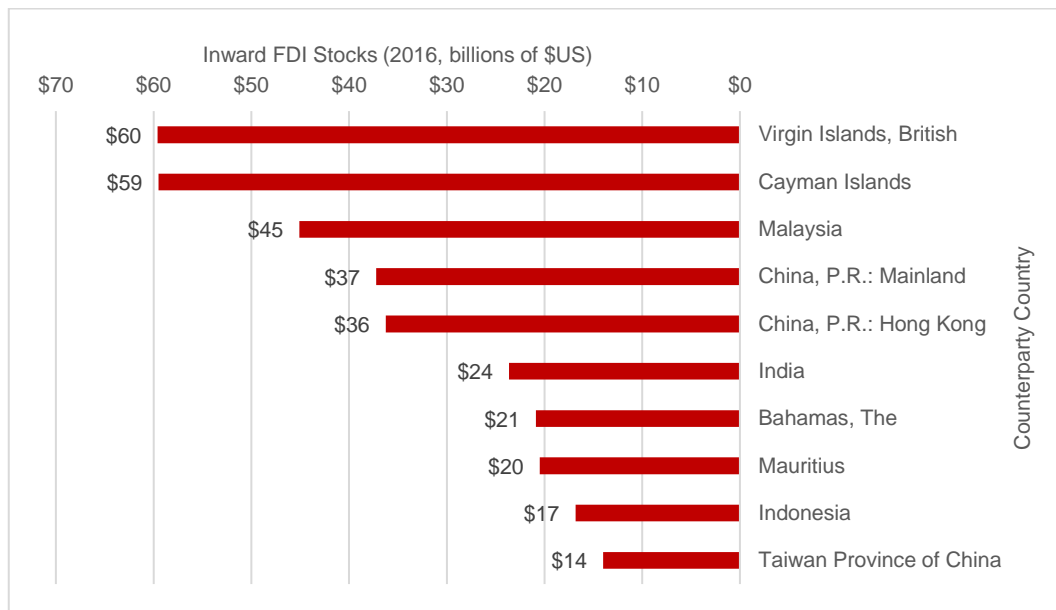


Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF’s Coordinated Direct Investment Survey database (retrieved, February 2018). * Based on derived instead of observed IMF CDIS data. As a result, it is not possible to consistently estimate the share of Singaporean outward FDI stock in the 2016 global total.

In 2016, inward FDI stocks in Singapore were equivalent to 976 billion \$US. Outward FDI stocks came in at 535 billion \$US.⁴ Like Mauritius, inward investments in Singapore both stem in large part from developed and developing economies, with the latter accounting for 38 percent. Again, similar to Mauritius, a large chunk of outward Mauritian FDI goes towards developing economies (67 percent of total outward FDI).

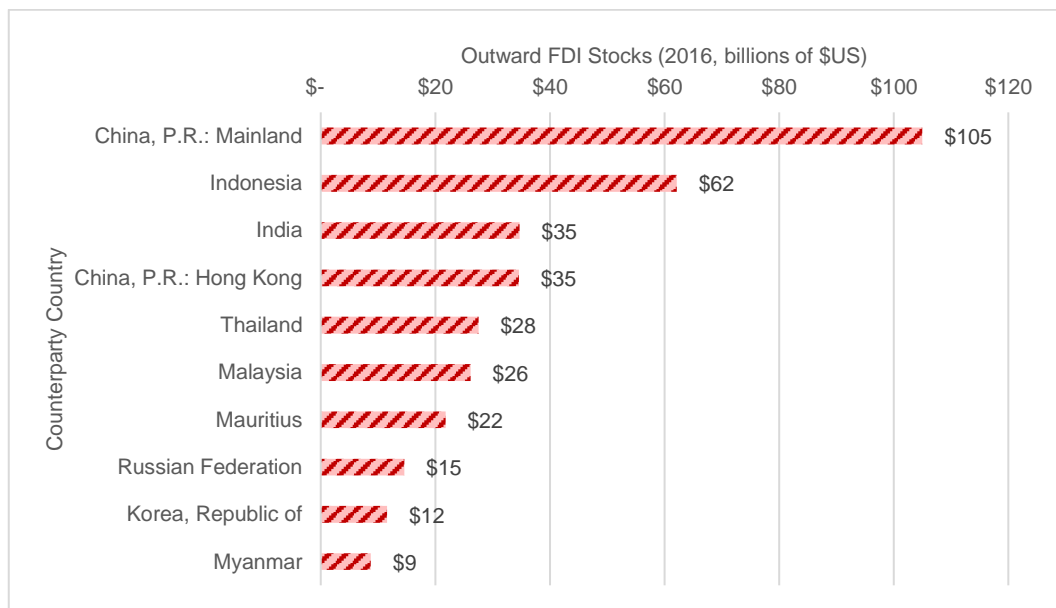
⁴ Measured by ‘derived data’, see Box 3.1 for potential issues.

Figure B. 17 Top 10 Sources of Inward FDI from Developing Economies



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018).

