Learning to Import from Your Peers:* Online Appendix

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Table 1: Distribution of the number of import markets

number of countries the firm imports from	Share of firms importing	
	all imports	successful imports
0	94.99%	98.46%
1	3.29%	0.89%
2	1.11%	0.44%
3	0.43%	0.15%
4	0.18%	0.06%

Notes: Sample includes firms with headquarters in Budapest, 1994-2003. The first column shows the share of firms importing from a specific number of countries out of the four - the Czech Republic, Romania, Russia and Slovakia -, and the second column shows the same share for successful imports, i.e. importing at least twice in a three-year period.

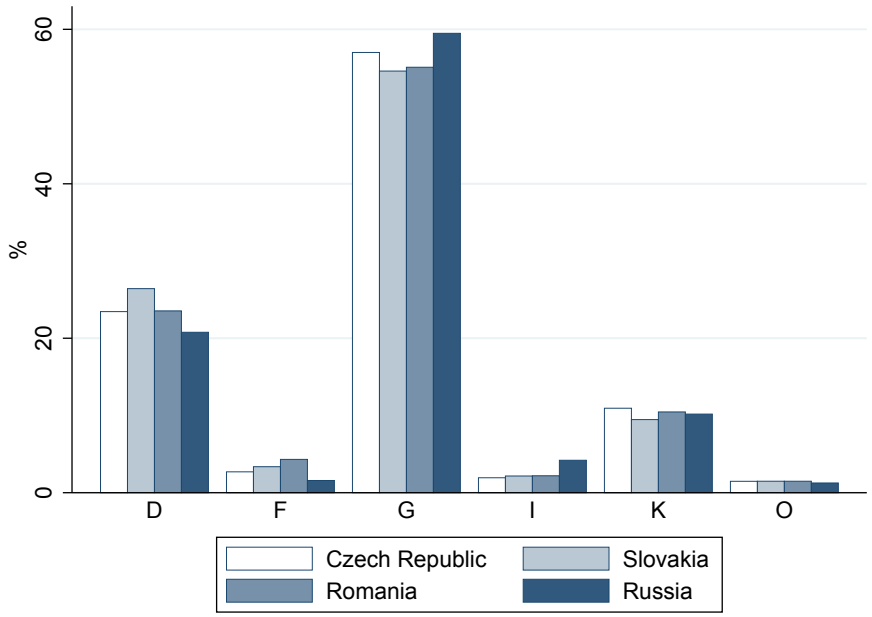
A. Additional descriptive statistics

Patterns of source countries: Table 1 presents the share of firms which ever imported from one or multiple countries. More than half of the importers import from only one of the four countries. More than half of the firms importing from two of the four countries import from the Czech Republic and from Slovakia. The second column shows the same pattern for successful importers, defined as a firm importing from a country at least twice in the 3-year period $[t-1, t+1]$ where t is the current year. Less than one third of the ever importer firms is also a successful importer.

Figures 1-3 show the industry composition of firms importing from one of the four countries. This provides further evidence for the similarity of importers from the different countries we look at.

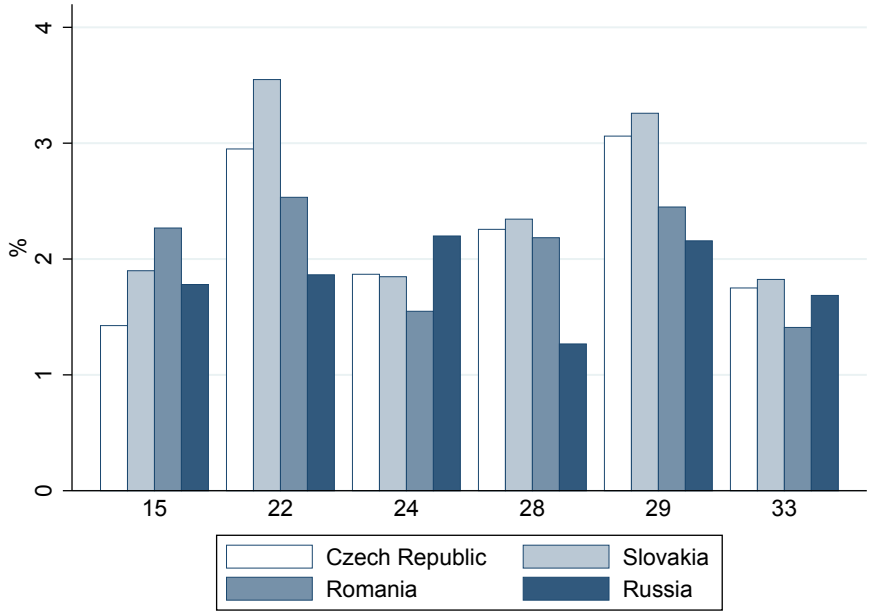
The imported products: Table 2 shows the product composition of importers by source country. Most of the imported products are industrial supplies, and the product composition is stable across countries. Looking at the product composition of imports within a firm shows that import is highly concentrated by the type of the good. Concerning the classification of **?**, 89% of the importer firms in our sample import differentiated products, 27% import reference priced products and only 5% import products sold in an organized exchange.

