

Connected Choices: Business Group Affiliation and FDI Location Decisions

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Abstract

This paper examines how business group membership influences foreign direct investment (FDI) location decisions. Using a dataset of 5,061 FDI projects in 14 Central and Eastern European countries, we investigate whether firms are more likely to invest where other group members have prior experience. We extend existing location choice models with information on projects by peers within an investor's business group. Our findings indicate that having related firms with FDI experience in a country significantly increases investment probability in that country. This is also true for weaker linked peers, pointing to an information-sharing channel beyond a centralized strategy. The study contributes to understanding business group behavior and offers insights into FDI support policies, suggesting that subsidies may have broader impacts within business groups.

JEL: F23, C25, L23

Keywords: business group, location choice, firm network, foreign direct investment

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1. Introduction

Location decisions of multinational enterprises, specifically the locations of foreign direct investment (FDI), are a key component of global economic integration. Understanding the factors influencing these decisions is essential for economists and policymakers. According to UNCTAD, Eastern European economies received annual FDI inflows ranging from 50 billion to 100 billion dollars between 2006 and 2020. Specifically, countries like Hungary, Poland, Romania, and Turkey had average annual FDI inflows of 3.7 billion, 13.4 billion, 5.6 billion, and 14 billion dollars, respectively.

Policymakers have consistently supported FDI inflows in the hope of attracting capital investment and international know-how, while also aiming to help domestic firms via technology spillovers. A substantial amount of subsidies has been allocated to attracting FDI, often covering 10% of capital expenditure. For instance, BMW announced the building of a new plant in Hungary and received 40 million euros in state subsidies in 2018, the same year Slovakia provided 125 million euros to the Jaguar Land Rover factory.

Most studies have thus far analyzed the factors affecting these choices. However, most investors are not standalone companies; the largest investors now operate within business groups – collections of firms linked via ownership ties. As firms in a group are not standalone companies working at arm's length, FDI decisions may not be made at the level of individual investors: the parent company or other affiliated companies may have a strong influence. In our sample of 5,061 FDI projects in 14 Central and Eastern European countries, 66.4% of investors are part of a business group, with the share of projects involving investing firms that belong to a business group reaching 75%. Among these investor firms, 32% have at least one parent company.

Thus, an intriguing aspect of FDI location choice is the potential role of business group membership. Specifically, this paper investigates whether a firm is more likely to invest in a country if another company within the same business group has prior experience there. Understanding this mechanism has important policy implications as subsidies may have higher returns should they affect affiliated firms as well. There are four central reasons for a possible correlation of decisions.

First, if firms in a business group are similar, they will make similar decisions. For instance, chemical firms may enjoy access to raw materials in

Romania, while French firms may benefit from cultural proximity. French chemical firms may benefit from a strong chamber of commerce. We consider this a confounding factor and partial these factors out by controlling for FDI inflows at industry and source country level.

Second, group-level strategy could lead to a concentration of activities to internalize the benefits of proximity. Business group firms may trade more with each other, benefiting from the common use of indivisible goods, personnel, or services such as banking (Combes et al. (2011)).

Third, information about opportunities may flow more easily among related firms. Additionally, for foreign investors unfamiliar with a country, the presence of a peer with prior experience can reduce entry costs and uncertainties by providing valuable insights into the local institutional environment, tax incentives, administrative processes, and key local contacts (Devereux et al. (2007); Lawless et al. (2018)).

Fourth, diversification motives may drive firms to spread their investments across different locations to mitigate risks. This strategy can be relevant at both the firm and business group levels, especially if decision-making is coordinated. Furthermore, competition for local inputs, such as labor, might lead firms to avoid co-locating to prevent resource constraints and increased costs (Combes and Duranton (2006), also on climate risks Gu and Hale (2023)).

To distinguish between these motives, we also explore how proximity in the ownership network, and the type of ownership between firms impact the likelihood of investing in the same country. Closely linked firms (owned directly with majority stakes) are affected by both strategic and informational factors. Any evidence for distant firms supports the net effect of the third and fourth motivations.

This argument is based not only on management logic but also on regulation. With close links, competition law allows units to be treated as a single company. They can agree on strategy, innovation, supply chain development, and use services together. With minority stakes and more distant relationships, they are treated as competitors despite shared ownership. This means that collusion and sharing of sensitive information are not allowed. Location choice decision is not the most sensitive issue, but it is less likely to be part of central strategy when companies look to avoid scrutiny.

To estimate the effect of business group membership on location choice, we extend existing models by incorporating information on projects undertaken by peers within an investor’s business group. Specifically, we compare the FDI location decisions of multinationals worldwide investing in a set of European countries. We combine two comprehensive datasets with global coverage of corporate activity: fDi Markets (a collection of greenfield projects compiled by the Financial Times) and Orbis (a collection of financial and ownership data by Bureau van Dijk, owned by Moody’s). We use fDi Markets to identify our investment projects and Orbis to reconstruct business groups, defining the relationships between related companies.

We consider FDI going to 14 countries in Central-Eastern and Eastern Europe: Bulgaria, Croatia, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Romania, Serbia, Slovakia, Turkey, and Ukraine. By selecting similar countries in terms of development and their position in global production, we can use the assumption that investors may first decide about a site in the region and then consider these markets as substitutes.

Our data shows that business groups play a rather important role in FDI. During the 2006-2014 period, we identify 5,061 FDI projects (by 4,088 firms) in 14 countries in the Eastern and Central-Eastern European region, creating over 2.5 million new jobs. We find that 62% of projects (61% of jobs) were carried out by firms that belong to business groups. Two-thirds of these firms were part of business groups with another member having earlier projects in that country.

We find that having related firms with experience increases investment probability substantially. For investors without Eastern European experience, having previous FDI from the business group brings a 5.4 percentage points higher probability. This is a large number, comparable to the magnitude of projects from the same country-industry companies. Moreover, using an alternative dataset, we show that this figure is likely to be conservative. We also show that the peer effect is most important for first-time investors in the region: for those with past experience, the point estimate is just 1.5%, and the number of past projects does not add any further difference.

To understand the mechanism, we define organizational distance by the strength of the link (majority vs. minority) and the number of ownership steps between firms (direct vs indirect). Closely connected firms are majority

owned either directly or indirectly with a single additional layer in between.

We find that closely connected firms tend to co-locate their investments more. At the same time, weak links between firms still have some impact, albeit smaller. This suggests that the patterns we see are not solely driven by a single decision-maker controlling the FDI location decisions of subsidiaries.

As the matched data has some limitations, such as under-reporting projects, and missing out the late 2010s, we replicate results on another dataset, using Orbis only. This dataset runs till 2020, covers all investments over-reporting relevant projects. Results are qualitatively the same, with higher point estimates for this version.

Our project is related to the literature on the agglomeration of FDI (Cheng and Kwan (2000), Lefilleur and Maurel (2010)), supplier-buyer linkages (Blonigen et al. (2005)), and business groups (Szemerédi (2017)). Gazaniol (2015) shows that the location choices of multinationals depend on the international experience of affiliated firms.

The closest papers to ours are Blonigen et al. (2005) and Head et al. (1995), who study how the chances of repeated investment may increase if firms are part of the same Keiretsu. We are able to go beyond this special organization form and show the relevance of business groups across corporate cultures. With a detailed network of ownership links, we can also study the role of organizational distance.

Our paper also contributes to the growing literature on business groups. Recent papers such as Alfaro and Chen (2018), Alfaro et al. (2019), Del Prete and Rungi (2017), Rungi et al. (2017), and Altomonte et al. (2021) analyze complicated ownership structure variations in groups. For instance, Rungi et al. (2017) shows the highly complicated networks of firms like the Toyota group. While traditional economic analysis puts the firm at the front and center, growing evidence suggests that the boundaries of the firm (Hart and Moore, 1990) are porous: group members share the labor market, innovation, and optimize taxes together. Ferrari et al. (2023) discusses how paper profits are moved across group members to optimize group-level taxation. Huneus et al. (2021) shows that efficiency is enhanced not only by shared strategy or taxes but also by an internal labor market that is especially important for top workers. Altomonte et al. (2024) considers innovation in groups with a focus on acquiring new firms with high innovation potential.

A particularly relevant strand of literature aims at understanding the inner workings of multi-unit organizations. Giroud (2013) focused on the supervision of affiliates and argued that distance will reduce it. Gumpert et al. (2022) documents with German data that managerial organization and layers of management of large companies are correlated across establishments. Basco et al. (2024) uses business groups and study the propagation of financial shocks. Their work also shows a correlation in the activity of companies linked by ownership.

We contribute to this literature by adding another aspect of correlated decisions: foreign investments. In particular, we distinguish different relationships between business group members, examining the organizational structure of groups. An important related paper is Belenzon et al. (2019a), which also looks into decision-making in business groups, but from a management point of view as they examine the evolution of groups, balancing attention and incentives. We generalize their concept of *organizational distance* of "the number of intermediate subsidiaries separating a focal subsidiary from headquarters" (p. 1616) to imply distance between any two business group members and include type of ownership (majority vs minority). Using organizational distance to study frictions in coordination adds to the role of spatial frictions for communication in groups (Battiston et al., 2021).