Figure B. 18 Top 10 Destinations of Outward FDI to Developing Economies

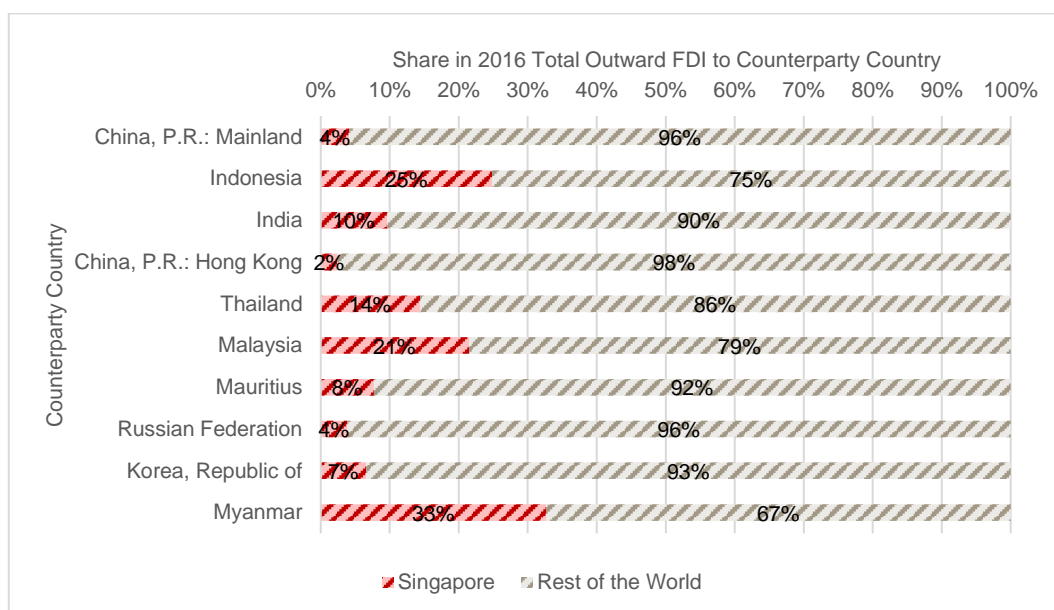


Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018). Outward figures are based on derived instead of observed IMF CDIS data.

Specifically looking at large inward stocks for Singapore, Figure B. 17 shows that these stocks stem from both other hubs and tax havens, and other developing economies. The former category is represented by the British Virgin Island, the Cayman Islands, Hong Kong, the Bahamas, and Mauritius, with investments between 20 billion \$US and 60 billion \$US. Other countries that make the top-10 include Malaysia, Mainland China, India, and Indonesia, with investments worth 45 billion \$US, 37 billion \$US, 24 billion \$US, and 17 billion \$US respectively.

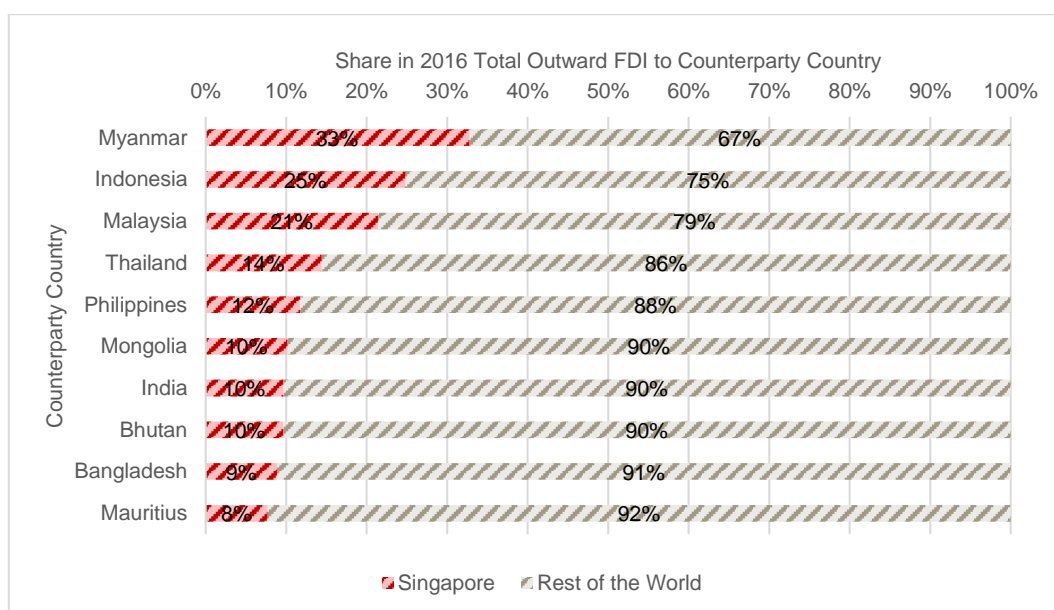
Like Mauritius, a large share of outward Singaporean FDI stocks ends up in developing economies (see Figure B. 18). China is the largest recipient (105 billion \$US), followed by Indonesia (62 billion \$US) and India (35 billion \$US) to complete the top-3. Other large non-hub recipients include Thailand (28 billion \$US), Malaysia (26 billion \$US), Russia (15 billion \$US), Korea (12 billion \$US), and Myanmar (9 billion \$US).

Figure B. 19 Importance of Outward FDI for Developing Economies I



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018). Outward figures are based on derived instead of observed IMF CDIS data.

Figure B. 20 Importance of Outward FDI for Developing Economies II



Source: SEO Amsterdam Economics based on disaggregated bilateral data from the IMF's Coordinated Direct Investment Survey database (retrieved, February 2018). Outward figures are based on derived instead of observed IMF CDIS data.

For some of these countries, these investments also correspond to large shares in total investments (cf. Figure B. 19). This holds especially true for Myanmar, Indonesia, Malaysia, and Thailand, where Singaporean outward FDI accounts for 33 percent, 25 percent, 21 percent, and 14 percent of the respective total. Figure B. 20 further highlights this regional hub role of Singapore in terms of outward FDI.