Figure 1: Industry composition of importers by source country



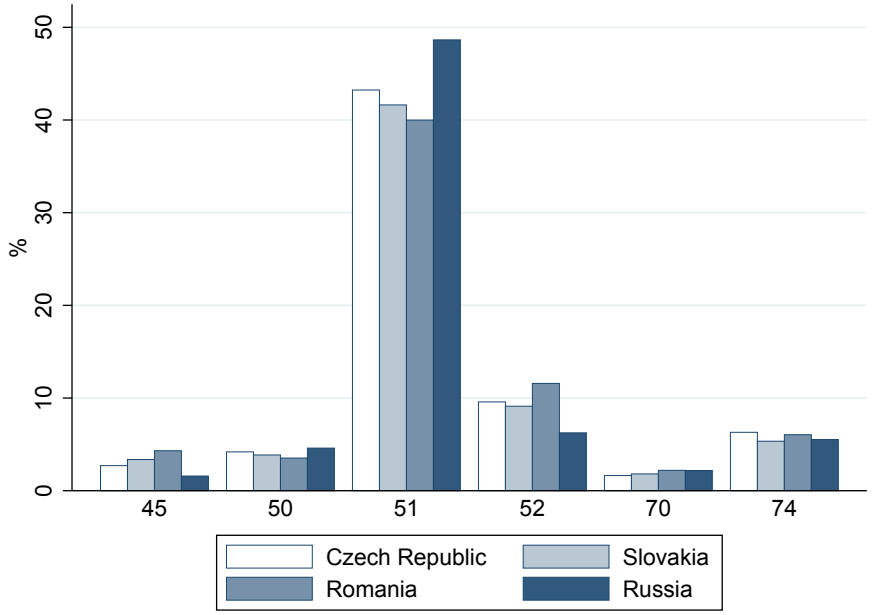
Notes: Sample includes firms with headquarters in Budapest, 1994-2003. We present the industry composition by 1-digit NACE Rev.1.1 categories, separately for importers from a specific country. Only those categories are included which have at least a share of 1% in our sample of firms importing from at least one of the four countries. D: Manufacturing, F: Construction, G: Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods, I: Transport, storage and communication, K: Real estate, renting and business activities, O: Other community, social and personal service activities.

Figure 2: Industry composition of importers in manufacturing by source country



Notes: Sample includes firms with headquarters in Budapest, 1994-2003. We present the industry composition by 2-digit NACE Rev.1.1 categories within manufacturing, separately for importers from a specific country, including only the six highest-share categories. 15: Manufacture of food products and beverages, 22: Publishing, printing and reproduction of recorded media, 24: Manufacture of chemicals and chemical products, 28: Manufacture of fabricated metal products, except machinery and equipment, 29: Manufacture of machinery and equipment n.e.c., 33: Manufacture of medical, precision and optical instruments, watches and clocks.

Figure 3: Industry composition of importers in trade and business services by source country



Notes: Sample includes firms with headquarters in Budapest, 1994-2003. We present the industry composition by 2-digit NACE Rev.1.1 categories outside manufacturing, separately for importers from a specific country, including only the six highest-share categories. 45: Construction, 50: Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel, 51: Wholesale trade and commission trade, except of motor vehicles and motorcycles, 52: Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods, 70: Real estate activities, 74: Other business activities.