Our paper helps us better understand business groups where investment decisions are correlated, with stronger links yielding greater correlation. We thus contribute to the literature on how firms in business groups behave somewhere between inside-the-firm and market transactions.

Furthermore, we provide policy-relevant evidence on the benefits of FDI subsidies: our findings can assist policymakers. One motivation for providing subsidies to these FDI projects was their potential to attract further foreign investments. Indeed, our finding of spillover effects within business groups offers some support for this argument.

In what follows, we first present our data and describe how we create business groups and other groups of connected firms outside the business group in Section 2. The core results and robustness checks are presented in Section 3 and 4. We examine the organization of groups in Section 5 before concluding in Section 6. The extensive Appendix includes details about data work (A1) as well as additional results (B1).

2. Data

To address the research questions, we needed information on both FDI projects and business group links. To achieve this, we combined two datasets: Financial Times fDi Markets, which contains detailed information on FDIs, and Moody's/Bureau van Dijk Orbis database, which contains information about ownership links between firms.

2.1. FT fDi Markets

The main dataset we use is the fDi Markets database, maintained by fDi Intelligence, a specialist division of the Financial Times Ltd. The database contains the universe of cross-border greenfield investments collected from media announcements. It covers all sectors and countries worldwide. The fDi Markets database has three main advantages: 1. it is clean for our purpose as it contains only greenfield investments,¹ 2. we know the city of both the foreign investor and the newly created local firm, 3. we know both the industry and the activity of the investment.²

The release we use covers investment projects for the 2003-2014 period. We consider investments in fourteen Central and Eastern European countries: Bulgaria, Croatia, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Romania, Serbia, Slovakia, Turkey, and Ukraine. We create our *main sample* by taking all the investments going to any of the fourteen countries from any source country outside these fourteen. For the *estimation sample*, we use only the period 2006-2014. This choice ensures that we have data on previous FDI from at least three years, which is crucial for identifying previous FDI by connected firms. In the estimation sample, we exclude all FDI projects 1. which have an investor from any of the 14 countries, 2. which are expansions of already existing FDI,³ 3. which have the activity 'Sales, marketing and support'. This leaves us with 6,458 FDI projects, with distribution across countries and over time presented in Ap-

¹For instance, in the Orbis dataset, a new investment is mostly captured when a new firm is set up.

²Note that this data has already been used to study FDI. See for example Burger et al. (2013), Castellani et al. (2013), Crescenzi et al. (2014).

³At the same time, we keep all FDI projects considered as new in fDi Markets by firms which have already had an FDI in the country.

pendix Figure A1.⁴

For each observation, the database contains information on the time, location, industry, activity and – as less reliable information – the monetary value of the investment, and the number of jobs created. The data also contains the name and the city-level location of both the foreign investor company (e.g. Audi AG) and the newly created local company (e.g. Audi Hungaria Motor Kft.). Multiple investments can belong to the newly created local company because of expansions of existing plants—excluded from our estimation sample—or the creation of additional plants (e.g. the local company GE Energy has an investment in both Nagykanizsa and Ózd within Hungary.)

There are 3,313 different foreign investor companies and 4,103 different local companies in our data. The two most important source countries are Germany (15%) and the US (14%). The typical project will have 295 employees, while the largest one was set to employ 8,000 people.

To classify FDI projects by industry, we use the industry sector and sub-sector variables. The former includes 39 categories, like Automotive OEM, Automotive Components, Engines and Turbines, or Chemicals. The latter is more detailed, corresponding to 2-digit or 4-digit NAICS codes. Using this information, we assign all FDI projects to a 2-digit NACE industry code.

One example of an observation in fDi Markets is the investment of Audi Hungaria Motor - as the local company - in Győr, Hungary in 2010, with Volkswagen from Wolfsburg, Germany as the foreign investor company. The industry sector is Automotive OEM, the sub-sector is Motor vehicle gasoline engines & engine parts, and the activity is manufacturing. We also know that it is an expansion of a previous investment.

In the absence of a unique identifier of companies shared by both datasets, we matched fDi Markets to Orbis by the name of the company and additional information. Details of the procedure are described in the Appendix Section A1.2.

We use a multi-step approach. First, we create a pool of possible matches from Orbis for each foreign investor company that carries out foreign di-

⁴Table A1 in the Appendix shows the total number of projects in the 14 countries by year, and Table A2 shows the number of projects by country in the whole 2006-2014 period in our estimation sample. Table A4 shows that countries are comparable in terms of the median size of the projects.

rect investment. Second, we apply selection algorithms to choose the most likely match from the list of candidates. Third, we perform validation checks. Fourth, we manually check the largest FDI makers and possible bad matches from the previous step using information from company websites.

2.2. Creation of business groups

We define investor firms using matched Orbis identifiers.⁵ We establish links between investors who belong to the same business group using ownership data provided in Orbis. The easiest case for identifying business group membership is when two firms share an ultimate owner.⁶

However, this does not provide all the necessary information, especially when firms are linked through a complex web of minority ownership. Consequently, in a second step, we also look at pairs of closely linked FDI-making firms, in which i) one owns the other, ii) the two have a common shareholder, or iii) both are shareholders in the same firm. For each type of connection, we consider either direct or indirect connections, looking at indirect shareholders up to four steps away. For example, firm A and B are connected indirectly via connection type ii) if A has a shareholder C and B has another shareholder D, and C and D have a common shareholder E. The different types of business group connections and the most frequent types are shown in Tables 1 and 2.

We could match 96% of the investors to Orbis firms. 54% of these firms - accounting for 59% of the projects - is connected to a business group.⁷ 43% of the foreign investors which we define being connected to a business group have at least one peer in the business group who already had an FDI in the country of the new project before. These investors account for 46.69% of all the projects in the estimation sample.

To illustrate the process, Figure 1 presents the hypothetical firm group of

⁵In cases where we cannot find a match in Orbis, we use the name and source country of the foreign investor company in fDi Markets, assuming that firm names are unique within a country.

⁶For more details, see section A in the Appendix.

⁷This is a lower bound estimate for two reasons. First, we only consider those business groups in which there is at least one other firm doing FDI in Europe during the period 2003-2014. Second, we neglect those business group peers that are far apart in the ownership network and have no common global ultimate owner in the Orbis data.

Table 1: Type of four-step relations between investors A and B

Relations	"Family" tree	Steps	Direction	Code
B owns A	parent	1	up	oxxx
B is subsidiary of A	child	1	down	sxxx
B owns owner of A	grandparent	2	up	ooxx
B is subsidiary of A's subsidiary	grandchild	2	down	ssxx
B owns a subsidiary of A	step-sibling	2	mix	soxx
B is a subsidiary of A's owner	sibling	2	mix	osxx
B is subsidiary of grandparent of A	uncle	3	mix	oosx
...				
B is subsidiary of uncle of A	cousin	4	mix	ooss
B is grandparent to grandchildren of A	in-laws	4	mix	ssoo
...				
B is grandparent to grandparent of A	great-great-grandparents	4	up	oooo
A is grandparent to grandparent of B	great-great-grandchildren	4	down	ssss

Different types of firm connections with characteristics - a non-exhaustive list.

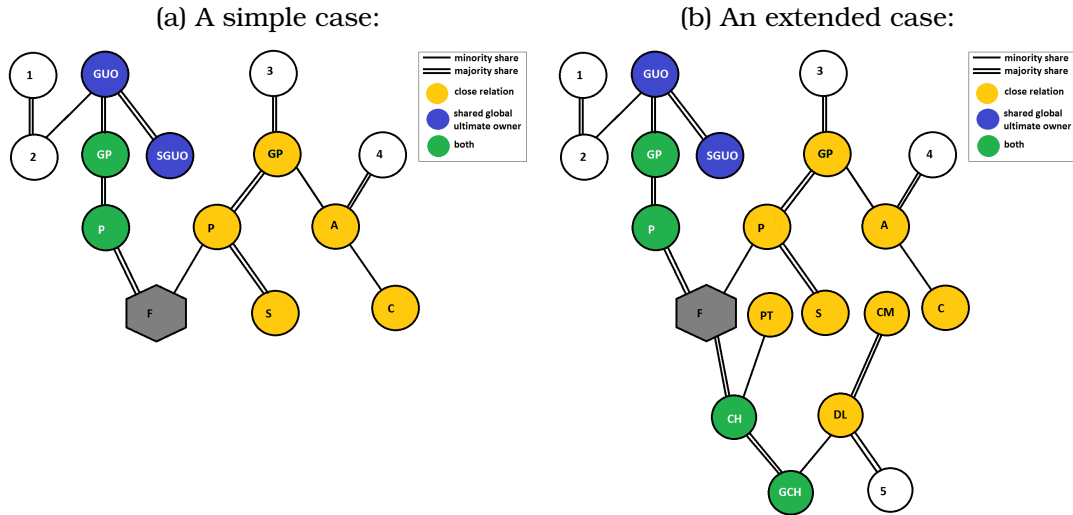
Table 2: The top 10 most frequent relationships

#	code from A to B	from B to A	steps	frequency
1	osos*	osos*	4	22,512
2	soso*	soso*	4	22,068
3	soxx*	soxx*	2	19,212
4	oosx	ossx	3	14,304
5	osox	sosx	3	10,339
6	osoo	ssos	4	9,538
7	soox	ssox	3	8,170
8	sooo	ssso	4	7,310
9	ooss*	ooss*	2	5,544
10	osxx*	osxx*	4	3,480

The prevalence of the top 10 most frequent connections types in our data. We note symmetric relations with *.

firm F. In this simple case, owners are above the owned firms, connected with a single line if the owner has a share of less than 50% and with double lines if it has a majority share in the owned firm. GUO is the global ultimate owner of firm F. All firms marked in blue or green share the same global ultimate owner with firm F. We add to these firms the ones directly linked to F, i.e. the farthest having the same “grandparent” but which have different global ultimate owners. These are the yellow circles. The green firms fulfill both conditions; they are directly linked firms sharing the same global ultimate owner. Firms denoted with white circles are outside the firm group of F according to our definition.

