3 The impact of regulatory barriers on FDI into the Nordic-Baltic region

This chapter explores the possible links between regulatory restrictions on foreign investment and FDI flows through an econometric analysis of transaction-level data on cross-border Mergers & Acquisitions and greenfield investment projects into Finland and other Nordic-Baltic economies. The regulatory factors considered include economy-wide and sector-specific settings, regulatory differences between the host and the country of origin, restrictions to digital trade, customs efficiency and corporate tax rates. By examining patterns of foreign transactions, this chapter evaluates to what extent differences in the regulatory landscape across the Nordic-Baltic region are linked to the probability that foreign investors establish a presence in a given country.

Key findings

- Finland's relatively open regulatory framework creates a favourable environment for foreign-owned firms. However, as Finland is increasingly competing for FDI with the other Nordic and Baltic countries, addressing the existing restrictions could increase the country's ability to attract foreign investment.
- FDI flows less freely to countries with higher at-the-border and behind-the-border barriers to trade and investment in services sectors. This result is especially important for Finland, given that the country maintains more barriers of both types than most of its Nordic and Baltic counterparts. For instance, even a modest change in Finland's regulatory regime (i.e. as measured by a reduction of 0.2 points of the OECD Services Trade Restrictiveness Index used in the analysis) could lead to an 8 percentage points increase in the probability of hosting cross-border M&A deals and 13 percentage points for greenfield investment projects.
- Foreign firms are less likely to invest in countries with less similar regulatory environments, which suggests that regulatory heterogeneity imposes additional costs for foreign investors. This finding is consistent with substantial FDI flows into Finland from other Nordics and the Baltics, which are the countries with regulatory frameworks most similar to the Finnish one.
- Discriminatory policy measures decrease a country's attractiveness to FDI. This matters for Finland's competitiveness, as some regulation disproportionately raises the costs of doing business for foreign firms.
- Countries with higher barriers to digital trade are less likely to attract foreign investment, indicating that interoperable digital rules are important for FDI. In view of this result, Finland's relatively liberal regulatory environment for digitally enabled services could be an attractive factor for foreign firms.
- Foreign investors are more likely to invest in countries with more efficient customs controls, which suggests that Finland's relatively fast customs clearance procedures could be contributing to its competitiveness in the eyes of foreign investors.
- While holding all other factors constant, FDI flows more freely to countries with lower corporate tax burden. In that respect, Finland's competitive corporate taxation relative to some other countries in the region could be important for its attractiveness to foreign firms.

3.1. Introduction

A country's ability to attract and retain sustainable FDI requires a well-designed policy framework that facilitates the business climate. As nations increasingly compete for foreign business investment, regulatory frictions in a given country could tilt investor's location decision towards more open economies.

The empirical assessment of the link between a country's regulatory setting and its ability to attract FDI requires a relevant comparison group.[1] To establish if a more restrictive policy deters FDI, the analysis needs to compare how various levels of the policy relate to foreign investment flows and determine if countries where this measure is less restrictive systematically attract more FDI.

This chapter examines the possible effects of regulatory restrictions on FDI through an econometric analysis of cross-border M&As and greenfield investment into the Nordic-Baltic economies. The analysis explores to what extent the decision of foreign investors to choose a given country out of the seven Nordic-Baltic economies relates to the differences in the policy landscape across these countries.

This chapter consists of two parts. The first part outlines the intuition behind the empirical approach. The second part details the key findings.

3.2. Empirical approach

The empirical approach evaluates the link between regulatory environment and foreign investment into Nordic and Baltic economies. This section briefly explains the intuition behind the analysis. The methodology is outlined in Annex 3.A.

The analysis makes use of transaction-level data on cross-border M&As and greenfield investment into the Nordic and Baltic countries between 2006 and 2019.[2] The estimation is performed separately for cross-border M&A deals and greenfield investment projects, to compare how these two types of FDI respond to regulations. In addition, the empirical approach takes into account different types of M&As and investors' characteristics, as these factors might influence FDI sensitivity to regulations (see Box 3.1).

The analysis builds on the gravity framework and incorporates insights from the literature on FDI location choice.[3] By comparing patterns of foreign transactions across the seven peer economies, the empirical approach evaluates to what extent differences across the policy conditions in place in these countries influence the probability of foreign investors to establish a presence in one of these countries.[4]

To identify the effects of regulatory setting on FDI flows, the model considers several factors that contribute to explain investment flows from countries of origin to the host countries. These factors include the distance between the two countries, their respective market size, the participation of both countries in the same preferential trade agreements (PTAs) and the coverage of these agreements.[5] In addition, the model accounts for whether the two countries have a common border or share a common official language (as it is the case for Finland and Sweden).[6]

The analysis assesses several types of policy aspects to explore the link between regulatory restrictions and FDI:

- Regulatory restrictions to trade and investment applicable nationwide and to specific services sectors as arising from national legislation and from EU regulations;
- Groupings of policy barriers, which highlight different dimensions of regulatory restrictiveness;
- Indication of regulatory differences between the host and the country of origin;
- Restrictions to digital trade;
- Customs efficiency and corporate tax rates.

The analysis of the first three types of measures is performed using information on the 22 services sectors included in the OECD STRI database also used for the regulatory assessment included in Chapter 2; the remaining policy aspects are estimated on the data covering all sectors.

3.3. Main findings

This section outlines the main findings on the link between regulatory framework and FDI, while also discussing the effects of traditional determinants of investment flows. Tables with the estimation results are reported in Annex 3.B.

3.3.1. Country-level determinants of investment flows

The effects of country-level determinants confirm several well-established patterns in the literature.[7] Foreign firms are more likely to invest in larger markets, indicating that market potential attracts FDI.[8] The probability of observing FDI flows decreases with distance to the host country. Besides reflecting transport

costs, distance captures information and organisational costs; hence, a strong effect of distance on the probability of observing FDI emphasizes the relevance of these costs to foreign investors.

Having a common border and a common official language increases the attractiveness of a country for FDI. Besides physical proximity, these two factors capture historical and cultural similarities between the countries; their importance for FDI is consistent with the idea that similar background reduces transaction costs for cross-border investment.

The more comprehensive Preferential Trade Agreements (PTAs)[9] are the higher the chances of FDI. When two countries are members of a PTA with specific provisions related to investment, FDI flows more freely between them, which suggests that these provisions are important to create a favourable environment for cross-border investment.[10]

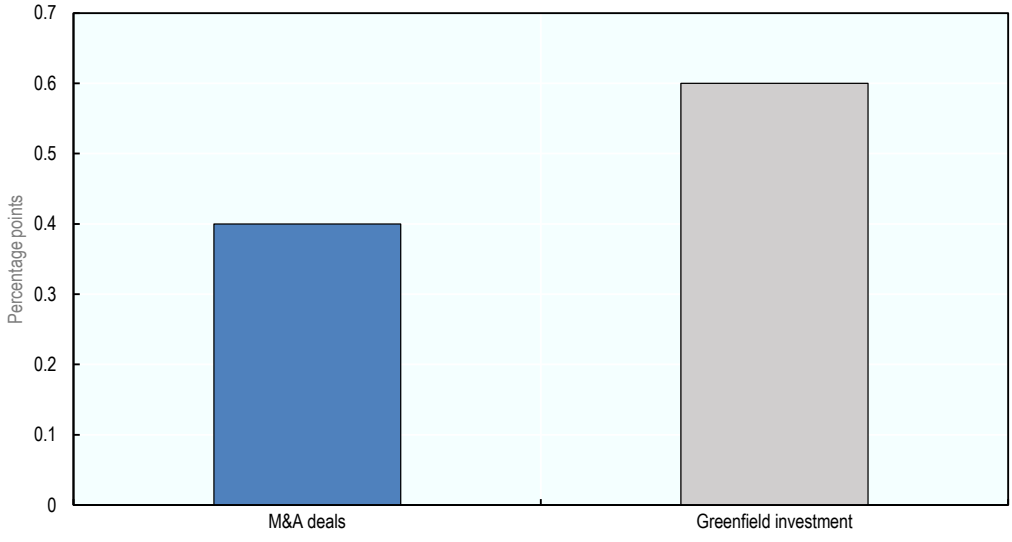
3.3.2. FDI flows less freely to countries with more restrictive regulations

Regulatory restrictions to trade and investment, as measured by the aggregate STRI score, are negatively associated with FDI flows into services sectors in Nordic-Baltic economies. The probability that foreign firms engage in cross-border M&As or undertake greenfield investment is lower in countries with higher restrictions, suggesting that regulatory compliance costs are substantial for foreign investors.