Table 2: Distribution of imports by product categories

Share of the product category in all import transactions	All importers in 1994-2003 from any of the 4 countries	Czech Republic	Slovakia	Romania	Russia
Consumer goods (BEC 1, 6)	24%	21%	20%	46%	10%
Industrial supplies (BEC 2, 3)	39%	37%	46%	34%	44%
Capital goods (BEC 41, 51, 52)	13%	16%	13%	7%	13%
Parts and accessories (BEC 42, 53)	22%	24%	19%	10%	32%

Notes: Sample includes firms with headquarters in Budapest, 1994-2003. BEC 1, 6: Food and beverage, consumer goods; BEC 2, 3: Industrial supplies, fuels and lubricants; BEC 41, 51, 52: Capital goods, transport equipment; BEC 42, 53: Parts and accessories. As some products are unclassified, shares in a specific column do not add up to 100%.

Patterns of experienced peers: The first two columns of Table 3 shows the share of firm-country-year observations with specific patterns of experienced peers, using country-specific experience in the first column, and experience with any of the four countries in the second. The table includes peer patterns by the type of experience in the upper panel and by the type of the peer group in the lower one. The patterns suggest that export and import experience are not necessarily present together, and there are relatively few observations with peers having an owner from one of the four countries. There are closely located neighbors with country-specific experience in more than 20% of the observations. The share of observations with person-connected or ownership-connected experienced peers is much lower.

Firm groups: Table 4 shows descriptive statistics about the different firm groups we use for the heterogeneity estimates, including group size, share of importers and import starts.

B. Additional exhibits: heterogeneity results, robustness checks and counterfactual analysis

Tables 5 and 6 present heterogeneity results for spillover effects in neighbor-building and person-connected peer networks. Patterns of heterogeneity by firm groups and peer groups are similar for same-building peers and neighbor-building peers, but somewhat weaker for the latter. In person-connected networks we find no significant heterogeneity by the characteristics of the peers, and

Table 3: Patterns of peer experience

Time period: 1994-2003 Patterns of experienced peers … … by type of the experience	Share of firm-year-country observations country-specific experience	 experience about any of the four countries
export only	6.0%	6.6%
import only	5.7%	5.8%
ownership only	1.9%	4.0%
export and import, but no ownership	7.2%	14.1%
other patterns	2.9%	11.7%
… by peer group		
geographic only	18.9%	32.6%
person-connected only	0.7%	0.8%
ownership-connected only	2.3%	3.4%
geographic and ownership-connected, but no person-connected	1.2%	3.7%
other patterns	0.7%	1.7%
no experienced peers	76.2%	57.8%

Notes: Sample includes firms with headquarters in Budapest, 1994-2003. The first panel shows the share of firms by the experience type of their peers, and the second panel shows the share of firms by the type of experienced peers they have. The first column uses country-specific experience and the second column uses experience with any of the four countries.

there is not much heterogeneity by firm characteristics either.

Table 7 shows that peers having import experience in the same-industry or with the same-product have a significantly larger effect both in the same-building and in the person-connected peer network. Yet, we don't find a significantly different effect for neighbor-building peers, potentially because of the much weaker neighbor-building peer effect.

In the paper we show that spillovers are stronger from peers having import experience with the same product category. In table 8 we explore a related specification in which we show that conditional on a firm starting to import from a country, it is more likely to import the product category in which its peer has had import experience.

Ownership: We check if our results are moved by firms being owned from one of the four countries. Columns (2) and (3) of Table 9 in the Appendix shows estimation results for a sub-sample of firms where we exclude those firms which have owners from any of the four countries.

Table 4: Size and composition of firm groups

		Not-yet-importer firm-country pairs		All observations
firm group by size		share of obs. (%)	share of import starts (%)	share of importers (%)
	<=5 empl.	66.1	0.2	1.0
	6-20 empl.	7.5	0.9	5.1
	21-100 empl.	2.2	2.0	12.4
	>100 empl.	0.5	4.9	29.5
	no data	23.7	0.1	0.9
productivity				
	1st quartile	13.9	0.2	1.2
	2nd quartile	17.0	0.3	1.8
	3rd quartile	16.9	0.5	3.0
	4th quartile	14.7	0.6	3.6
	no data	37.5	0.1	0.7
ownership				
	foreign	8.9	0.9	5.5
	not foreign	91.1	0.2	1.4

Notes: Sample includes firms with headquarters in Budapest 1994-2003. The first two columns include firm-country pairs in those years when the firm has not imported from the country until the previous year. The first column shows the share of observations in the specific firm group. The second column presents the share of observations within each firm group in which the firm starts to import from the country. The third column shows the share of importers in all observations within the firm group.