Figure 1: Example of a business group



Notes: GUO is the global ultimate owner. 1-5 are firms outside our business group definition for F. Only P and GP in green, GUO, SGUO, CH, and GCH are peers with majority connections to F.

Next, we assign country-specific FDI experience to each peer firm and check if the new investor had any peers before (in a specific peer group) who had a recent FDI in each potential destination country.⁸ Then we create our estimation dataset by assigning a separate observation for each FDI project - potential destination country pair. This means we have 14 observations for

⁸Following Blonigen et al. (2005), we look at the recent (1-3 years before) experience of peers, which can be the most helpful in terms of providing information about the location. In robustness checks, we also look at any previous FDI experience.

each FDI project.

2.3. Types of links

One part of the project is to understand the role of the inner workings of business groups by examining different types of relationships between members. We consider two aspects: majority / minority ownership and distance in terms of ownership steps.

For majority connections, we require that there exists a connection between the two firms in which all direct links are at least 50%. We define a minority connection if there is no majority connection between the two firms but there is a connection in which all direct links are at least 10%. With this, our aim is to exclude financial ownership.⁹ We define a stronger (25-49%) minority connection as a minority connection that includes no direct link below 25%, and a weaker (10-24%) one includes at least one direct link below 25%, but no link below 10%.

Table 3 shows the share of projects going to a country with a previous FDI from the specific firm group in the first column, and the share of observations with previous FDI from a specific firm group in the second column. We show the distribution of the number of peers in Figure 2. We also create further indicators showing if there was recent FDI in the same industry, from the investor's country, and in the same industry from the investor's country before (last three rows of Table 3).

Table 3 already suggests some descriptive evidence for co-location patterns by connected firms. The share of peers with previous FDI in the country is higher in the actual destination country of the FDI than on average in potential destination countries.

3. Estimating the FDI externality: attracting further FDI from the business group

To test whether prior investment by business group peers is associated with a higher probability of investment, we first estimate the baseline model

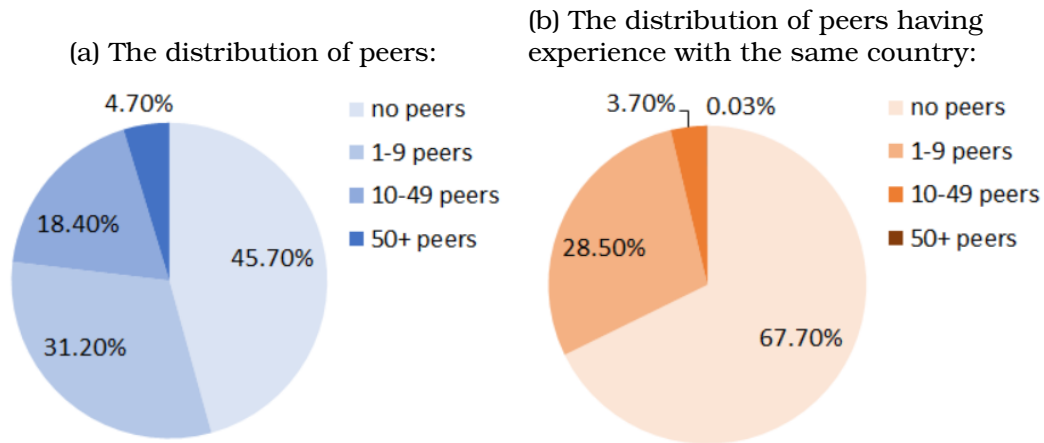
⁹We also disregard owners with the following shareholder types provided in Orbis: banks, insurance companies, mutual & pension funds, financial, companies, hedge funds, venture capital, and private equity firms. Finally, we exclude connections through public or NGO shareholders (including states and foundations).

Table 3: The % of FDIs and FDI-potential destination country observations by previous FDI

	% of FDI	% of obs.
Previous FDI		
... by same firm	26.20%	9.23%
... by business group peer	27.59%	19.66%
... by peers with >50% links	18.13%	12.26%
... by peers with 25-49% links	4.59%	3.45%
... by peers with 10-24% links	4.87%	3.96%
... by direct peers with >50% links	7.45%	4.58%
... by direct peers with 25-49% links	1.00%	0.73%
... by direct peers with 10-24% links	1.78%	1.52%
... in the same industry	94.36%	85.54%
... from same source country	96.15%	86.07%
... in the same industry and from the same source country	56.67%	31.93%

Previous FDI includes FDI 1-3 years before. Column 1 corresponds to the actual destination country, column 2 refers to all the 14 countries. Direct peers are at most 2 steps away from the firm.

Figure 2: The distribution of peers



Notes: The share of investors with no peers, 1-9 peers, 10-49 peers and at least 50 peers in panel a). The same shares for peers having a previous FDI in at least one of the 14 countries in panel b).

of location choice for firms without prior investment. We then extend our estimation to include cases where the firm already has an investment.

3.1. Estimating the business group peer effects

To evaluate the effect of previous investments by connected firms on FDI location choice, we create indicator variables showing whether the same investor or a connected firm had an FDI in the same country before. We examine two types of connected firms: 1) firms in the same business group, and 2) firms with a shared background. We define firms in the same business group as those having the same ultimate owner or being only a few steps away from each other in the ownership network. Firms with a shared background are those from the same country and investing in the same industry (not necessarily from the same business group).

We compare the likelihood of investing in a particular country, conditional on choosing one of the fourteen countries. Our core model is a conditional logit, with nested logit shown in the Appendix. Our empirical question revolves around testing if business group links increase the probability of choosing a location beyond industry \times source country information. We model the probability that project p of firm i in year t lands in a country as:

$$Prob(FDI_{pct} = 1) = F(\alpha + \beta_1 DP_{i(p)ct-1} + \beta_2 DI_{j(p)ct-1} + \beta_3 Stock_{j(p)c} + X_c + \epsilon_{pct}) \quad (1)$$

where $F(\cdot)$ is a logistic function. FDI_{pct} is an indicator showing that country c is the chosen location for project p of firm i in year t and industry j . $DP_{i(p)ct-1}$ is a set of indicators showing that another related firm had an investment in c before t .¹⁰ $DI_{j(p)ct}$ denotes a set of indicators for FDI in the same industry, FDI from the same source country, and same-industry FDI from the same source country but not by the same firm in the country c before t . $Stock_{j(p)c}$ stands for the stock of same-industry FDI in the destination country, proxied by the log number of FDI in the period before the start of the analysis, 2003-2005. These capture the investor country- and industry-specific attractiveness of the destination country. X_c is destination country fixed effect and ϵ_{pct} is the error term.

¹⁰In the Appendix we repeat the exercise adding the size of past investments to the indicators.

As a next step, we extend our analysis to all the firms making an FDI in the region. We estimate a modified version of equation 1, in which we include an additional indicator showing that the same investor had an investment in c before t .

Table 4 presents average marginal effects from our baseline estimation in equation 1.¹¹ The first two columns are for firms without past FDI, while columns (3) to (5) include all projects; columns (1) and (3) serve as benchmarks.¹²

Column (1) shows the baseline: the expected probability of picking a country is substantially higher with previous recent FDI from that source country and industry. For instance, having a past project from a French chemical firm is associated with 7.4 percentage points higher investment probability compared with just having projects from France and in chemicals. In column (2) we see that having previous FDI from the business group brings a 5.4 percentage points higher probability – comparable magnitude to the same industry/country one. We can compare two German investors both making an investment in the region in the same industry and partial out country attractiveness and industry FDI stock. The one where another subsidiary in the business group had a prior project in the Czech Republic is 5.4 percentage points more likely to pick the Czech Republic than the other one where the business group had not been active there.