Even a small reduction in regulatory hurdles could have a sizeable impact on FDI. Figure 1 shows that reducing a country's score by 0.01 points - a slight reduction for an index ranging between 0 and 1 - could increase the probability that it hosts a cross-border M&A by 0.4 percentage points and a greenfield project by 0.6 percentage points.[11] A reduction of 0.01 points on the STRI score could, for instance, be associated with the streamlining of administrative steps linked to the establishment of branches by non-EEA investors.

Figure 3.1. Estimated change in probability of observing FDI, STRI score

Estimated impact of a 0.01 reduction in the STRI score



Note: The numbers indicate the estimated change in the probability of observing inward FDI flows when reducing the corresponding indicator by 0.01 from its median value. Results are based on probit regressions. The effects are estimated keeping all other control variables at their median values. The baseline probability of observing FDI flows is 16%. Both coefficients are significant at 0.01 level.
Source: Own elaborations on data from Refinitiv M&A database and Financial Times fDi Markets database.

Box 3.1. The burden of regulatory restrictiveness can vary across foreign investors

Regulatory costs might have differential impact on foreign investment decisions depending on the motivation behind the entry, the type of FDI and investors' characteristics.

The cost of restrictiveness can depend on FDI motives

The overall cost of regulatory impediments can vary among investors depending on the reason for entry. Studies of FDI determinants often distinguish between two motives for investment abroad: to lower the production costs (vertical FDI) and to access new markets (horizontal FDI). Under vertical FDI, firms relocate some parts of their value chain abroad to gain access to cheaper inputs (Helpman, 1984[1]). In general, any costs that decrease a firm's expected return on investment should discourage this type of FDI. Horizontal FDI seeks to minimize trade costs. By locating closer to the markets, firms avoid trade barriers they would face had they chosen to export to those countries instead (Markusen and Venables, 2000[2]). Hence, higher costs of serving the market are expected to prompt horizontal and deter vertical FDI. Consistent with this reasoning, Hijzen et al. (2008[3]) show that tariffs and tariff duties do not impede horizontal M&As, but discourage other types of M&As. Herger et al. (2016[4]) find that horizontal FDI flows are less responsive to corporate tax rates than vertical.

The investor's location choice can be far more complicated than described by a "horizontal-vertical" dichotomy. Instead of establishing an affiliate in the target country, foreign investors can choose to access the local market by setting up a regional hub for neighbouring economies (export platform). The structure of trade costs in the host, the target and the neighboring country is likely to influence the choice between these options. Spinelli, Rouzet and Zhang (2020[5]) find that a country is more likely to be chosen by foreign firms if neighbouring economies apply more stringent regulation to trade and investment. FDI can be also motivated by the investor's willingness to access knowledge or technology (OECD, 2018[6]) which may lessen the relevance of policy barriers for the location decision.

The burden of regulation can differ between M&A and greenfield investors

The relevance of regulatory costs can vary between M&A and greenfield investment due to the difference in their nature. Under cross-border M&As, foreign firms enter the host country by transferring ownership of existing assets, whereas greenfield investors tend to set up an establishment from scratch. These modes of entry involve different types of costs and investors' capabilities.

Greenfield projects are often driven by market access motive and tend to rely on investor's comparative advantage, which can dampen the importance of some non-regulatory entry barriers. Davies et al. (2018[7]) find that greenfield projects are less sensitive to such host country barriers as quality of institutions and cultural or physical distance, than foreign M&As. In contrast, some behind-the-border barriers might be less important for M&As, as M&A location choice depends on the availability of attractive targets, and, hence the set of potential locations might be smaller than for greenfield investors. Furthermore, M&A investors can capitalise some entry costs by negotiating lower acquisition price (Hebous, 2011[8]). In line with this argument, Hebous et al. (2011[8]) and Davies et al. (2018[7]) find that M&As are less sensitive to the host country's tax rates than greenfield investment.

Some investors are better equipped to overcome regulatory barriers

Some investors are more resilient to regulatory barriers of the host country. Larger, more productive foreign firms tend to have more resources to ensure compliance with the host country's regulations. In addition, size can enable firms to pass the cost of regulation on to consumers. In fact, Spinelli, Rouzet and Zhang (2020[5]) find that more productive investing firms are more resilient to barriers to commercial presence. Similarly, Rouzet, Benz and Spinelli (2017[9]) conclude that regulatory restrictiveness presents lower barriers for firms with larger turnover.

The resulting effect is larger for greenfield projects, suggesting that greenfield investment is more responsive to regulatory restrictions. As detailed in the next section, this result might partially reflect the greater sensitivity of this type of FDI to barriers behind the border. Furthermore, firms considering greenfield investment tend to choose from a wider set of possible locations than firms entering via M&A; hence, even small differences across the potential destinations could influence the location choice of greenfield projects.

Although barriers to trade and investment are substantially lower in the Single Market than the barriers towards third countries, the remaining regulatory restrictiveness, as measured by the intra-EEA STRI, is associated with lower probability of cross-border M&As and greenfield projects from EEA investors.

3.3.3. Restrictions bite along different dimensions

Policy barriers to trade and investment can be decomposed into several classifications that could help identify priority areas for reforms and design more targeted policy interventions. These classifications can uncover the differential impact of regulations on FDI depending on the type of investment, but also on investor's characteristics.

At-the-border versus behind-the-border policies

Policies could introduce challenges to foreign firms at the border or behind the border. The former could be considered as entry barriers and can have different effects on FDI depending on the specific mode of supply.[12] Barriers to cross-border trade (Mode 1) are negatively correlated with both M&A and greenfield investment, which highlights the importance of intra-firm trade or export activity for the investor's location decision.

However, the deterring effect of barriers to cross-border trade is weaker for larger greenfield investors, as measured by their revenues. This result is not surprising, given that larger firms tend to be better equipped for overcoming trade costs. Similarly, restrictions to cross-border trade appear to be less harmful to horizontal M&As, which tend to be driven by market opportunities rather than cost considerations.

These findings indicate that foreign firms are more likely to invest in a given country if it maintains more open cross-border trade than its peers. For example, Finland's relatively open regime towards cross-border trade might attract foreign firms engaged in intra-firm trade or selling to third markets.

Regulatory restrictions to commercial presence (Mode 3)[13] are negatively related to the probability of concluding cross-border M&As but have no negative effect on greenfield investment. If M&As are split into horizontal and other M&As,[14] the deterring effect is also absent for the former. The greater resilience of greenfield investment and horizontal M&As suggests that investors entering via these types of FDI are better able to circumvent restrictions to setting up foreign establishment. These results echo the findings of the literature that entry barriers tend to be less burdensome for greenfield investment and horizontal M&As, as these types of FDI are often driven by comparative advantage and market access motives (Hebous, 2011[8]; Davies, Desbordes and Ray, 2018[7]).[15] Knowledge-seeking motives might also play a role in weakening the relevance of these barriers to some foreign investors.[16]

In view of these findings, Finland's recent step to lift the minimum capital requirement for private limited liability companies adds flexibility to domestic and foreign investors alike and could prompt smaller foreign companies to consider Finland over its Nordic-Baltic counterparts, where this restriction still exists.[17] Finland's relatively liberal approach to many professional services categories - architects, engineers, legal professionals – and the greater possibility for non-locally licensed professionals to hold equity in Finland, could drive FDI in these sectors. Recent measures taken to facilitate entry in the Finnish postal market, could also attract new foreign operators.