Results are robust for these changes.

Table 5: Heterogeneity of peer effect across receivers

Dependent variable: starting to import	Firm groups by		
	size	productivity	ownership
	(1)	(2)	(3)
Same-building importer peer			
Group 1	0.07***	0.03	0.11***
	(0.02)	(0.02)	(0.02)
Group 2	0.62***°	0.20***°	0.81***°
	(0.12)	(0.05)	(0.11)
Group 3	1.45***°	0.38***	
	(0.29)	(0.07)	
Group 4	3.32***°	0.61***°	
	(0.87)	(0.09)	
Neighbor-building importer peer			
Group 1	-0.03*	-0.03	0.01
	(0.02)	(0.02)	(0.02)
Group 2	0.34***°	0.00	0.32***°
	(0.13)	(0.05)	(0.10)
Group 3	1.03***°	0.15**	
	(0.30)	(0.07)	
Group 4	2.01**	0.21***	
	(0.99)	(0.07)	
Person-network importer peer			
Group 1	0.14**	0.25**	0.30***
	(0.07)	(0.10)	(0.09)
Group 2	1.18***°	0.64***	1.38***°
	(0.40)	(0.25)	(0.46)
Group 3	1.02*	0.42*	
	(0.58)	(0.24)	
Group 4	1.67*	0.64**	
	(0.97)	(0.26)	
Firm-year FE	YES	YES	YES
Country-year FE	YES	YES	YES
Observations	3,778,517	3,778,517	3,778,517

Notes: Sample includes firm-country pairs in those years when the firm has not imported from the country until the previous year. The dependent variable is an indicator for the firm starting to import from the country in the given year. Right-hand side variables are indicators for the firm having a specific type of peer with country-specific import experience in the previous year, interacted by firm group dummies. Though not presented, the regressions also include indicators for cross-street and owner-connected peers. Firm group 1 is the lowest category in columns (1) and (2), with size cutoffs 5, 20 and 100 employees, and productivity quartiles by 2-digit industry. In column (3) group 1 is domestic and group 2 is foreign firms. All specifications include firm-year and country-year fixed effects. Standard errors in parentheses are clustered by building. Coefficients are multiplied by 100 to read as percentage point marginal effects. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. ∘ denotes that the coefficient is significantly different from that of previous group at 5%.

Table 6: Heterogeneity of peer effect across peers

Dependent variable: starting to import	Peer groups by		
	size	productivity	ownership
	(1)	(2)	(3)
Same-building importer peer			
Peer in group 1	0.17***	0.14***	0.14***
	(0.03)	(0.04)	(0.03)
Peer in group 2	0.26***	0.13***	0.40***°
	(0.05)	(0.05)	(0.05)
Peer in group 3	0.35***	0.19***	
	(0.07)	(0.04)	
Peer in group 4	0.15	0.34***°	
	(0.10)	(0.05)	
Neighbor-building importer peer			
Peer in group 1	0.02	0.00	0.05**
	(0.02)	(0.03)	(0.02)
Peer in group 2	0.13***°	0.05	0.07*
	(0.05)	(0.04)	(0.04)
Peer in group 3	0.15**	0.07**	
	(0.07)	(0.03)	
Peer in group 4	-0.03	0.10**	
	(0.10)	(0.04)	
Person-network importer peer			
Peer in group 1	0.71***	0.37***	0.45***
	(0.15)	(0.14)	(0.11)
Peer in group 2	0.06°	0.24°	0.31*°
	(0.27)	(0.25)	(0.18)
Peer in group 3	0.36°	0.30°	
	(0.23)	(0.22)	
Peer in group 4	0.14°	0.43**°	
	(0.15)	(0.18)	
Firm-year FE	YES	YES	YES
Country-year FE	YES	YES	YES
Observations	3,778,517	3,778,517	3,778,517

Notes: Sample includes firm-country pairs in those years when the firm has not imported from the country until the previous year. The dependent variable is an indicator for the firm starting to import from the country in the given year. Right-hand side variables are indicators for the firm having a specific type of peer with country-specific import experience in the previous year, separately for each peer group. Though not presented, the regressions also include the effect of cross-street and owner-connected peers. Peer group 1 is the lowest category in columns (1) and (2), with size cutoffs 5, 20 and 100 employees, and productivity quartiles by 2-digit industry. In column (3) group 1 is domestic and group 2 is foreign peers. All specifications include firm-year and country-year fixed effects. Standard errors in parentheses are clustered by building. Coefficients are multiplied by 100 to read as percentage point marginal effects. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. ∘ denotes that the coefficient is significantly different from that of previous group at 5%.