In the second set of regressions, we repeat this exercise now including all projects, thus adding investors who already made a project earlier. Column (5) shows that this group coefficient is 2.9 percentage points in the sample including firms with prior FDI in the region themselves. Thus, having peer experience is important especially when the investor has no past regional experience. Indeed, when repeating the exercise for only firms with prior experience in the region, we find a 0.015 point estimate (column 6).

¹¹Results are presented as average marginal effects that we interpret as difference in probability, measured as percentage points. A 0.05 coefficient could be for instance the difference between 5% and 10% probability. In the Appendix, we also present odds ratios showing percent differences, which, in the above case, would be 200%. Coefficient estimates are presented in Table B1 of the Appendix and odds ratios in Table B2.

¹²In our baseline specification we always measure previous experience with recent experience, i.e. FDI carried out 1-3 years before. In Appendix Table B4, we show our baseline estimates if we measure experience with any previous FDI (from 2003 on). Results are highly similar to the ones in Table 4.

This answers our first research question: being a member of the business group is associated with a higher entry probability. For instance, it can almost double the probability of following the firm compared to just being in the same country and broad industry. This relationship is strong for investors who had no (recent) investment in the region.

Table 4: Main results: location choice conditional on peer experience

LHS: FDI project goes to country						
Sample:	(1) No prev. FDI	(2)	(3)	(4) All	(5)	(6) Prev. FDI
Prev. FDI by firm or group				0.100*** (0.013)		
Previous FDI by firm					0.156*** (0.019)	0.156*** (0.026)
Previous FDI in group		0.054*** (0.013)			0.029*** (0.007)	0.015* (0.008)
Previous FDI in industry	0.035*** (0.013)	0.035*** (0.013)	0.034*** (0.010)	0.030*** (0.010)	0.034*** (0.010)	0.032** (0.013)
Previous FDI from country	0.160*** (0.015)	0.156*** (0.015)	0.156*** (0.011)	0.139*** (0.011)	0.146*** (0.011)	0.138*** (0.014)
Prev. FDI in ind. from country	0.074*** (0.012)	0.072*** (0.012)	0.099*** (0.012)	0.082*** (0.010)	0.064*** (0.009)	0.056*** (0.011)
FDI stock in ind.	0.037*** (0.007)	0.036*** (0.007)	0.034*** (0.005)	0.032*** (0.005)	0.035*** (0.005)	0.034*** (0.007)
Destination country FE	YES	YES	YES	YES	YES	YES
Observations	33,740	33,740	70,854	70,854	70,854	37,114

Estimated average marginal effects from conditional logistic regressions. Variables of interest: indicators for same-country FDI in the previous 3 years by a specific type of firm. FDI stock is the log of total number of jobs created in 2003-2005 + 1. Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

3.2. The number of previous peer investments

Next, we look at a potential non-linearity in the relationship between peers' previous FDI in the location and the location choice of a new investor.

So far, we used a simple indicator of peer experience. In Table B12, we refine our measure of peer experience by including the actual number of peers with prior FDI in the country (columns (1) and (3)). Additionally, we introduce separate indicators for cases where there are 1, 2, 3, 4-5, or more

than 5 such peers in columns (2) and (4).¹³ This allows us to examine a potential non-linear relationship between the number of experienced peers and the likelihood of choosing a location in that country. Our findings show that having more peers with prior FDI does not significantly increase the probability of selecting the country, as long as the presence of any peers with prior FDI is accounted for (columns (1) and (3)).

4. Robustness

4.1. Robustness I: Heterogeneity

We show the robustness of previous results by looking at various subsets of data and confirming that results are not confounded by the group's location or by group size.

First, reflecting prior evidence on Keiretsu as shown in Appendix B1.3 Table B10, we find that results are not at all driven by Asian investors.¹⁴ If anything point estimates for European groups are higher.

Second, group size could be a confounder: large groups might both have a certain agglomeration strategy and multiple investments. To check this, we estimate our core regressions on a subset of large business group investors defined as having at least 10 peers in the group. The results (in Appendix Table B5) are very close to the core numbers, with similar point estimates (0.044 vs 0.054 and 0.037 vs 0.029).

4.2. Robustness II: Alternative estimation methods

In the model, we use an indicator to show if the existence of peer groups matters. The first alternative method is to use a measure that captures the magnitude of previous investments in the peer group instead. Appendix Table B3 adds the size of the previous FDI as a right-hand side variable, measured by the log number of jobs created. It suggests that the presence of a peer FDI is what matters, in addition to that, more or larger previous investments in the business group are not coupled with a higher probability of choosing a location.

¹³We show the distribution of FDI projects by the maximum number of peers with previous FDI in a country in Appendix Table A3.

¹⁴Details of the investors' regional assignment are presented in Section A1.3.

Second, we relax the strict assumption of the independence of irrelevant alternatives and test if the story is more about regions than countries.

Column (1) of Appendix Table B6 presents estimates of a mixed logistic regression, while columns (2)-(3) present estimates of a nested logistic regression. In column (2) there are only two choice levels, the higher one choosing between the "Northern" and the "Southern" part of the 14-country region, while in column (3), we create three regions instead. Results remain qualitatively the same.

Importantly, the nested logistic regressions suggest, that previous FDI by a peer is rather country-specific and much less a region-specific locating factor. It is even more so if we look at the FDI location choice of investors with no previous FDI in any of the 14 countries (Appendix Table B7).

Investments even into a relatively homogeneous region are rather diverse in characteristics. This means that for many, the choice of 14 countries is a stretch. One way to compare more similar decision points is to match on observables more closely and compare firm pairs that are very similar but differ in where their business group had a prior investment.

In line with that, we turn to an alternative design, in which we look at comparable pairs of FDI in the same industry and year, from the same source country, but with different destination countries and by different investors from different business groups. On this sub-sample we estimate a linear probability model with OLS, asking if a firm is more likely to choose a destination country from the two alternatives in a pair if it has a business group peer with previous FDI in the country. Column (1) of Appendix Table B8 reinforces our previous results on the importance of past business group peer experience in the FDI location choice.

4.3. Robustness III: Repeating on an alternative sample

Our data has two limitations. First, it ends in 2014, while the Eastern European FDI cycle extends until 2020-2022, covering the period of Covid and the war in Ukraine. Additionally, the 2006-2014 sample includes the 2009 financial crisis, which could have had a significant impact. Extending the data to 2019 would provide a more comprehensive view. Second, some transactions might be missing if they were not reported by fDi Markets.

Let us consider an alternative data option: using Orbis dataset only with-

out the fDi Markets. We define a foreign investment as a new affiliate relying on balance sheets and data on firm ownership.

The main advantage of this approach is that it allows us to extend the dataset up to 2019 and provides detailed firm-to-firm ownership links starting from 2007. However, this comes with the drawback of a smaller sample of countries, as we had to exclude Turkey, Ukraine, Greece, and Serbia due to coverage issues in Orbis. The more significant drawback, however, is that the Orbis dataset includes several non-productive FDI, which are less relevant to our research question. It also does not allow us to distinguish between building a new plant and expanding an existing one. Additionally, the industry classification is less precise for identifying the specific activities of FDI projects.

In this alternative dataset, we observe 13,213 projects by 10,692 investors, with 435 identified global ultimate owners. Among the investors, 13.2% had prior investment experience themselves, and 8.6% engaged in FDI with a business group member who had previously made a direct investment in the same country.

To check for potential bias in our results due to timing or coverage, we reran our core models using only the Orbis data. We will first explain how the investment projects were identified and then compare the results.

A newly established industrial company in Orbis during 2007-2019 is defined as one with a majority foreign owner (as before, we focus on investors from countries outside the region). While we cannot exclude less relevant types of FDI, such as those related to sales, marketing, and support, we do not consider expansions of existing investments or brownfield investments. We identify the investor company as the direct majority owner of the new FDI. Experienced peers are identified similarly to our main estimates, but for tractability, we only include peers up to 3 steps away, while still including connections via the same global ultimate owner as before.

Comparing Table B13 in the Appendix to Table 3 shows that using the Orbis data we have a somewhat lower share of observations with previous FDI by the same firm, by business group peers or by other firms creating an FDI in the same industry. On average there are more experienced peers in the actual destination country of the FDI than in an average potential destination country.

Table B14 shows the average marginal effects of conditional logistic estimations similar to those in Table 4.

For investors without previous FDI in the region (Column 2), the point estimate for previous FDI within the group is 0.088 (versus 0.054 in the previous data), doubling the probability compared to just previous FDI from the same country and industry but not the same group (0.083). For investors with prior FDI in the region (Column 5), the additional average marginal effect for the same firm is high at 0.186 (versus 0.156), while the group peer effect remains relatively stable at 0.08 (versus 0.029).