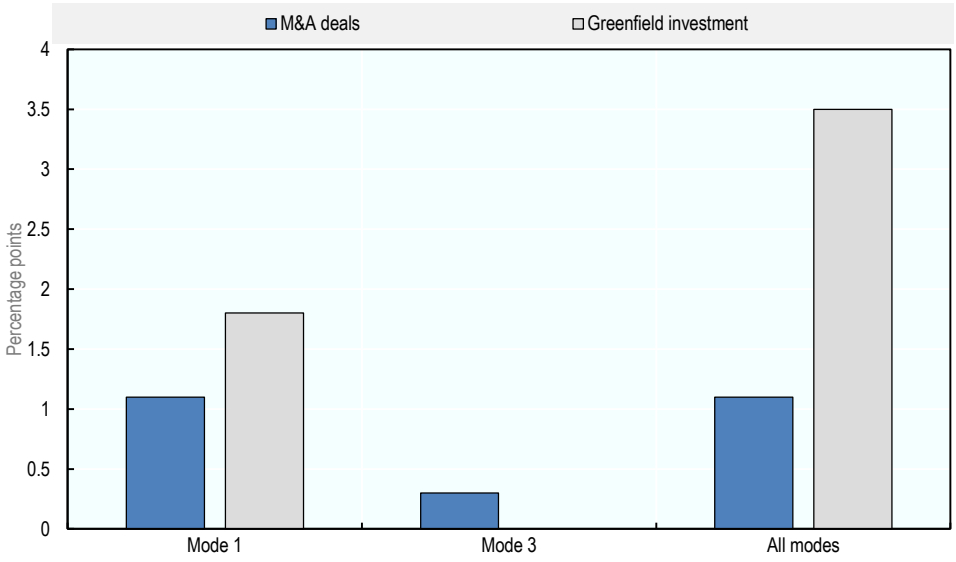
Behind-the-border regulations, which potentially affect all modes of supply, present significant hurdles to all types of foreign investment in the Nordic-Baltic economies. For instance, Finland's relatively long

processing times to register a business compared to the time taken in its Nordic-Baltic peers, might be perceived as a hindrance by certain foreign investors. Finland's lengthy approval processes of construction permits are another example of behind-the-border barriers that could potentially discourage inward FDI in certain sectors.

Figure 3.2 shows that behind-the-border barriers (affecting all modes of supply) are more harmful to greenfield projects than restrictions measured by Modes 1 and 3. Furthermore, behind-the border policies appear more discouraging to greenfield investment than to cross-border M&A transactions. Reducing country's restrictiveness to all modes of supply by 0.01 points, as measured by the corresponding score, could increase the probability that it hosts a greenfield project by 3.5 percentage points and a foreign M&A by 1.1 percentage points. This result is not surprising given that greenfield investors tend to set up an establishment in the host country from scratch; hence, they have to bear the full cost of behind-the-border regulations as opposed to foreign investors acquiring an existing and well-established business.

Figure 3.2. Estimated change in probability of observing FDI, modes of supply

Estimated impact of a 0.01 reduction in the indicators



Note: The numbers indicate the estimated change in the probability of observing FDI flows when reducing the corresponding indicator by 0.01 from its median value. Results are based on probit regressions. The effects are estimated keeping all other control variables at their median values. The baseline probability of observing FDI flows is 16%. The reported coefficients are significant at 0.01 level.
Source: Own elaborations on data from Refinitiv M&A database and Financial Times fDi Markets database.

Discriminatory versus non-discriminatory policies

Policy measures can be classified into discriminatory or non-discriminatory, depending on whether they raise costs disproportionately for foreign firms or uniformly for all firms. For instance, discriminatory measures such as residency requirements for board of directors and restrictions on foreign participation in public procurement impose additional hurdles for foreign firms, whereas minimum capital requirements or number of official procedures required to register a company are non-discriminatory, as they affect all businesses regardless of their legal ownership.

Both discriminatory and non-discriminatory restrictions decrease the probability of FDI flowing into the Nordic-Baltic region,[18] and lifting both types of barriers has a potential to significantly boost FDI (Figure 3.3). Lowering discriminatory barriers by 0.01 points, as captured by the corresponding indicator,

could raise the probability of a foreign M&A by 2 percentage points and of a greenfield project by 0.6; the resulting increase from lower non-discriminatory barriers is 0.9 percentage points for a M&A and 0.7 for greenfield investment.

The negative effect of discriminatory restrictions is weaker for larger greenfield investors. In other words, discriminatory policies appear especially costly for smaller firms trying to expand abroad.[19] This result corroborates findings from the literature that regulatory obstacles have a lower impact on larger firms, as these can count with greater resources to bear the costs of complying with host country's regulation (Rouzet, Benz and Spinelli, 2017[9]; Spinelli, Rouzet and Zhang, 2020[5]). Moreover, smaller firms are less likely to pass the regulatory costs onto output prices and remain competitive when entering the host country's market.[20]

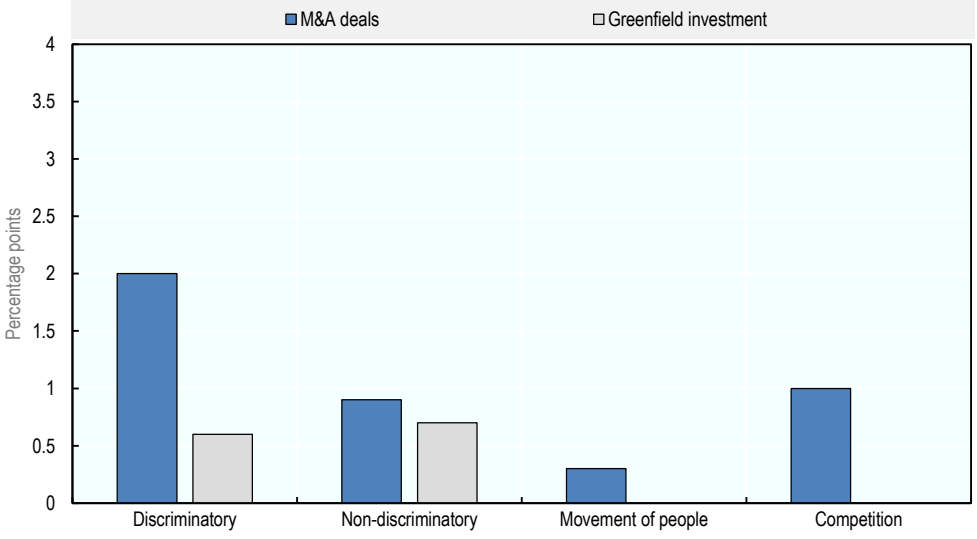
These results indicate that the existence of discriminatory rules in a country's regulatory framework might discourage inward FDI flows. In Finland's case, non-EEA investors might find the country's residency requirements for directors burdensome, especially for very small firms with a more contained management board, and choose Denmark or the Baltics instead, where these rules are more relaxed. Finland's practice of submitting procurement notices in Finnish or Swedish, might also be discouraging foreign investors that do not speak these languages but would be willing to offer their goods and services to the public sector.

Policies affecting movement of professionals, competition and regulatory transparency

The probability of M&A decreases the more the host country restricts movement of professionals.[21] For instance, Finland's recent steps to increase the flexibility of the procedures related to movement of foreign talent have a potential to increase its attractiveness to FDI. In this context, further streamlining of residence permits procedures would also be beneficial. Reducing barriers to movement of professionals by 0.01 points could raise the probability of a cross-border M&A transaction by 0.3 percentage points (Figure 3.3).

Figure 3.3. Estimated change in probability of observing FDI, types of policies

Estimated impact of a 0.01 reduction in the indicators



Note: The numbers indicate the estimated change in the probability of observing FDI flows when reducing the corresponding indicator by 0.01 from its median value. Results are based on probit regressions. The effects are estimated keeping all other control variables at their median values. The baseline probability of observing FDI flows is 16%. The reported coefficients are significant at 0.01 level.
Source: Own elaborations on data from Refinitiv M&A database and Financial Times fDi Markets database.