Table 7: Effect of peer experience within industry and product

	same industry		same product			
Dependent variable: starting to import	All firms	Manufacturing firms	Consumer goods	Industrial supplies	Capital goods	Parts and accessories
	(1)	(2)	(3)	(4)	(5)	(6)
Same-building importer peer						
peers with different industry/product	0.17***	0.36***	0.07***	0.05**	0.06***	0.05***
	(0.02)	(0.12)	(0.02)	(0.02)	(0.01)	(0.01)
peers with same industry/product	0.59***∘	1.00**	0.17***∘	0.17***∘	0.11***	0.18***∘
	(0.09)	(0.44)	(0.03)	(0.03)	(0.03)	(0.03)
Neighbor-building importer peer						
peers with different industry/product	0.04*	0.25**	0.01	0.02	0.01	0.01
	(0.02)	(0.10)	(0.02)	(0.02)	(0.01)	(0.01)
peers with same industry/product	0.11	1.21	0.00	0.04**	0.02	0.02
	(0.08)	(0.79)	(0.02)	(0.02)	(0.02)	(0.02)
Person-connected importer peer						
peers with different industry/product	0.27***	0.80	0.08	0.08	0.08	-0.01
	(0.09)	(0.56)	(0.07)	(0.09)	(0.06)	(0.05)
peers with same industry/product	0.99***∘	1.03	0.23**	0.30***	0.23**	0.32***∘
	(0.31)	(1.16)	(0.10)	(0.09)	(0.09)	(0.10)
Not yet importer from destination			YES	YES	YES	YES
Firm-year FE	YES	YES	YES	YES	YES	YES
Country-year FE	YES	YES	YES	YES	YES	YES
Observations	3,778,517	376,739	3,821,755	3,805,958	3,828,759	3,829,629
Baseline hazard (in %):	0.19	0.41	0.07	0.11	0.05	0.05

Notes: Sample includes firm-country pairs in those years when the firm has not imported from the country until the previous year. Column (2) contains only manufacturing firms. The dependent variable is an indicator for the firm starting to import from the country in the given year. Right-hand side variables are indicators for the firm having a specific type of peer with country-specific import experience in the previous year. Separate indicators are included for peers in the 2-digit industry of the firm or in a different industry in columns (1)-(2), and peers importing the same or different product categories in columns (3)-(6). Though not presented, the regressions also include the effect of cross-street and owner-connected peers. In columns (3)-(6) only imports in the given product category are considered, both for creating the sample and defining the dependent variable. Product categories follow the BEC classification: BEC 1 and 6 are consumer goods, BEC 2 and 3 industrial supplies, BEC 41, 51 and 52 capital goods, and BEC 42 and 53 parts and accessories. All specifications include firm-year and country-year fixed effects. Standard errors in parentheses are clustered by building. Baseline hazard refers to the share of importers in the estimation sample. Coefficients are multiplied by 100 to read as percentage point marginal effects. Significance levels: *** $p<0.01$, ** $p<0.05$, * $p<0.1$. ∘ denotes that the coefficient is significantly different from that of previous group at 5%.

Table 8: Effect of peer experience on same-country and same-product imports

Dependent variable: starting to import product	(1)
Same-building importer peer	
with different product	-6.66***
	(2.05)
with same product	10.80***°
	(1.92)
Firm-year FE	YES
Country-year FE	YES
Observations	38,088