The patterns are all preserved offering great comfort to our message. Point estimates of the group peer effects in Orbis dataset only are above that of our core dataset of linked Orbis and fDi Markets.¹⁵ This gap is related to differences in the definition of the investor. In the Orbis dataset, we know the identity of the final investor as a company, while in the fDi Markets data, we only know the investor's name. Thus, we underestimate the presence of peers in the fDi Markets data because they might be combined – such as various related firms of Siemens in Hungary (Siemens Energy Ltd, Siemens Energy Distribution Transformers Ltd). Using Orbis only, instead, might overestimate artificially separating units that may be individual in terms of accounting but do form one company in practice. Thus, we believe the policy-relevant point estimates lie in between those estimates of 0.03 and 0.08 for all investors, and 0.05 and 0.09 for new investors.

5. Mechanisms behind correlated choices

Business groups are complex, as discussed in section 2.2. Firms within the same business group can have various connections in terms of their organizational distance. We consider two aspects of this distance: majority versus minority ownership, and the number of ownership steps between companies within the group.¹⁶ Close peers are defined as those with majority ownership and either a direct link or only one additional owner in between (in any direction). We compare the importance of peers based on their orga-

¹⁵This is not because of the different time frame: replicating our results using Orbis data only for the 2006-14 period gives a very similar point estimate of 0.078 (vs. 0.088).

¹⁶Table 3 shows the share of observations with different types of experienced peers, and Figure 2 presents the distribution of investors by the number of peers.

nizational distance from the investor, focusing on two key aspects: control and information flow.

Control, meaning centralized or coordinated investment strategy, tends to prevail in closely linked firms, such as a direct parent or a majority-owned affiliate. For example, a senior manager of a UK company may make investment decisions for all directly and fully owned affiliates. Information flow refers to the sharing of investment experience and knowledge across affiliates, and even distant members of the group can be informed. For non-sensitive information, competition law does not restrict knowledge sharing. Our data, which provides detailed insights into the organizational distance between any two members of a group, allows us to test whether there is indeed a difference between close and distant firms.

We begin by creating a separate indicator for the type of experienced business group peer that has the strongest connection to the investor: either through majority links or only through minority links (at least 10% ownership, excluding financial investments).

As Table 5 shows, there are 64% times more observations with majority-owned peers having previous FDI in the country than those with FDI from peers connected through weaker links. Additionally, both for majority and for minority ownership links, indirectly linked firms (further away in terms of the number of ownership steps between firms) are more prevalent.

Table 5: Number of specific types of peers with previous FDI in country

	All	No prev. FDI
majority	11009	2219
minority	6696	1922
majority + direct (1-2 steps)	4107	706
majority + indirect (3+ steps)	6902	1513
minority + direct (1-2 steps)	2032	436
minority + indirect (3+ steps)	4664	1486

The number of FDI project - potential destination country observations by the most strongly connected peer — and the closest in panel 2 — with a previous FDI in the country, for the subset of investors without previous FDI in the 14 countries in Column 2.

Next, we extended our core regression by interacting the presence of peer

indicators with two additional indicators: majority and direct.

Columns (1) and (2) in Table 6 show four combinations: majority and minority and direct and indirect ownership.¹⁷ We can draw two observations. First, all possible combinations yield a positive association with the likelihood of investment. Second, what stands out, especially for investors with no prior FDI, is the larger estimate for the close firms (majority and direct ownership combination): 0.089 percentage points vs. 0.047-0.049 percentage points in the more distant categories. The gap is smaller if we look at all the investors.

This result suggests the presence of both factors: information flows, as all combinations show a positive and economically meaningful correlation, and strategy, as the close link implies a larger difference in probability.

Table 6: Heterogeneity by link strength

LHS: FDI project goes to country				
Sample:	(1) No prev. FDI		(2) All	
Previous FDI by firm			0.156*** (0.020)	
Previous FDI in group	direct	indirect only	direct	indirect only
- majority links	0.089*** (0.026)	0.047*** (0.016)	0.046*** (0.016)	0.021** (0.009)
- minority links only	0.049 (0.035)	0.048*** (0.017)	0.035** (0.015)	0.028*** (0.009)
Previous FDI in industry	0.035*** (0.013)		0.034*** (0.010)	
Prev. FDI from country	0.156*** (0.015)		0.146*** (0.011)	
Prev. FDI in ind. from country	0.071*** (0.012)		0.063*** (0.009)	
FDI stock in ind.	0.036*** (0.007)		0.035*** (0.005)	
Destination country FE	YES		YES	
Observations	33,740		70,854	

Average marginal effects estimated from conditional logistic regressions. Variables of interest: indicators for same-country FDI in the previous 3 years by the same firm, by a business group peer, interacted separately by ownership (majority/minority) and links (direct/indirect) type. Direct is defined as being at most 2 steps away. Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

¹⁷Coefficient estimates are presented in Appendix Table B11.

6. Conclusion

In this paper, we investigated the co-location patterns of multinationals to find evidence of the significant role played by business group membership. Through analysis of global direct investment projects in Central and Eastern Europe, we showed that firms belonging to the same business group are more likely to co-locate in the same country. This pattern persists even after controlling for destination country fixed effects, previous same-industry FDI, and same-industry FDI from the same source country. Our findings confirm and extend the results of Blonigen et al. (2005) on Japanese business groups and Crozet et al. (2004) on foreign investments in France.

We looked into organizational structures to examine how organizational distance – the closeness of firms within the business group network – might correlate with the impact of peers. Our results indicate that while even distant peers are associated with investment locations, close peers exert a stronger influence. This insight contributes to our understanding of information flows (Altomonte et al., 2021) and control across various organizational distances (Belenzon et al., 2019b).

Our research was motivated by a policy question: will foreign firms attract their peers from the same business group to a country? Our methodology allowed us to compare similar firms across source countries and industries while accounting for local trends and considering potential confounders such as group size. While causal claims are challenging with observational data, we believe our results offer valuable insights for policymakers. Specifically, attracting firms without prior regional experience that are part of business groups is likely to increase the probability of future investments by other group members, particularly those closely linked.

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7.1. Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the author(s) used ChatGPT 4o and Claude 3.5 to improve the clarity of the text, going through the main text paragraph by paragraph and asking for minor edits. All changes were supervised. After using these tools, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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A1. Appendix A: Data preparation

A1.1. Additional points on creating business groups

There are several minor points regarding our creation of business groups.

We use the global ultimate owner variable in the Orbis database to assign ultimate owners to investors. This variable presents the ultimate controlling unit of the firm in those cases when it is unambiguous. A firm itself can be its own ultimate owner if it is at the top of the hierarchy.

This definition of the business group has two drawbacks. There is a considerable number of firms for which no global ultimate owner could be defined in Orbis. Additionally, the ultimate owner definition uses majority links while the information might also flow between firms that are connected through minority shares. Orbis also provides another measure, in which the global ultimate owner is defined using links with $\leq 25\%$ shares.

In terms of timing, note that as the starting year of a shareholder link is imprecisely measured in Orbis, especially in earlier years, we don't use the timing of the connection. We define two firms as being connected if they have been ever connected based on Orbis. At the same time, when we define indirect links between two firms, we require that there is an overlap in time between the direct links forming the indirect link.

A1.2. Matching fDi Markets to Orbis

Step 1. To create possible matches by name we perform two matching algorithms on the name of firms in the Orbis dataset.

First, we run a matching algorithm.¹⁸ To facilitate a more effective matching we have pre-selected the companies in Orbis that serve as sources for matching using ownership information. Knowing that we are to match FDI maker companies we formed two pre-selected lists: firms with foreign subsidiaries and firms with any detected subsidiary. This step allows us to identify 4,953 companies.

Second, we apply matching by the first three words of the name of the company. Companies that have names that contain less than three words will be required match on those words only. In this step, we match an additional 1,219 foreign investor companies.

Both steps necessitate rendering names into the English alphabet thus removing special characters from the national alphabets used. They create a pool of candidates for each FDI maker company.

Step 2. To choose the best match from the candidates collected in the previous step we use additional information available from both fDi Markets and Orbis. These include location at the city level and sector classification. Matching by location at the city level necessitates some adjustments for specific countries: the use of state identifiers in the United States, and the aggregation of smaller cities and settlements in the case of Japan to metropolitan areas.

We rank candidates based on the number of matching information. We pick firms as a match when all three pieces of information (name, location, sector) match. When less than three are matched, we prioritize location to sector. In the case of multiple matches, we rank companies with larger total assets and known foreign affiliates from Orbis higher.

Step 3. To validate our matches we rely on various techniques to flag bad matches. First, we flag misclassified larger companies when relating the number of investments in fDi Markets to the known number of subsidiaries in Orbis to detect if it shows a deficit. We also flag companies where no ultimate owner in the Orbis dataset is provided for the selected match. We flag unmatched companies.

¹⁸we apply `matchit` of STATA using `soundex` function. A particular advantage of the `matchit` function is that it can underweight the indication of company legal formats such as *Limited*, *Aktiengesellschaft*, or *S.r.L.*.

Step 4. We search for the Orbis identifier of companies flagged manually in Orbis online. To better identify foreign investor companies, e.g. in the case of ambiguous name or change, we use the information on the newly created local company. We also use the internet address of companies identified to match them to Orbis.