Countries adopting anti-competitive policies are less likely to host cross-border M&As. This finding is particularly important to some Finnish services sectors. For instance, foreign investors might be reluctant to enter Finland's transports and logistics, as public ownership in these sectors may present an obstacle to competition, especially if companies under State ownership enjoy preferential treatment with, for instance, taxes, subsidies or public procurement. Similarly, the non-competitive selection of universal providers in the telecommunication sector might tilt investors' location choice towards Denmark and Estonia, which follow competitive bidding procedures. Lowering restrictions to competition by 0.01 points, as measured by the relevant score, could raise the probability of a cross-border M&A transaction by 1 percentage point (Figure 3.3).

Interestingly, the probability of both types of FDI is positively correlated with barriers to regulatory transparency. Opaque regulation does not discriminate between domestic and foreign investors and, by raising the total costs of doing business, it might distort competition entrenching the market shares of well-established firms, whether domestic- or foreign-owned.

3.3.4. Regulatory heterogeneity is costly for foreign investors

Not only the level of barriers, but also the heterogeneity of regulations among countries, can affect cross-border investment. Substantial regulatory differences can impose additional compliance costs for investors present in multiple foreign markets.

Indeed, foreign firms are less likely to engage in M&As or undertake greenfield projects in countries with more dissimilar[22] regulatory environments,[23] which implies that lack of regulatory co-operation between countries is a strong deterrent to FDI. Improved regulatory coherence has the potential to boost investment flows between countries.[24] This finding is consistent with the observation that a substantial share of FDI to Finland comes from other Nordics and the Baltics (see Figures 1.13 and 1.19), which are the countries with the most similar regulatory frameworks to the Finnish one.

Furthermore, while regulation within the Single Market is fairly harmonised when it comes to EU regulations, the overall regulatory landscape can still differ among Member States as it also depends on how each State transposes EU Directives and, of course, the way different Member States regulate areas that are not governed at the EU-level. This regulatory divergence is negatively associated with FDI activity. The deterring effect is significant for greenfield investment, but not for cross-border M&A activity. M&A location choice depends on the availability of attractive targets, which might explain why this type of FDI is less sensitive to some barriers.

These findings imply that foreign businesses from within the Single Market willing to invest in distribution, cargo-handling, or road transport might be discouraged by Finland's relatively tight rules in these sectors as compared to the rest of the Nordic-Baltic region.

3.3.5. Restrictions to digital services are important for FDI across all sectors

Well-functioning digital services can be important for a country's ability to attract FDI in all sectors. By enabling new types of transactions, digital technologies can help businesses lower production costs, reach new markets and develop novel business models. However, barriers to the movement of digitally enabled services across the borders may act as an obstacle to firms with a global footprint.

The results confirm the importance of interoperable rules governing exchange of digital services across multiple markets for FDI.[25] Foreign firms are less likely to invest in countries with more restrictive regulatory environments for digital trade. Importantly, this effect is not limited to the services sector and persists for the whole economy. The deterring effect is most pronounced for barriers related to digital connectivity and intellectual property.[26]

A non-competitive environment for both the establishment of new digital infrastructure (e.g., 5 G, fibre, etc.) and the expansion of the existing one might have a negative impact on foreign investment decisions. This

is more so the case for investors that plan to establish a new presence in the country, as they would have to set up a new network infrastructure from scratch or receive permissions to join the existing one and build on it. Equally important for digital connectivity is the ability of sharing data across the border rather than having to be stored locally. For instance, in view of Latvia's requirement to store accounting data locally, Finland's more liberal approach to the localisation of the accounting data could be an attractive factor for some foreign investors.

In view of these findings, Finland's relatively liberal regulatory framework for digitally enabled services could be an attractive factor for foreign investors. Given that barriers to digital trade are quite similar across the Nordic-Baltic region, the results imply that even a slight reduction in the regulatory costs of international firms relying heavily on digital exchanges of services or data might affect FDI location choice. For instance, deviating from international standards on the use of electronic means in international contracts may represent additional compliance costs to multinational firms (see Chapter 2, section 2.4).

3.3.6. Country-level regulatory landscape affects FDI location choice

Foreign firms can take country's customs procedures and tax policies into account when choosing where to locate investment. Country's customs and tax policies can influence FDI location decision through their expected effect on production costs and return on investment.

A country's overall customs efficiency[27] is positively associated with FDI activity, perhaps highlighting intra-firm trade or exports of the affiliate or parent's products to a third market.[28] This result underlines the significance of streamlined border procedures for operations of foreign firms. Interestingly, this finding holds for both manufacturing and services, as the latter might act as distribution arms for the parent's products, suggesting that customs efficiency is important for a country's ability to attract FDI in both goods and services.

According to the Burdens of Customs Procedure index by the World Economic Forum, Finland is the top-performing country in terms of customs efficiency. Finnish customs clearance is also ranked highly in the Logistics Performance Index (LPI).[29] Among the Nordic-Baltic economies, only Sweden and Denmark perform better in LPI, which is largely driven by Finland's slightly lower score in the efficiency of border control agencies and the quality of logistics services.[30] Ensuring the continued speed and simplicity of border procedures could contribute to boost Finland's competitiveness in the eyes of foreign investors, particularly those trading back with their parent company or with third markets.

A higher corporate tax burden in the host country is associated with a lower probability of attracting FDI. By decreasing the expected return on investment, corporate taxation becomes an important aspect of investment decisions of foreign firms. The effect appears more important for greenfield projects than for M&As, as the motivations for these two types of investment are different. The greater responsiveness of greenfield investment to corporate taxes is well established in the literature and seems to reflect the fact that greenfield investors typically compare more potential locations than firms engaging in M&As. Hence, even a slightest difference between the countries might be an important driver of greenfield location choice. This result resembles the pattern established in the literature (see Box 3.1). In view of these findings, Finland's competitive corporate taxation[31] appears to be important for its attractiveness to foreign investors.

3.4. Conclusions

The chapter has provided transaction-level evidence on the link between regulatory environment and FDI flows into the Nordic and Baltic economies, highlighting the differential impact of policy barriers on cross-border M&As and greenfield investment. The key findings are as follows:

- Countries with higher barriers to services trade and investment are less likely to attract cross-border M&As and greenfield investment projects than countries with a more liberal regulatory environment. This result implies that the cost of regulatory compliance is an important aspect of a

country's ability to attract FDI. As Finland is increasingly competing for FDI with its Nordic and Baltic peers, a more open regulatory framework has a potential to increase the country's ability to attract foreign investment.

- Foreign firms are less likely to invest in countries with higher at-the-border and behind-the-border barriers in services trade and investment. M&As appear more responsive to the policy conditions at the border, whereas greenfield is more affected by restrictions that apply behind the border. Given that Finland maintains more barriers of both types than most of its Nordic and Baltic counterparts, further liberalisation of the regulatory setting has the potential to boost the country's inward FDI.
- Barriers to foreign entry are less restrictive to larger investors establishing new companies abroad. This indicates that regulatory restrictiveness is especially costly for smaller firms seeking to branch out in foreign markets.
- Foreign firms are more likely to invest in countries with more similar regulatory environments, as regulatory coherence might lower the compliance costs for investors. Furthermore, the benefits of regulatory harmonisation are larger in countries with more open regulatory environments (Nordås, 2016[10]). These results are consistent with sizable FDI activity between Finland and its neighbours, which have similar regulatory frameworks that are also quite liberal and could benefit from going the extra mile in terms of regulatory harmonisation.
- Countries with higher barriers to exchange of digital services across borders are less likely to attract FDI in all sectors, indicating that interoperable digital rules are important attractive factors for FDI. In that respect, Finland's relatively liberal regulatory environment for digitally enabled services could be an attractive factor for foreign-owned firms replying on digital services exchanges.
- Foreign firms are more likely to engage in cross-border M&As and greenfield investment in countries with more efficient customs controls. Streamlined border procedures are important for both manufacturing and services FDI. Ensuring the continued efficiency of customs clearance could be important for Finland's ability to keep attracting and retaining certain types of FDI.
- Finland's competitive corporate taxation appears to be an important attractive feature for foreign investors, as lower corporate tax rates, all other factors fixed, are associated with higher probabilities of observing inward FDI.

The next chapter complements the findings of Chapters 2 and 3 by presenting a business perspective on the role of regulatory barriers to foreign investment into Finland.