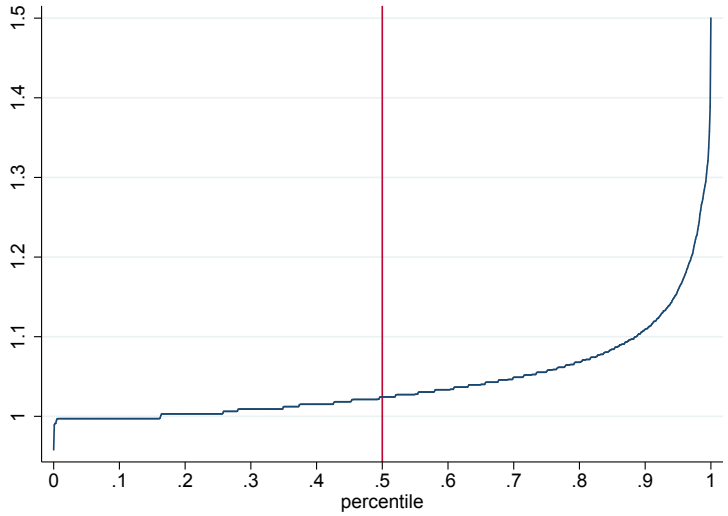
Notes: Sample includes firms with all four countries in the year the firm started to import for the first time from the group of the four countries. The unit of observation is firm-country-year-product category, with four product categories: consumer goods (BEC 1, 6), industrial supplies (BEC 2, 3), capital goods (BEC 41,51, 52) and parts and accessories (BEC 42 and 53). The dependent variable is an indicator for the firm starting to import the given product type from the country in the given year. Right-hand side variables are indicators for the firm having a specific type of peer—all types defined in Table 3 of the main text included—with country-specific import experience in the previous year, with the same or with a different product category. Only coefficients on same-building peers are presented. All specifications include firm-year and country-year fixed effects. Standard errors in parentheses are clustered by building. Coefficients are multiplied by 100 to read as percentage point marginal effects. Significance levels: *** $p<0.01$, ** $p<0.05$, * $p<0.1$. ∘ denotes that the coefficient is significantly different from that of previous group at 5%.

Table 9: Robustness checks

Dependent variable: starting to import	Firms with ownership links not excluded	No owner from the 4 countries	
	Type of other experience	Type of other experience	
	Exporter	Exporter	Owner
	(1)	(2)	(3)
Import experience			
Same-building peer	0.20***	0.21***	0.21***
	(0.04)	(0.03)	(0.03)
Neighbor-building peer	-0.01	0.04*	0.04**
	(0.03)	(0.02)	(0.02)
Cross-street peer	0.03	0.04	0.03
	(0.03)	(0.02)	(0.02)
Person-network peer	0.58***	0.40***	0.41***
	(0.13)	(0.09)	(0.09)
Ownership-network peer		0.50***	0.53***
		(0.05)	(0.05)
Other experience			
Same-building peer	0.05	0.02	0.03
	(0.03)	(0.02)	(0.03)
Neighbor-building peer	0.07***	0.03	-0.01
	(0.03)	(0.02)	(0.02)
Cross-street peer	-0.03	-0.01	0.02
	(0.03)	(0.02)	(0.03)
Person-network peer	0.25**	0.06	0.20
	(0.11)	(0.08)	(0.31)
Ownership-network peer		0.12***	-0.10
		(0.04)	(0.07)
Firm-year FE	YES	YES	YES
Country-year FE	YES	YES	YES
Observations	1,340,498	3,700,353	3,700,353

Notes: Sample includes firm-country pairs in those years when the firm has not imported from the country until the previous year. Column (1) doesn't control for country-specific experience of firms in the same ownership network, and includes firms with ownership links among spatial and person-connected peers. Columns (2)-(3) exclude those firms from the regression which have owners from any of the four countries. The dependent variable is an indicator for the firm starting to import from the country in the given year. Right-hand side variables are indicators for the firm having a specific type of peer—as defined in Table 3 of the main text—with country-specific import or export experience—column (2)—or with owners from the country—column (3)—in the previous year. All specifications include firm-year and country-year fixed effects. Standard errors in parentheses are clustered by building. Coefficients are multiplied by 100 to read as percentage point marginal effects. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.

Figure 4: Distribution of the 5-year treatment effect for firms with non-importer peers in the building



Notes: Sample includes firm-country pairs in which the firm and at least one other firm in the building have not yet imported from the country in 2003. The 5-year treatment effect is the additional number of firms in the building starting to import from a specific country within 5 years after one firm in the building is induced to start importing form the country. For the calculations we assume that import spillovers and the baseline probability of starting to import are constant over time and across countries, but heterogeneous across firm and peer productivity groups; spillovers exist only within the same building, and increase linearly in the number of peers; and there are no firm entries, exits or location changes.