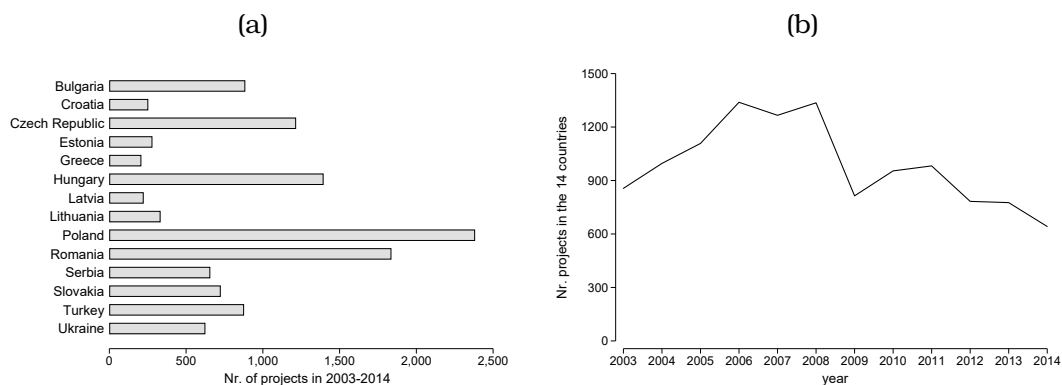
In these last two steps we make 78 corrections to the matches found in the first two steps and we identify 923 additional companies. Our efforts allow us to match over 95 percent of the companies, and only 337 remain unidentified from the 7,432 foreign investor companies.

A1.3. Regional classification of business groups

We assign an investor to the Asia-Pacific region if it comes from that region or if it has a direct or indirect owner from the region. Then we assign a not-yet classified investor to the American region in a similar way. We leave out the investors coming from the African region as they are few. Investors from Europe having no owners from any other region are classified as European. Due to data availability, in this process we can only identify owners making an FDI in the 2003-2014 period anywhere in the world.

A1.4. Descriptive figures and tables

Figure A1: FDI projects by destination country



Notes: FDI going to 14 countries of the Eastern European region.

Table A1: The number of projects by year

Year	FDI projects
2006	1,027
2007	969
2008	1,015
2009	617
2010	660
2011	670
2012	548
2013	543
2014	409
Total	6,458

FDI-s going to any of the 14 countries.

Table A2: The number of projects by destination country

Destination country	FDI projects in 2006-2014
Bulgaria	473
Croatia	142
Czech Republic	597
Estonia	115
Greece	130
Hungary	583
Latvia	109
Lithuania	177
Poland	1,412
Romania	997
Serbia	397
Slovakia	351
Turkey	633
Ukraine	342
Total	6,458

FDI-s going to any of the 14 countries in the period 2006-2014.

Table A3: Number of FDI by the maximum number of peers with previous FDI in a country

The maximum number of peers with prev FDI		
Investors:	All	No prev. FDI
0	2142	1441
1	1041	507
2	578	232
3	339	96
4-5	340	82
6-10	365	33
10+	256	19

The number of FDI projects by the maximum number of peers with previous FDI in a country. Separately for all investors in column (1), and for investors with no previous FDI in the 14-country region in column (2).

Table A4: FDI project size by country

	Project size (N. jobs created)	
	maximum	median
Bulgaria	3056	90
Croatia	3000	109
Czech Republic	5000	100
Estonia	3000	70
Greece	2900	64
Hungary	3000	100
Latvia	3000	77
Lithuania	2217	50
Poland	3000	132
Romania	3000	109
Serbia	8000	104
Slovakia	3800	136
Turkey	3000	118
Ukraine	3000	95

The maximum and median size of projects by destination country, measured by the number of jobs created.

B1. Appendix B: Further estimation results

B1.1. Main results coefficients, OR

Table B1: Main results: location choice conditional on peer experience - estimated coefficients

LHS: FDI project goes to country

Sample:	(1) No prev. FDI	(2)	(3)	(4) All	(5)	(6) Prev. FDI
Prev. FDI by firm or group				0.758*** (0.081)		
Previous FDI by firm					1.111*** (0.093)	1.150*** (0.096)
Previous FDI in group		0.364*** (0.085)			0.208*** (0.047)	0.107** (0.054)
Previous FDI in industry	0.235*** (0.091)	0.235** (0.092)	0.247*** (0.081)	0.229*** (0.081)	0.243*** (0.079)	0.235** (0.106)
Previous FDI from country	1.062*** (0.133)	1.048*** (0.133)	1.146*** (0.099)	1.052*** (0.096)	1.036*** (0.094)	1.013*** (0.154)
Prev. FDI in ind. from country	0.488*** (0.075)	0.480*** (0.073)	0.724*** (0.059)	0.622*** (0.055)	0.452*** (0.055)	0.413*** (0.062)
FDI stock in ind.	0.248*** (0.052)	0.243*** (0.051)	0.253*** (0.044)	0.242*** (0.041)	0.247*** (0.040)	0.250*** (0.059)
Destination country FE	YES	YES	YES	YES	YES	YES
Observations	33,740	33,740	70,854	70,854	70,854	37,114

Coefficient estimates from conditional logistic regressions. One observation is an FDI-potential destination country pair. Sample: FDI of investors which had no previous FDI in any of the 14 countries before (from 2003 on) in columns (1)-(2), all FDI to the 14 countries (2006-2014) in columns (3)-(5), FDI of investors which had previous FDI in some of the 14 countries before (from 2003 on) in column (6). Dependent variable: indicator for FDI being located in the country. Variables of interest: indicators for same-country FDI by the same firm or by a business group peer in the previous 3 years in column (4), separately in columns (2),(5),(6). Controls: indicators for same-industry FDI, FDI from the investor's country, and same-industry FDI from the investor's country in the previous 3 years, industry-specific initial FDI stock (log of total number of jobs created in 2003-2005 + 1), destination country FE. Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B2: Main results: location choice conditional on peer experience - odds ratios

LHS: FDI project goes to country

Sample:	(1) No prev. FDI	(2)	(3)	(4) All	(5)	(6) Prev. FDI
Prev. FDI by firm or group				2.133*** (0.172)		
Previous FDI by firm					3.038*** (0.283)	1.150*** (0.096)
Previous FDI in group		1.440*** (0.122)			1.231*** (0.058)	0.107** (0.054)
Previous FDI in industry	1.265*** (0.115)	1.265** (0.116)	1.280*** (0.104)	1.258*** (0.102)	1.275*** (0.101)	0.235** (0.106)
Previous FDI from country	2.893*** (0.384)	2.853*** (0.378)	3.145*** (0.312)	2.863*** (0.274)	2.818*** (0.265)	1.013*** (0.154)
Prev. FDI in ind. from country	1.630*** (0.122)	1.616*** (0.119)	2.063*** (0.122)	1.862*** (0.102)	1.571*** (0.086)	0.413*** (0.062)
FDI stock in ind.	1.281*** (0.066)	1.275*** (0.066)	1.288*** (0.057)	1.273*** (0.053)	1.281*** (0.051)	0.250*** (0.059)
Destination country FE	YES	YES	YES	YES	YES	YES
Observations	33,740	33,740	70,854	70,854	70,854	37,114

Odds ratios estimated from conditional logistic regressions. One observation is an FDI-potential destination country pair. Sample: FDI of investors which had no previous FDI in any of the 14 countries before (from 2003 on) in columns (1)-(2), all FDI to the 14 countries (2006-2014) in columns (3)-(5), FDI of investors which had previous FDI in some of the 14 countries before (from 2003 on) in column (6). Dependent variable: indicator for FDI being located in the country. Variables of interest: indicators for same-country FDI by the same firm or by a business group peer in the previous 3 years in column (4), separately in columns (2),(5),(6). Controls: indicators for same-industry FDI, FDI from the investor's country, and same-industry FDI from the investor's country in the previous 3 years, industry-specific initial FDI stock (log of total number of jobs created in 2003-2005 + 1), destination country FE. Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

B1.2. Main results – variations in modelling

Table B3: Main results: location choice conditional on peer experience - size of previous FDI

LHS: FDI project goes to country

Sample:	(1) No prev. FDI	(2)	(3)	(4) All
Previous FDI by firm				0.042** (0.021)
Size of prev. FDI by firm				0.014*** (0.004)
Previous FDI in group		0.028 (0.024)		0.029** (0.011)
Size of prev. FDI in group		0.001 (0.004)		-0.002 (0.002)
Previous FDI in industry	-0.023 (0.020)	-0.023 (0.020)	-0.014 (0.014)	-0.021 (0.015)
Size of prev. FDI in ind.	0.011*** (0.004)	0.011*** (0.003)	0.009*** (0.002)	0.011*** (0.002)
Previous FDI from country	-0.100*** (0.025)	-0.098*** (0.024)	-0.036** (0.014)	-0.041*** (0.015)
Size of prev. FDI from country	0.038*** (0.004)	0.038*** (0.004)	0.028*** (0.003)	0.028*** (0.003)
Prev. FDI in ind. from country	0.031 (0.021)	0.030 (0.020)	0.015 (0.012)	0.026** (0.012)
Size of prev. FDI in ind. from country	0.000 (0.004)	-0.000 (0.004)	0.008*** (0.002)	0.001 (0.002)
FDI stock in ind.	0.023*** (0.005)	0.023*** (0.005)	0.021*** (0.003)	0.022*** (0.003)
Destination country FE	YES	YES	YES	YES
Observations	33,740	33,740	70,854	70,854

