ONLINE APPENDIX FOR
FIRM SIZE, QUALITY BIAS AND IMPORT DEMAND
by Joaquin Blaum, Claire Lelarge and Michael Peters
Complementary Empirical Results

O.1 Sourcing-Strategy Specific Coefficients

In our baseline analysis, we controlled for firms' sourcing strategies though sourcing-strategy specific fixed effects. In Section B.2.5 in the Appendix we then focused on the most popular sourcing strategy. Here we extend this analysis beyond the most popular sourcing strategy and consider all sourcing strategies. This amounts to allowing the β coefficients in Equation (12) to vary by sourcing strategy. In practice, this requires to estimate Equation (12) on sub-samples of firm $\times$ product pairs that share exactly the same sourcing strategy and yields a distribution of estimated β's across product-specific sourcing strategies. More specifically, let σ_k be a particular sourcing strategy for product k. We then consider the following specification for each (k, σ_k)[44]:

$$\ln\left(\frac{s_{ikt}^{(1)}}{1 - s_{ikt}^{(1)}}\right) = \alpha_{tk} + \beta_{\sigma_k} \times \ln(S_{it}) + X_{it}'\mu_k + u_{ikt}, \text{ for all } k \text{ and } \sigma_k \tag{48}$$

In this equation, β_{σ_k} denotes the coefficients associated with log sales for the particular sourcing strategy σ_k for product k, α_{tk} are product $\times$ year fixed effects and X_{it} are again the usual control variables, whose effect on the expenditure share on the top variety we allow to vary by product. We estimate (48) for all products $\times$ sourcing strategies σ_k which have at least 10 observations in order to insure a minimal amount of statistical power. This leaves us with 6,751 coefficients β_{σ_k}, which we depict in Figure 6.

We display separately the distribution of all estimated coefficients (solid line) and the distribution of "precise" coefficients, which we define as the 25% coefficients with the lowest standard error (dashed line). These two distributions are uni-modal with a strictly positive mode: 0.126 and 0.114, respectively. The corresponding medians are also close to the point estimates reported in Table 15: 0.111 in the entire sample and 0.098 in the sample of precisely estimated parameters. Moreover, about 70% of the significant coefficients are positive.[45] Hence, while many of the coefficients are imprecisely estimated given the small number of firms in the sourcing-strategy specific bins, the results are broadly consistent with our findings above: on average larger firms bias their spending toward their top variety.

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[44]While we estimate one β_{σ_k} per sourcing strategy, we restrict the product-year fixed effects α_{tk} and μ_k to be common across all sourcing strategies of a same product. This increases our statistical power. The results are similar when we estimate specification (12) for each product $\times$ sourcing strategy, but the number of identifiable coefficients drops significantly.

[45]For the entire sample, 23% of the estimated β_{σ_k} (representing 24% of total import value in this same sample) are significantly different from zero and 16% (i.e. 70% of the significant coefficients, representing 18% of total import value) are significantly positive, while 7% (representing 7% of import value) are significantly negative. For the "precisely estimated" sample, 27% of all coefficients (representing 21% of import value in this sample) are significant and 19% are significantly positive (representing 17% of import value) while 7% are significantly negative (representing 5% of import value).
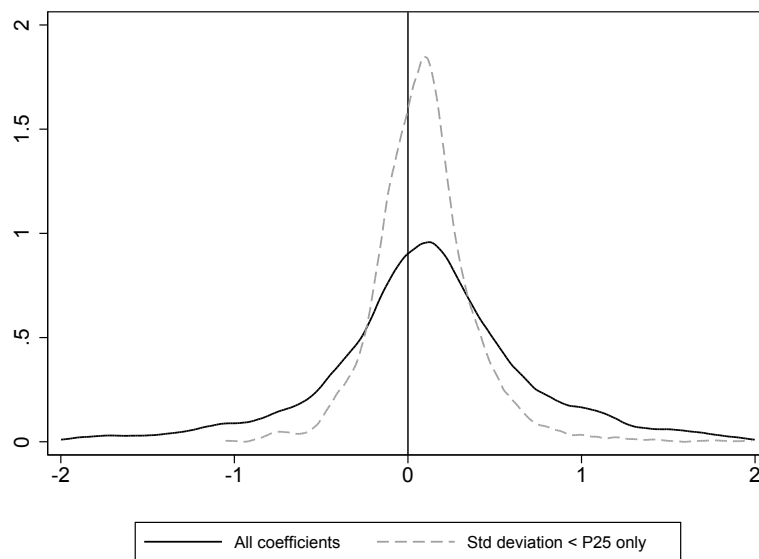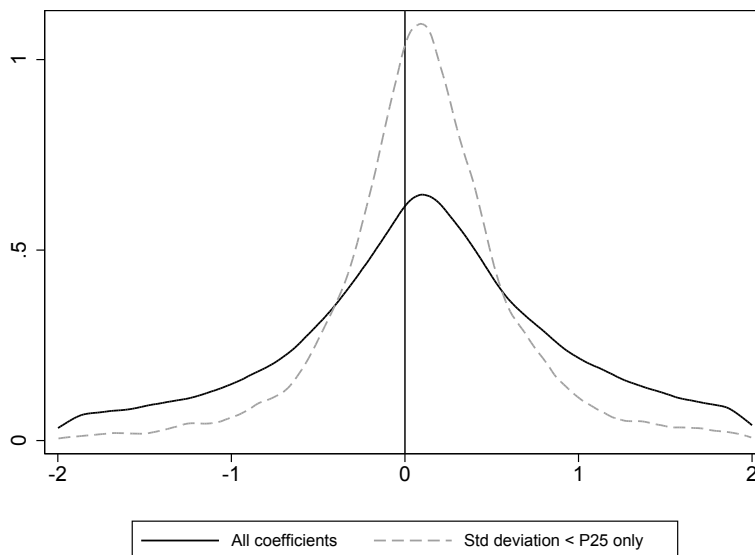
Notes: This figure represents the distribution of sourcing specific coefficients obtained from the regression (48). Only sourcing strategies × products with more than 10 observations are included into the sample. We consider the years 2001 to 2006 and weigh observations to give each firm an equal weight.