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Annex 3.A. Methodology

This annex details the methodological approach to the empirical analysis. It also describes the robustness checks and discusses additional results.

The econometric analysis aims to evaluate the effect of regulatory barriers on cross-border M&As and greenfield investment into the Nordic and Baltic economies. A discrete choice model (univariate probit) is used to estimate the probability of observing cross-border investment to a given sector of a given country at a given point in time. As required by the gravity framework, zero investment flows are imputed to country-sector pairs that are not receiving FDI in a given year from a given investor, provided that the investor engaged in a cross-border transaction in the same sector in at least one country in the same year.

Econometric specification

The probability of cross-border investment is estimated with the following probit model, run separately for M&A and greenfield data:

$$P(Y_{oct}^{s} > 0) = \mathrm{F}(\beta_o + \beta_1 X_{oct} + \beta_2 V_{ot} + \beta_3 Z_{ct} + \beta_4 W_{ct}^{s} + \varphi_s + \theta_t + \varepsilon_{oct}^{s})$$

where the outcome variable takes a value of one if investment from country *o* is observed in sector *s* of country *c* in year t, and zero otherwise. X_{oct} includes bilateral variables (the distance between the two countries; binary variables for whether the two countries have a common border, share a common language, belong to the EEA or EFTA agreements; and time-variant comprehensiveness of PTAs). V_{ot} and Z_{ct} capture market size of the origin and host countries, measured by their GDP. Z_{ct} additionally includes country-level policy variables in regressions evaluating the effect of country trade and tax[32] policies. W_{ct}^{s} is a vector of host country-sector specific regulatory variables, as measured by the STRI indices. Sector and time fixed effects φ_s and θ_t are included to account for sector-specific factors and economic trends.[33] The variables are defined in Table 1 (see Annex 3.B.).

Sectoral coverage varies across the specifications. Regression estimating the effect of the STRI and its decompositions, as well as of the STRI heterogeneity, are run on the samples of the services sectors for which these indices are defined. The effects of the Digital STRI and of the country-level policy variables are assessed for the whole economy.

As regards time coverage, the STRI database covers the period from 2014 onwards. Given that the indices are largely persistent over a period of several years, the indices of 2014 are applied to the earlier years of the sample. All the reported results are robust to restricting the sample only to the years where the indices are available.

The marginal effects are calculated as the partial derivative of the estimation function:

$$\frac{\partial Y_{oct}^{s}}{\partial W_{ct}^{s}} = \beta_4 \phi(\beta_o + \beta_1 X_{oct} + \beta_2 V_{ot} + \beta_3 Z_{ct} + \varphi_s + \theta_t)$$

where all the control variables are at their median level. The reported changes refer to the reduction of the median index value.

Robustness analysis

Several robustness checks were carried out to test the sensitivity of results to the additional control variables and sample composition. To control for 'multilateral resistance', a proxy for countries' level of remoteness was included in the regressions as an additional control.[34] The analysis was also carried out excluding the period when STRI indices are unavailable. In addition, a few sample restrictions were applied to both M&A and greenfield data to check the sensitivity of results to sample composition. The sample for M&A regressions was restricted to the transactions resulting in majority ownership to ensure greater homogeneity of investors' motives, as suggested by Hijzen et al. (2008[3]). The greenfield regressions were run excluding the projects that were announced, but not yet undertaken, to ensure that announcements are not driving the results. The main findings were unaffected by these checks.

In addition, the Poisson pseudo maximum likelihood (PPML) regression was estimated on a subset of data. PPML helps overcoming a bias that might result from a large portion of zero investment flows between the countries (Santos Silva and Tenreyro, 2006[11]). However, the weakness of PPML in the current setting is that by relying on size of investment it restricts the size of the sample, which might introduce a selection bias. Hence, PPML was considered as complementary to the main analysis. The estimation results closely echo the main findings, but the explanatory power of the regressions is relatively low and the estimated coefficients are less precise.[35]

Additional results

Restrictiveness of domestic regulations in energy, transportation and communications sector, as measured by the Network Sectors Product Market Regulation, restricts cross-border M&A activity. The effect on the probability of greenfield investment is negative but not statistically significant for the full sample of network sectors. The effect is, however, strongly negative when the analysis is run only for the energy sector.

The results based on the economy-wide PMR and other sector PMR indicators are inconclusive, most likely reflecting the interruptions in the time series for these indicators.

FDI Restrictiveness, as measured by the OECD FDI Regulatory Restrictiveness (FDI RR) index, does not seem to deter foreign investment into the Nordic-Baltic region. This result appears to reflect the low variation in the statutory regulatory restrictions on FDI across the seven economies.

All the specifications were also run separately by sectors defined according to NACE Rev. 2. These results are not reported for conciseness of presentation.

Annex 3.B. Definition of variables and estimation results

Annex Table 3.B.1. Definition of variables and data sources

Variable	Definition	Source
Ln(Distance)	Distance between capitals in km, expressed in logarithms.	CEPII Gravity
Ln(GDP, origin), Ln(GDP, host)	GDP of origin and host countries in current USD, million; expressed in logs. The variables are used as a proxy for the market size.	World Bank, World Development Indicators database
Common border	Binary variable taking a value of 1 if the origin and host countries share a common border.	CEPII Gravity
Common language	Binary variable taking a value of 1 if the origin and host countries share an official language.	CEPII Gravity
PTA depth	The variable takes the value of one if a country has a PTA with the host country with a chapter on investment and zero otherwise. If a chapter on investment exists, the variable is incremented by one each time the PTA includes additional legally binding provisions covering one of the following: innovation policies, programmes in industrial co-operation and research and technology; harmonisation of standards and enforcement of intellectual property rights, competition policy, labour market regulation, movement of capital, consumer protection and data protection policies; assistance in conducting fiscal system reforms.	WTO Regional Trade Agreements Information System
EEA-EFTA	Binary variable taking a value of 1 if the origin and host countries belong to the European Economic Area or the European Free Trade Association.	
STRI	The OECD Services Trade Restrictiveness Index measures regulatory restrictions to services trade and investment in 22 services sectors. The indices take values between zero (a sector with a liberal regulatory environment) and one (a sector closed to services trade and investment). The indices are available for 2014-19.	OECD STRI Regulatory Database
Intra-EEA STRI	The OECD intra-EEA Services Trade Restrictiveness Index covers policy measures that restrict trade and investment within the Single Market of the EEA. The indices take values between zero and one, where a higher value represents a sector with more restrictive barriers to services trade and investment. The indices are available for 2014-19.	OECD intra-EEA STRI Regulatory database
STRI heterogeneity	The OECD STRI heterogeneity indices measure regulatory heterogeneity between countries on sectoral level. For each country-sector pair, the indices capture the share of measures for which the two countries have dissimilar regulation. The indices take values between zero (same regulatory measures) to one (completely different regulation) and come in two versions: one based on the qualitative answers in the STRI database (Heterogeneity Answer), the other on the scores (Heterogeneity Score). The indices are available for 2014-19.	OECD STRI Regulatory Database
DGSTRI	The OECD Digital Services Trade Restrictiveness Index measures barriers to services traded digitally. The indices take values between zero (an economy with a regulatory framework open to digitally enabled services) and one (an economy closed to digital trade). The indices are available for 2014-19.	OECD DGSTRI Regulatory database
Logistics Performance Index	The index reflects the overall quality of trade-related procedures and infrastructure (simplicity of arranging and tracking shipments, expected delivery time, quality of logistics services and transport infrastructure, etc.). The values range from 1 to 5, with a higher score indicating greater efficiency.	World Bank, Logistic Performance Indicators
Burden of Customs Procedure	The indicator measures business executives' perceptions of their country's efficiency of customs procedures. The values range from 1 to 7, with a higher score indicating greater efficiency.	WEF
EATR (effective average tax rate)	EATR is a synthetic tax policy indicator which reflects the average tax contribution a firm makes on an investment project in a host country. The rates are available for 2017-19.	OECD Tax Database
EMTR (effective average tax rate)	EMTR is a synthetic tax policy indicator which reflects the extent to which taxation increases the cost of capital in a host country. The rates are available for 2017-19.	OECD Tax Database
Corporate tax rate	Statutory tax rate on corporate profits applied in the host country.	OECD Tax Database

Source: Own elaborations on CEPII, OECD, WEF, WTO and WB databases.