Average marginal effects from conditional logistic regressions. One observation is an FDI-potential destination country pair. Sample: FDI of investors which had no previous FDI in any of the 14 countries before (from 2003 on) in columns (1)-(2), all FDI to the 14 countries (2006-2014) in columns (3)-(4). Dependent variable: indicator for FDI being located in the country. Variables of interest: indicators for same-country FDI in the previous 3 years by the same firm, FDI by a business group peer, the size of each (measured as the log of the total number of jobs created + 1). Controls: indicators for same-industry FDI, FDI from the investor's country, and same-industry FDI from the investor's country in the previous 3 years, the size of each, industry-specific initial FDI stock (log of total number of jobs created in 2003-2005 + 1), destination country FE. Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B4: Main results - previous peer experience from earlier than three years before

LHS: FDI project goes to country

Sample:	(1) No prev. FDI	(2) All
Previous FDI by firm	0.162*** (0.018)	
Previous FDI in group	0.032*** (0.007)	0.062*** (0.015)
Previous FDI in industry	0.018 (0.014)	0.004 (0.020)
Previous FDI from country	0.144*** (0.013)	0.156*** (0.018)
Prev. FDI in ind. from country	0.074*** (0.010)	0.083*** (0.011)
FDI stock in ind.	0.030*** (0.005)	0.039*** (0.008)
Destination country FE	YES	YES
Observations	70,854	33,740

Average marginal effects estimated from conditional logistic regressions. One observation is an FDI-potential destination country pair. Sample: FDI of investors which had no previous FDI in any of the 14 countries before (from 2003 on) in column (1), all FDI to the 14 countries (2006-2014) in column (2). Dependent variable: indicator for FDI being located in the country. Variables of interest: indicators for FDI by the same firm in the country ever before (from 2003 on), FDI by a business group peer in the country ever before. Controls: indicators for same-industry FDI, FDI from the investor's country and same-industry FDI from the investor's country ever before, industry-specific initial FDI stock (log of total number of jobs created in 2003-2005 + 1), destination country FE. Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B5: Main results - investors from large groups

LHS: FDI project goes to country

Sample:	(1) No prev. FDI	(2) All
Previous FDI by firm		0.116*** (0.019)
Previous FDI in group	0.044** (0.020)	0.037*** (0.009)
Previous FDI in industry	0.026 (0.035)	0.038** (0.019)
Previous FDI from country	0.118*** (0.029)	0.124*** (0.016)
Prev. FDI in ind. from country	0.081*** (0.026)	0.065*** (0.016)
FDI stock in ind.	0.051*** (0.014)	0.036*** (0.007)
Destination country FE	YES	YES
Observations	7,602	29,008

Average marginal effects estimated from conditional logistic regressions. One observation is an FDI-potential destination country pair. Sample: FDI of investors with at least 10 peers in business group, and which had no previous FDI in any of the 14 countries before (from 2003 on) in column (1), all FDI to the 14 countries (2006-2014) in column (2). Dependent variable: indicator for FDI being located in the country. Variables of interest: indicators for FDI by the same firm in the country ever before (from 2003 on), FDI by a business group peer in the country ever before. Controls: indicators for same-industry FDI, FDI from the investor's country and same-industry FDI from the investor's country ever before, industry-specific initial FDI stock (log of total number of jobs created in 2003-2005 + 1), destination country FE. Standard errors, clustered at the industry level, are in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B6: Main results - robustness: alternative specifications

LHS: FDI project goes to country

Sample: All FDI

	(1)	(2)	(3)	
			nested logit	
Model:	mixed logit	2-level	3-level	
Previous FDI by firm	1.220*** (0.158)	0.869*** (0.175)	0.958*** (0.202)	
sd(Previous FDI in group)	2.347*** (0.327)			
Previous FDI in group	0.233*** (0.052)	0.137** (0.057)	0.130** (0.065)	
sd(Previous FDI in group)	0.406 (0.298)			
top level		by firm	by group	by firm
Previous FDI in top group "North"		0.139 (0.126)	0.287*** (0.098)	0.006 (0.168)
Previous FDI in top group "South"		0.356** (0.151)	0.334*** (0.119)	0.432** (0.197)
middle level				
Previous FDI in sub-group "Central"			0.086 (0.121)	0.086 (0.082)
Previous FDI in sub-group "Baltic"			0.245 (0.173)	0.330*** (0.117)
Previous FDI in sub-group "Balkan"			-0.135 (0.156)	-0.028 (0.135)
Previous FDI in sub-group "South/East"			-0.164 (0.128)	0.072 (0.116)
Previous FDI in industry	YES	YES	YES	
Previous FDI from country	YES	YES	YES	
Previous FDI in industry from country	YES	YES	YES	
Log # base-period FDI in industry	YES	YES	YES	
Observations	70,854	70,854	70,854	

Coefficient estimates from mixed logistic estimates in column (1), nested logit estimated with 2 levels in column (2) and 3 levels in column (3). One observation is an FDI-potential destination country pair. Sample: all FDI in 2006-2014. In column (3) the middle choice level is between the "Central" (Hungary, Poland, Czech Republic, Slovakia, Romania), the "Baltic" (Estonia, Latvia, Lithuania), the "Balkan" (Bulgaria, Serbia, Croatia) and the "South/East" (Turkey, Greece, Ukraine) sub-regions. In column (2)-(3), the top choice level is between "North" ("Central" and "Baltic") and "South" ("Balkan" and "South/East"). Dependent variable: indicator for FDI being located in the country. Variables of interest: indicators for same-country FDI by the same firm in the previous 3 years, same-country FDI by a business group peer in the previous 3 years. Controls: indicators for same-industry FDI, FDI from the investor's country and same-industry FDI from the investor's country in the previous 3 years, industry-specific initial FDI stock (log of total number of jobs created in 2003-2005 + 1). Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B7: Main results - robustness: alternative specifications, no previous FDI sample

LHS: FDI project goes to country

Sample: No prev. FDI

	(1)	(2)	(3)
		nested logit	
Model:	mixed logit	2-level	3-level
Previous FDI in group	0.358*** (0.087)	0.520*** (0.192)	0.482** (0.208)
sd(Previous FDI in group)	0.638* (0.363)		
top level			
Previous FDI in top group "North"		0.241* (0.131)	0.247 (0.163)
Previous FDI in top group "South"		0.115 (0.188)	0.199 (0.253)
middle level			
Previous FDI in sub-group "Central"			-0.010 (0.137)
Previous FDI in sub-group "Baltic"			0.276 (0.202)
Previous FDI in sub-group "Balkan"			-0.278 (0.380)
Previous FDI in sub-group "South/East"			0.054 (0.322)
Previous FDI in industry	YES	YES	YES
Previous FDI from country	YES	YES	YES
Previous FDI in industry from country	YES	YES	YES
Log # base-period FDI in industry	YES	YES	YES
Observations	33,740	33,740	33,740

Coefficient estimates from mixed logistic estimates in column (1), nested logit estimated with 2 levels in column (2) and 3 levels in column (3). One observation is an FDI-potential destination country pair. Sample: FDI of investors without previous investment in any of the 14 countries (from 2003 on). In column (3) the middle choice level is between the "Central" (Hungary, Poland, Czech Republic, Slovakia, Romania), the "Baltic" (Estonia, Latvia, Lithuania), the "Balkan" (Bulgaria, Serbia, Croatia) and the "South/East" (Turkey, Greece, Ukraine) sub-regions. In column (2)-(3), the top choice level is between "North" ("Central" and "Baltic") and "South" ("Balkan" and "South/East"). Dependent variable: indicator for FDI being located in the country. Variables of interest: indicator for same-country FDI by a business group peer in the previous 3 years. Controls: indicators for same-industry FDI, FDI from the investor's country and same-industry FDI from the investor's country in the previous 3 years, industry-specific initial FDI stock (log of total number of jobs created in 2003-2005 + 1). Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B8: Main results - robustness: comparable pairs

LHS: FDI project goes to country

Sample: Same-source pairs with same-ind. FDI in
— same year and no prev. FDI

	(1)	(2)
Previous FDI in group	0.053*** (0.017)	
- majority links		0.077*** (0.020)
- minority links		0.015 (0.025)
Observations	4,816	4,816

OLS estimates. Sample: comparable pairs of FDI in same industry going to different countries, with investors from the same source country but from different business groups, which had no previous FDI in any of the 14 countries before (from 2003 on) and which have a single FDI in that year. One observation is an FDI-country pair, with a country in which one of the two FDIs in the pair was located. Dependent variable: indicator for FDI being located in the country. Variables of interest: indicator for an FDI by a business group peer in the country in the previous 3 years (column (1)), separately by connection strength to the experienced peer: majority ($\geq 50\%$) or minority (10 – 49%) in column (2). Standard errors, clustered by industry, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

B1.3. Investors from EU, US, Asia

We group investors to firms from Europe, America (including both North and South) and Asia-Pacific (also including a handful of investors from Africa). Table B9 shows the assignment rules for multi-region units and the number of projects by the region of the investor.