Figure 6: Distribution of Product × Sourcing Strategy Specific Coefficients on Sales

We also exploit the CES structure as in Section B.2.5 in the Appendix to obtain firm-size coefficients that vary by sourcing strategy. That is, for each product and pair of varieties, we can pool all firms whose sourcing strategies include at least such pair of varieties. We estimate the following equation for each product × couple of countries:

$$\ln\left(\frac{s_{ik,\{c,c'\}}^{(1)}}{1-s_{ik,\{c,c'\}}^{(1)}}\right) = \alpha_{k,\{c,c'\}} + \beta_{k,\{c,c'\}}\ln S_{it} + X_{it}'\mu_{k,\{c,c'\}} + u_{ik,\{c,c'\}}, \text{ for all } k \text{ and } c \neq c' \quad (49)$$

This leaves us with 54,755 coefficients to be estimated, which are represented in Figure 7. As in Figure 6, we display separately the distribution of all estimated coefficients (solid line) and the distribution of "precise" coefficients, which we define as the 25% coefficients with the lowest standard error (dashed line). These two distributions are uni-modal with a strictly positive mode: 0.128 and 0.125, respectively. The corresponding medians are also close to the point estimates reported in Table 15: 0.129 in the entire sample and 0.101 in the sample of precisely estimated parameters. Moreover, about 60% of the significant coefficients are positive.[46]

Notes: This figure represents the distribution of product × {c,c'} coefficients obtained from the regression (49). Only sourcing strategies × products with more than 10 observations are included into the sample. We consider the years 2001 to 2006 and weigh observations to give each firm an equal weight.

Figure 7: Distribution of Product × $\{c,c'\}$ Specific Coefficients on Sales in CES Specifications

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[46]For the entire sample, 31% of the estimated $\beta_{k,\{c,c'\}}$, representing 33% of import expenditures, are significantly different from zero and 19% (representing 21% of import expenditures, and 61% of the number of significant coefficients) are significantly positive, while 12% are significantly negative (representing 11% of import expenditures). For the "precisely estimated" sample, 42% of all coefficients are significant and 27% are significantly positive while 13% are significantly negative.