Annex Table 3.B.2. Regulatory barriers and cross-border M&As

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Ln(Distance)	-0.063**	-0.089***	-0.070**	-0.055**	-0.073***	-0.057**	-0.079***
	(0.027)	(0.029)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
Ln(GDP, host)	0.427***	0.438***	0.438***	0.435***	0.408***	0.436***	0.456***
	(0.014)	(0.015)	(0.020)	(0.014)	(0.014)	(0.014)	(0.016)
Ln(GDP, origin)	0.021**	-0.007	0.020*	0.019*	0.022**	0.020*	0.023**
	(0.010)	(0.013)	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)
Common border	0.423***	0.368***	0.432***	0.447***	0.397***	0.437***	0.423***
	(0.042)	(0.043)	(0.044)	(0.043)	(0.042)	(0.043)	(0.042)
Common language	0.168***	0.173***	0.115*	0.159**	0.196***	0.185***	0.091
	(0.062)	(0.064)	(0.066)	(0.064)	(0.062)	(0.064)	(0.064)
PTA depth	0.169***	0.247***	0.172***	0.166***	0.172***	0.167***	0.172***
	(0.009)	(0.016)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
EEA-EFTA	-1.379***		-1.414***	-1.348***	-1.413***	-1.353***	-1.424***
	(0.102)		(0.106)	(0.104)	(0.103)	(0.104)	(0.103)
STRI, level	-1.729***						
	(0.315)						
Intra-EEA STRI		-6.158***					
		(1.062)					
STRI, Mode 1			-5.342**				
			(2.079)				
STRI, Mode 3			-1.915**				
			(0.834)				
STRI, Mode 4			1.030				
			(0.760)				
STRI, All modes			-5.235***				
			(0.963)				
STRI, DR & other				-3.267***			
				(0.718)			
STRI, MA & NT				-1.163**			
				(0.465)			
STRI, Establishment					-3.928***		
					(0.630)		
STRI, Operations					-0.741*		
					(0.378)		
STRI, Discriminatory						-1.276***	
						(0.385)	
STRI, Non-discriminatory						-4.169***	
						(0.893)	
STRI, Restrictions on foreign entry							-2.880***
							(0.721)
STRI, Restrictions to movement of people							-1.188*
							(0.708)
STRI, Other discriminatory measures							-4.903***
							(1.186)
STRI, Barriers to competition							-4.241***
							(1.611)
STRI, Regulatory transparency							2.581**
							(1.100)
Observations	17 252	13 578	15 869	16 308	17 252	16 308	17 252
Pseudo R-squared	0.148	0.168	0.154	0.150	0.149	0.150	0.151

Notes: The table reports estimated coefficients from the probit regressions. The dependent variable is a binary indicator for observed cross-border M&A. All specifications include a constant, sector and year fixed effects. Robust standard errors are reported in the parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels respectively.
Source: Own elaborations on transaction-level data from Refinitiv M&A database and Financial Times fDi Markets database.

Annex Table 3.B.3. Regulatory barriers and greenfield investment

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Ln(Distance)	-0.190***	-0.239***	-0.214***	-0.179***	-0.177***	-0.187***	-0.201***
	(0.037)	(0.042)	(0.039)	(0.038)	(0.037)	(0.038)	(0.038)
Ln(GDP, host)	0.218***	0.194***	0.189***	0.216***	0.253***	0.213***	0.287***
	(0.016)	(0.017)	(0.021)	(0.015)	(0.017)	(0.016)	(0.019)
Ln(GDP, origin)	0.030**	0.019	0.035**	0.028**	0.028**	0.029**	0.033**
	(0.014)	(0.017)	(0.015)	(0.014)	(0.014)	(0.014)	(0.014)
Common border	-0.004	-0.139*	-0.003	0.022	0.024	0.002	0.057
	(0.068)	(0.076)	(0.070)	(0.069)	(0.068)	(0.068)	(0.068)
Common language	0.591***	0.631***	0.434***	0.571***	0.552***	0.586***	0.339***
	(0.110)	(0.114)	(0.113)	(0.111)	(0.110)	(0.111)	(0.113)
PTA depth	0.169***	0.298***	0.184***	0.166***	0.167***	0.168***	0.174***
	(0.012)	(0.026)	(0.013)	(0.012)	(0.012)	(0.012)	(0.013)
EEA-EFTA	-1.592***		-1.736***	-1.553***	-1.552***	-1.574***	-1.632***
	(0.137)		(0.144)	(0.138)	(0.137)	(0.137)	(0.139)
STRI, level	-2.316***						
	(0.432)						
Intra-EEA STRI		-4.781***					
		(1.513)					
STRI, Mode 1			-8.423***				
			(2.245)				
STRI, Mode 3			1.767*				
			(1.054)				
STRI, Mode 4			-0.541				
			(0.885)				
STRI, All modes			-15.535***				
			(1.803)				
STRI, DR & other				-5.688***			
				(1.092)			
STRI, MA & NT				-1.035*			
				(0.540)			
STRI, Establishment					1.015*		
					(0.614)		
STRI, Operations					-4.615***		
					(0.578)		
STRI, Discriminatory						-2.203***	
						(0.490)	
STRI, Non-discriminatory						-3.075**	
						(1.273)	
STRI, Restrictions on foreign entry							-3.375***
							(1.099)
STRI, Restrictions to movement of people							-0.419
							(0.792)
STRI, Other discriminatory measures							-26.641***
							(3.059)
STRI, Barriers to competition							-1.782
							(2.124)
STRI, Regulatory transparency							6.350***
							(1.539)
Observations	7 812	5 505	7 307	7 630	7 812	7 630	7 812
Pseudo R-squared	0.059	0.075	0.071	0.059	0.064	0.058	0.079

Notes: The table reports estimated coefficients from the probit regressions. The dependent variable is a binary indicator for observed greenfield investment. All specifications include a constant, sector and year fixed effects. Robust standard errors are reported in the parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels respectively.
Source: Own elaborations on transaction-level data from Refinitiv M&A database and Financial Times fDi Markets database.

Annex Table 3.B.4. Regulatory barriers by type of M&A

	Horizontal	Other	Horizontal	Other	Horizontal	Other	Horizontal	Other	Horizontal	Other
STRI, Mode 1	-2.039	-7.118***								
	(3.523)	(2.566)								
STRI, Mode 3	0.117	-2.909***								
	(1.515)	(0.982)								
STRI, Mode 4	0.680	1.170								
	(1.400)	(0.904)								
STRI, All modes	-7.112***	-4.466***								
	(1.763)	(1.153)								
STRI, DR & other			-3.617***	-3.131***						
			(1.289)	(0.865)						
STRI, MA & NT			-0.767	-1.391**						
			(0.805)	(0.567)						
STRI, Establishment					-2.926***	-4.433***				
					(1.080)	(0.766)				
STRI, Operations					-0.713	-0.795*				
					(0.687)	(0.452)				
STRI, Discriminatory							-1.469**	-1.201***		
							(0.689)	(0.462)		
STRI, Non-discriminatory							-2.430	-5.067***		
							(1.535)	(1.095)		
STRI, Restr. on foreign entry									-1.245	-3.774***
									(1.205)	(0.897)
STRI, Restr. to mov. of people									-1.438	-1.126
									(1.236)	(0.867)
STRI, Other disc. measures									-9.391***	-3.057**
									(2.286)	(1.391)
STRI, Barriers to competition									0.223	-6.649***
									(2.778)	(1.978)
STRI, Reg. transparency									2.728	2.590**
									(2.026)	(1.315)
Observations	4 691	11 178	4 904	11 404	5 222	12 030	4 904	11 404	5 222	12 030
Pseudo R-squared	0.153	0.175	0.147	0.166	0.163	0.153	0.153	0.150	0.153	0.149

Notes: The analysis is performed separately for horizontal and other (non-horizontal) M&As, where the former are defined as M&As where the acquiring and the target firms belong to the same industry. The latter group includes vertical and conglomerate M&As. The type of M&A is denoted in the column name. The table reports estimated coefficients from the probit regressions. The dependent variable is a binary indicator for observed cross-border M&A. All control variables reported in Table 2 are also included in these regressions, but not displayed for brevity. All specifications include a constant, sector and year fixed effects. Robust standard errors are reported in the parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels respectively.