Table B9: Number of FDI with investors from a specific region

investor's group from	Asia	America	Europe
all investors	865	1171	4429
no prev. FDI in region	436	514	2087
— has same ind. peer FDI	77	96	223
no prev. FDI in Europe	315	331	

The number of FDI projects by region of the investor. Details about the assignment of business groups to regions are in section A1.3. Separately for investors having no previous FDI in the region of the 14 countries (in row 2, further constrained to projects with same-industry previous FDI of a peer in any of the 14 countries in row 3), and which have no previous FDI in Europe at all (in row 4).

Table B10 shows the results, presenting coefficient estimates of a single regression, by geographic regions

The same-firm coefficient is almost the same for investors coming from any region, while we see some differences in the business group peer coefficients, which are somewhat larger for firms of an Asian origin, as well as for European ones, and smaller and insignificant for firms of an American origin.

Table B10: Heterogeneity by continent

Sample: All

LHS: FDI project goes to country

	(1)		
	x Europe	x Americas	x Asia
Prev. FDI by firm	0.159*** (0.022)	0.143*** (0.027)	0.153*** (0.034)
Prev. FDI in group	0.031*** (0.010)	0.014 (0.015)	0.036** (0.017)
Prev. FDI in industry	0.032*** (0.012)	0.054* (0.028)	0.010 (0.041)
Prev. FDI from country	0.156*** (0.022)	0.124 (0.079)	0.125*** (0.018)
Prev. FDI in ind. from country	0.061*** (0.012)	0.058*** (0.016)	0.069*** (0.020)
FDI stock in ind.	0.030*** (0.005)	0.048*** (0.010)	0.042*** (0.009)
Destination country FE		YES	
Observations		70,784	

Average marginal effect estimated from a single conditional logistic regression. One observation is an FDI-potential destination country pair. Sample: all FDI to the 14 countries (2006-2014). Dependent variable: indicator for FDI being located in the country. Variables of interest: indicators for FDI by the same firm in the country in the previous 3 years, FDI by a business group peer in the country in the previous 3 years. Controls: indicators for same-industry FDI and same-industry FDI from the investor's country in the previous 3 years, industry-specific initial FDI stock (log of total number of jobs created in 2003-2005 + 1), destination country FE. All the variables are interacted with an indicator for the region of the investor: Europe, America or Asia. Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

B1.4. Heterogeneity

Table B11: Heterogeneity by link strength

LHS: FDI project goes to country						
Sample:	(1)	(2)		(3)	(4)	
		No prev. FDI			All	
Prev. FDI by firm				1.111*** (0.093)		1.111*** (0.093)
Prev. FDI in group		directlinks	far links only		directlinks	far links only
- majority links	0.404*** (0.103)	0.595*** (0.159)	0.317*** (0.107)	0.205*** (0.067)	0.327*** (0.111)	0.152** (0.065)
- minority links	0.320*** (0.101)	0.328 (0.228)	0.324*** (0.111)	0.211*** (0.050)	0.250** (0.103)	0.201*** (0.064)
Prev. FDI in ind.	0.235** (0.092)		0.235** (0.092)	0.243*** (0.079)		0.243*** (0.079)
Prev. FDI from country	1.048*** (0.133)		1.048*** (0.133)	1.036*** (0.094)		1.035*** (0.094)
Prev. FDI in ind. from country	0.479*** (0.073)		0.477*** (0.072)	0.452*** (0.054)		0.451*** (0.055)
FDI stock in ind.	0.242*** (0.051)		0.242*** (0.051)	0.248*** (0.040)		0.247*** (0.040)
Dest. country FE	YES		YES	YES		YES
Observations	33,740		33,740	70,854		70,854

Coefficient estimates from conditional logistic regressions. Variables of interest: indicators for same-country FDI in the previous 3 years by the same firm, by a business group peer, separately by connection strength and strength-distance categories. Direct peers are at most 2 steps away. Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B12: Heterogeneity by the number of experienced peers

LHS: FDI project goes to country

Sample:	(1) No prev. FDI	(2)	(3)	(4) All
Prev. FDI by firm			0.156*** (0.019)	0.156*** (0.020)
Prev. FDI in group	0.049*** (0.014)		0.029*** (0.007)	
N. experienced peers	0.004 (0.005)		0.000 (0.002)	
1 experienced peer		0.048*** (0.014)		0.026*** (0.007)
2 experienced peers		0.071*** (0.020)		0.040*** (0.011)
3 experienced peers		0.082** (0.035)		0.033*** (0.012)
4-5 experienced peers		0.102*** (0.039)		0.030 (0.018)
5+ experienced peers		0.072 (0.058)		0.034** (0.017)
Previous FDI in industry	0.035*** (0.013)	0.035*** (0.013)	0.034*** (0.010)	0.034*** (0.010)
Prev. FDI from country	0.156*** (0.015)	0.156*** (0.015)	0.146*** (0.011)	0.146*** (0.011)
Prev. FDI in ind. from country	0.071*** (0.012)	0.071*** (0.012)	0.064*** (0.009)	0.063*** (0.009)
FDI stock in ind.	0.036*** (0.007)	0.036*** (0.007)	0.035*** (0.005)	0.035*** (0.005)
Destination country FE	YES	YES	YES	YES
Observations	33,740	33,740	70,854	70,854

Average marginal effects estimated from conditional logistic regressions. One observation is an FDI-potential destination country pair. Sample: FDI of investors which had no previous FDI in any of the 14 countries before (from 2003 on) in column (1)-(2), and all investors in column (3)-(4). Dependent variable: indicator for FDI being located in the country. Variables of interest: indicators for same-country FDI by the same firm in the previous 3 years, same-country FDI by any business group peer in the previous 3 years and number of such peers in the country (columns (1), (3)), or separate indicators for a specific number of experienced peers (columns (2), (4)). Controls: indicators for same-industry FDI, FDI from the investor's country and same-industry FDI from the investor's country in the previous 3 years, industry-specific initial FDI stock (log of total number of jobs created in 2003-2005 + 1), destination country FE. Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

B1.5. Using the Orbis data only

Table B13: The % of FDIs and FDI-potential destination country observations by previous FDI - Orbis data only

	% of FDI	% of obs.
Previous FDI		
— by same firm	7.0%	2.3%
— by business group peer	16.6%	10.9%
— in the same industry	37.8%	23.7%
— from the same source country	86.7%	79.5%
— in the same industry and from the same source country	8.9%	3.8%

Orbis dataset only. Percentage of FDI with specific previous FDI before in the destination country in column 1. The percentage of FDI project-potential destination country pairs with specific previous FDI before in the country in column 2. Close peers are defined as being at most 2 steps away from the firm.

Table B14: Main results: location choice conditional on peer experience - Orbis only dataset

LHS: FDI project goes to country

Sample:	(1) No prev. FDI	(2)	(3)	(4) All	(5)
Prev. FDI by firm or group				0.141*** (0.038)	
Previous FDI by firm					0.186*** (0.044)
Previous FDI in group		0.088*** (0.027)			0.080*** (0.024)
Previous FDI in industry	0.005 (0.014)	0.005 (0.014)	0.008 (0.014)	0.006 (0.013)	0.006 (0.013)
Previous FDI from country	0.013 (0.018)	0.013 (0.018)	0.01 (0.019)	0.011 (0.018)	0.012 (0.018)
Prev. FDI in ind. from country	0.085*** (0.029)	0.083*** (0.029)	0.120*** (0.036)	0.106*** (0.031)	0.097*** (0.029)
FDI stock in ind. proxy	0.041*** (0.013)	0.041*** (0.013)	0.044*** (0.014)	0.042*** (0.013)	0.042*** (0.013)
Destination country FE	YES	YES	YES	YES	YES
Observations	121,414	121,414	132,130	132,130	132,130

Average marginal effects estimated from conditional logistic regressions. One observation is an FDI-potential destination country pair. Sample: FDI of investors which had no previous FDI in any of the 10 countries before, using the Orbis only dataset in columns (1)-(2), all FDI to the 10 countries (2007-2019) in columns (3)-(5). Dependent variable: indicator for FDI being located in the country. Variables of interest: indicators for same-country FDI by the same firm or by a business group peer in the previous 3 years in column (4), separately in columns (2),(5). Controls: indicators for same-industry FDI, FDI from the investor's country, and same-industry FDI from the investor's country in the previous 3 years, industry-specific initial FDI stock (log of total number of jobs created in 2003-2005 + 1), destination country FE. Standard errors, clustered at the industry level, are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$