Source: Own elaborations on transaction-level data from Refinitiv M&A database and Financial Times fDi Markets database.

Annex Table 3.B.5. Regulatory barriers and larger greenfield investors

	(1)	(2)	(3)	(4)	(5)
STRI, level	-3.639***				
	(0.956)				
Revenue * STRI	0.184				
	(0.118)				
STRI, Mode 1		-11.054***			
		(3.793)			
STRI, Mode 3		1.243			
		(2.391)			
STRI, Mode 4		-5.199***			
		(1.778)			
STRI, All modes		-18.334***			
		(3.948)			
Revenue * STRI, Mode 1		0.900**			
		(0.411)			
Revenue * STRI, Mode 3		-0.070			
		(0.292)			
Revenue * STRI, Mode 4		0.730***			
		(0.225)			
Revenue * STRI, All modes		0.648			
		(0.491)			
STRI, DR & other			-4.865**		
			(2.416)		
STRI, MA & NT			-3.439***		
			(1.126)		
Revenue * STRI, DR & other			-0.023		
			(0.278)		
Revenue * STRI, MA & NT			0.303**		
			(0.148)		
STRI, Establishment				-3.560**	
				(1.464)	
STRI, Operations				-4.117***	
				(1.305)	
Revenue * STRI, Establishment				0.424**	
				(0.200)	
Revenue * STRI, Operations				0.093	
				(0.153)	
STRI, Discriminatory					-3.992***
					(1.034)
STRI, Non-discriminatory					-3.082
					(2.631)
Revenue * STRI, Discriminatory					0.278**
					(0.134)
Revenue * STRI, Non-discriminatory					-0.100
					(0.296)
Observations	5 271	4 934	5 159	5 271	5 159
Pseudo R-squared	0.050	0.060	0.050	0.052	0.050

Notes: Revenue refers to revenue of the investing company in USD millions, expressed in logs. The table reports estimated coefficients from the probit regressions. The dependent variable is a binary indicator for observed greenfield investment. All control variables reported in Table 3 are also included in these regressions, but not displayed for brevity. All specifications include a constant, sector and year fixed effects. Robust standard errors are reported in the parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels respectively.
Source: Own elaborations on transaction-level data from Refinitiv M&A database and Financial Times fDi Markets database.

Annex Table 3.B.6. Regulatory heterogeneity and FDI

	MA	MA	MA	MA	GI	GI	GI	GI
STRI, level	-1.248***	-1.405***			-1.936***	-2.053***		
	(0.338)	(0.336)			(0.451)	(0.452)		
STRI, Heterogeneity Answer	-0.563**				-0.999***			
	(0.269)				(0.358)			
STRI, Heterogeneity Score		-0.122				-0.561*		
		(0.247)				(0.302)		
Intra-EEA STRI			-6.488***	-6.270***			-4.308***	-4.496***
			(1.111)	(1.113)			(1.556)	(1.580)
Intra-EEA STRI, Heterogeneity Answer			1.316				-2.808**	
			(0.826)				(1.104)	
Intra-EEA STRI, Heterogeneity Score				-0.035				-1.570
				(0.853)				(1.099)
Observations	15 587	15 587	12 095	12 095	7 171	7 171	4 879	4 879
Pseudo R-squared	0.138	0.138	0.146	0.146	0.050	0.041	0.051	0.052

Notes: The table reports estimated coefficients from the probit regressions. The dependent variable is a binary indicator for observed cross-border M&A or greenfield investment, as specified in the column name (MA or GI). All control variables reported in Tables 2 and 3 are also included in these regressions, but not displayed for brevity. All specifications include a constant, sector and year fixed effects. Robust standard errors are reported in the parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels respectively.
Source: Own elaborations on transaction-level data from Refinitiv M&A database and Financial Times fDi Markets database.

Annex Table 3.B.7. Restrictions to digital services and FDI

	MA	GI
DGSTRI, PA1	-0.024	-3.742***
	(0.383)	(0.544)
DGSTRI, PA2	9.272***	-6.645***
	(0.874)	(1.058)
DGSTRI, PA4	-3.195**	-42.595***
	(1.306)	(1.959)
Observations	60 527	27 719
Pseudo R-squared	0.171	0.107

Notes: The Digital STRI covers five policy areas: digital connectivity (PA1), electronic transactions (PA2), intellectual property (PA4), payment systems and other barriers to services traded digitally. The effects of two components – payment systems and other barriers – cannot be estimated, as they exhibit too little variation over time and across countries. The former has a value of zero for all the economies in all the years. The latter, although different for Norway (at value 0, while other economies at 0.02), is also constant over time. The table reports estimated coefficients from the probit regressions. The dependent variable is a binary indicator for observed cross-border M&A or greenfield investment, as specified in the column name (MA or GI). All control variables reported in Tables 2 and 3 are also included in these regressions, but not displayed for brevity. All specifications include a constant, sector and year fixed effects. Robust standard errors are reported in the parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels respectively.
Source: Own elaborations on transaction-level data from Refinitiv M&A database and Financial Times fDi Markets database.

Annex Table 3.B.8. Country-level regulatory landscape and FDI

	MA	MA	MA	MA	MA	GI	GI	GI	GI	GI
Logistics performance index	0.236***					0.417***				
	(0.048)					(0.061)				
Burden of customs procedure		0.022					0.276***			
		(0.017)					(0.021)			
EATR			-0.051***					-0.185***		
			(0.009)					(0.012)		
EMTR				-0.030***					-0.035***	
				(0.003)					(0.005)	
Corporate tax					-0.011***					-0.060***
					(0.004)					(0.004)
Observations	60 527	60 527	13 236	13 236	60 527	27 719	27 719	7 765	7 765	27 719
Pseudo R-squared	0.163	0.161	0.156	0.159	0.163	0.064	0.069	0.108	0.091	0.071

Note: Values of EATR and EMTR are chosen for the scenario that uses country-specific macroeconomic parameters. The table reports estimated coefficients from the probit regressions. The dependent variable is a binary indicator for observed cross-border M&A or greenfield investment, as specified in the column name (MA or GI). All control variables reported in Tables 2 and 3 are also included in these regressions, but not displayed for brevity. All specifications include a constant, sector and year fixed effects. Robust standard errors are reported in the parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% levels respectively.
Source: Own elaborations on transaction-level data from Refinitiv M&A database and Financial Times fDi Markets database.

Notes

[1] Studies of FDI determinants describe FDI decision as a location choice problem, where costs and benefits of several locations are compared before the investment is made into a given country. This framework lays out foundations for the empirical analysis of FDI determinants.

[2] As detailed in Annex 1.A., the sample is restricted to M&A deals where the acquirer's stake after the transaction is at least 10% and new greenfield projects (i.e. excluding "Expansion" investment, when a company injects further funds into an existing project).

[3] While the gravity model was developed in the context of trade, a large literature supports the application of the gravity framework to investment flows. Most importantly, Head & Ries (2008[12]) lay out the theoretical foundations for applying gravity equation to M&A data, whereas de Sousa and Lochard (2011[13]) extend the gravity model to greenfield investment. Examples of studies showing that the gravity model has strong explanatory power in the context of FDI include di Giovanni (2005[15]), Hijzen et al. (2008[3]), and Bloningen and Piger (2014[14]).

[4] The empirical approach focuses on the probability of observing FDI flows into these seven economies to increase variation across time and country. An analysis focused only on Finland would have not yielded sufficiently robust estimates of the main drivers of inward FDI due to data limitations (time and sectoral coverage). Furthermore, the choice of assessing the probability of observing foreign investment in the region, as opposed to analysing the values of these transactions, is also driven by data characteristics (absence of values for large parts of the sample). More details are presented in Annex 3.A., including

additional analysis performed on deal and project values available for a much more limited set of observations.

[5] Besides removing barriers to trade, many PTAs contain provisions such as enforcement of intellectual property rights, harmonisation of standards and establishment of mechanisms for the settlement of disputes, which strengthen the business climate and, therefore, attract more FDI activity. Moreover, PTAs have a potential to facilitate integration of multinational firms in global value chains (OECD, 2018[6]), thus further boosting cross-border investment.

[6] Table 1 in Annex 3.B. details the definitions of these variables and their source.

[7] Studies of FDI discussing these determinants include di Giovanni (2005[15]), Hijzen et al. (2008[3]), de Sousa and Lochard (2011[13]), and Bloningen and Piger (2014[14]).

[8] The results are reported in Tables 2 and 3 in Annex 3.B.

[9] The basis for this measure is the incremental number of legally binding provisions related to investment included in a PTA (see Table 1 in Annex 3.A.). According to this measure, the EU's most comprehensive preferential agreements are with Chile, Colombia and Georgia.

[10] The negative sign of the EEA-variable appears to capture the fact that, conditional on having no PTA with a host economy, a non-EEA firm is more likely to invest than an EEA firm.

[11] For a greater liberalisation effort, as measured by a reduction of a country's score by 0.2 points, the probability of hosting cross-border M&A deals would increase by 8 percentage points, whereas greenfield investment projects are 13 percentage points more likely.

[12] The results are reported in Tables 2-5 in Annex 3.B. Box 2.4 describes the different modes of supply.

[13] The STRI Mode 3 index captures market access and national treatment policies (such as foreign equity limits or rules discriminating against foreign investors), but also measures that influence the ability of foreign and domestic firms to establish a local presence (such as time, cost and red-tape associated with registering a company, or presence of a state-owned enterprise with a large market share). Thus, the index reflects both at-the-border and behind-the-border restrictions.

[14] Following Hijzen et al. (2008[3]), the analysis is performed separately for horizontal and non-horizontal M&As, where the former are defined as M&As where the acquiring and the target firms belong to the same industry. The latter includes vertical and conglomerate M&As. The advantage of this approach is that it minimises the risk of measurement error in defining vertical M&As.

[15] As Chapter 4 will show, the burden of entry barriers might be perceived differently if foreign firms choose between setting up a new establishment and acquiring an existing firm.

[16] In addition, the finding that (non-horizontal) M&A deals are more responsive to restrictions to Mode 3 than greenfield investment might reflect the sectoral distribution of the two types of FDI. Most greenfield investment occurs in sectors such as ICT, where there are generally fewer restrictions to Mode 3, whereas there are fewer projects in sectors such as transportation or certain professional services, where these barriers are more common (e.g. foreign equity limits or restrictions on the legal form of business). In addition, certain regulatory barriers to Mode 3 matter more for M&A than greenfield investment (e.g. screening of foreign acquisitions).

[17] Although the minimum capital requirement for private limited companies in Finland was only EUR 2 500 and is the same in the peer economies, the literature finds that even small capital requirements might deter business entry (Blanchflower, Oswald and Stutzer, 2001[17]; World Bank, 2013[18])

[18] See Tables 2-5 in Annex 3.B.

[19] In addition, one could also look at policies related to market access/national treatment and policies affecting domestic regulation, transparency and other measures. This distinction largely reflects the discriminatory versus non-discriminatory separation. Results show that regulations restricting market access and national treatment decrease the probability of foreign investment, although the effect is weaker for larger greenfield investors, as well as for horizontal M&As. Limitations found in domestic regulation, transparency, etc. are negatively correlated with all types of foreign investments.

[20] This might explain why firm size appears to be unimportant for the effect of non-discriminatory barriers: by raising the costs of doing business for both domestic and foreign firms, non-discriminatory policies leave no room for the size advantage of foreign firms in relation to domestic businesses.

[21] See Tables 2-5 in Annex 3.B.

[22] Finland's regulation is furthest away from that of China, Japan and the United States, but also within Europe, there are large differences with the regulatory frameworks applied in the United Kingdom and Germany. See Chapter 2 for an overview of similarities in regulatory settings.

[23] The results are reported in Table 6 in Annex 3.B. As can be seen from the results table, the negative correlation between the probability of FDI flows and regulatory heterogeneity is independent from the level of regulatory restrictiveness, as measured by the STRI score.

[24] Nordås (2016[10]) shows that the benefits of regulatory co-operation are larger in countries with more open regulatory environments.

[25] The results are reported in Table 7 in Annex 3.B.

[26] An example of a barrier to digital connectivity is the requirement to store and process data locally. An example of an obstacle to intellectual property rights is discriminatory treatment for the protection of copyrights.

[27] Customs efficiency refers to speed and simplicity of such processes as customs clearance, arrangement of shipments, tracking consignments, etc.

[28] The results are reported in Table 8 in Annex 3.B. The findings are based on both statutory and forward-looking effective tax rates.

[29] The definitions of both measures are detailed in Table 1 in Annex 3.B. Box 2.6 provides more information about customs clearance in Finland.

[30] Efficiency of border control agencies refers to speed, simplicity and predictability of customs clearance procedures; quality of logistics services reflects competence of service providers (transport operators, customs brokers, etc.).

[31] While statutory corporate income taxes can be informative about the host country's taxation policy, effective tax rates are considered to be a better measure for evaluating the effect of corporate taxation on FDI, as they incorporate rules determining the share of taxable profits (Benassy-Quere, Fontagne and Lahreche-Revil, 2005[19]; Devereux and Griffith, 2002[20]). For instance, statutory corporate income taxes

do not reflect such fiscal incentives as the 150% tax deduction for joint R&D projects recently introduced in Finland, while they have a direct effect on the tax base and, hence, can factor in the investor's location choice. In 2019, Finland had lower effective average tax rate than its Nordic peers, while the rates in the Baltic economies were the lowest in the group (the definitions are detailed in Table 1 in Annex 3.B.). In contrast, Finland's statutory corporate income tax rate in 2019 was 20%, same as in Latvia and Estonia. The statutory tax rate was higher in other Nordic economies: 21.4% in Sweden, and 22% in Denmark and Norway. At 15%, Lithuania had the lowest corporate income tax rate. Statutory corporate income tax rates have been also considered in the analysis, yielding very similar results.

[32] The link between FDI and corporate tax burden is estimated using the forward-looking effective tax rates from the OECD Tax Database. The estimates are very similar for all three macroeconomic scenarios provided in the database (country-specific macroeconomic parameters, low interest and inflation rates, high interest and inflation rates). The results based on the forward-looking effective tax rates are complemented by the analysis where statutory corporate income tax rates are used (Table 8 in Annex 3.B.).

[33] The main purpose of the empirical analysis is to estimate the effects of country-specific policy measures with no or little variation over time, therefore country fixed effects are not included into this specification. By controlling for known and measurable determinants of FDI, this approach delivers good estimates of the correlation between investment and policy variables of interest, but cannot ensure that the correlation reflects a causal relationship. The next section discusses robustness checks aimed at approximating the unobserved country-specific drivers of investment.

[34] The propensity of countries to trade with each other depends not only on the trade costs between these countries, but also on the costs of trading with the rest of the world. In the gravity framework, the 'multilateral resistance' term is supposed to capture the effect of the countries' relative costs to trade with the rest of the world. One way to quantify multilateral resistance is to measure remoteness of countries from large markets, building on the idea that two countries are likely to trade more with each other, the more remote they are from the large markets. This idea can be adopted to the FDI data. In this analysis, remoteness is defined as the GDP-weighted average of the distance between a given country and its counterparts.

[35] The weaker explanatory power of PPML may arise for several reasons. For M&As, deal size tends to be correlated with the size of the target company. However, the current gravity model cannot incorporate the target size as a control variable, as the model can only control for factors that are equal to all the potential target firms (i.e. host country variables). The weak explanatory power of greenfield models may partially reflect the heterogeneity of projects with respect to the number of markets an affiliate is expected to serve, as well as the intended type of activity (R&D, logistics centre, sales and marketing office, etc.). In addition, the importance of policy measures for the value of announced and realised greenfield projects might differ.