O.2   Detailed Regression Results for Appendix B.2.4

Panel (A): Controlling for the Number of Countries

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.128***	0.064*	0.143***	0.162**
	(0.016)	(0.033)	(0.045)	(0.064)
ln Nb countries	-0.792***	-1.354***	-1.781***	-2.186***
	(0.014)	(0.030)	(0.053)	(0.088)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.341	0.162	0.347	0.378
- On $s^{(k)}$	-0.048	-0.009	-0.011	-0.007
Sample average of $s^{(k)}$	0.206	0.080	0.041	0.024
Observations	739,167	306,573	158,652	92,722
Identified FE	481,164	236,956	132,056	80,660
of which singletons	343,330	184,933	108413	68,992

Panel (B): Controlling for the Entire Sourcing Strategy

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.109***	0.110**	0.313***	0.085
	(0.019)	(0.048)	(0.071)	(0.122)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.290	0.278	0.760	0.198
- On $s^{(k)}$	-0.042	-0.016	-0.020	-0.002
Sample average of $s^{(k)}$	0.206	0.080	0.041	0.024
Observations	739,167	306,573	158,652	92,722
Identified FE	552,033	267,749	146,852	88,265
of which singletons	439,840	235,963	136,334	84,276

Notes: Regressions are estimated at the importer × product level. The estimation samples include importers with more than two, three, four or five varieties depending on the specification, observed from 2001 to 2006. Robust standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. All regressions include the following additional controls: a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters, and an indicator of capital intensity (ln tangible assets per worker). Regressions in panel (A) include fixed effects for years, 4-digit industries interacted with 8-digit products and sourcing countries (of the specific varieties considered), as well as firm fixed effects. Regressions in panel (B) include fixed effects for years, four-digit industries interacted with 8-digit products and entire sourcing strategies (for the product), as well as firm fixed effects. Observations are weighted to give each firm an equal weight, independently of the number of imported products. The marginal impacts of an increase of sales by one standard deviation are computed at the mean of each sample in terms of sales, $s^{(1)}$, $s^{(2)}$, $s^{(3)}$, $s^{(4)}$ and $s^{(5)}$.

Table 18: Firm Size and the Intensive Margin of Trade, Controlling for Firm Fixed Effects

Panel (A): Controlling for the Number of Countries

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.099***	0.125***	0.156***	0.184***
	(0.004)	(0.007)	(0.012)	(0.019)
ln Nb countries	-0.857***	-1.444***	-1.933***	-2.350***
	(0.009)	(0.019)	(0.034)	(0.055)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.215	0.254	0.302	0.341
- On $s^{(k)}$	0.215	0.254	0.302	0.341
Sample average of $s^{(k)}$	0.200	0.079	0.041	0.024
Observations	739,167	306,573	158,652	92,722
Identified FE	462,159	226,593	126,607	77,729
of which singletons	339,672	181,470	105,941	67,223

Panel (B): Controlling for the Entire Sourcing Strategy

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.125***	0.174***	0.185***	0.165***
	(0.005)	(0.014)	(0.026)	(0.051)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.272	0.354	0.358	0.305
- On $s^{(k)}$	-0.038	-0.021	-0.011	-0.006
Sample average of $s^{(k)}$	0.200	0.079	0.041	0.024
Observations	739.167	306.573	158.652	92.722
Identified FE	534.061	261.019	144.718	87.588
of which singletons	435.837	232.96	134.865	83.661

Notes: Regressions are estimated at the importer × product level. The estimation samples include importers with more than two, three, four or five varieties depending on the specification, observed from 2001 to 2006. Robust standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. All regressions include the following additional controls: a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters, and an indicator of capital intensity (ln tangible assets per worker). Regressions in panel (A) include fixed effects for years, 4-digit industries interacted with 8-digit products and sourcing countries (of the specific varieties considered). Regressions in panel (B) include fixed effects for years, four-digit industries interacted with 8-digit products and entire sourcing strategies (for the product). The marginal impacts of an increase of sales by one standard deviation are computed at the mean of each sample in terms of sales, $s^{(1)}$, $s^{(2)}$, $s^{(3)}$, $s^{(4)}$ and $s^{(5)}$.

Table 19: Firm Size and the Intensive Margin of Trade, Unweighted Regressions

Panel (A): Controlling for the Number of Countries

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Employment	0.068***	0.087***	0.117***	0.123***
	(0.006)	(0.012)	(0.018)	(0.016)
ln Nb countries	-0.855***	-1.494***	-1.989***	-2.416***
	(0.015)	(0.030)	(0.052)	(0.050)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.129	0.159	0.206	0.211
- On $s^{(k)}$	-0.019	-0.010	-0.007	-0.004
Sample average of $s^{(k)}$	0.206	0.080	0.041	0.024
Observations	739,358	306,639	158,689	92,743
Identified FE	462,284	226,640	126,633	62,105
of which singletons	339,774	181,508	105,961	46,415

Panel (B): Controlling for the Entire Sourcing Strategy

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Employment	0.077***	0.120***	0.113***	0.094
	(0.008)	(0.019)	(0.038)	(0.063)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.146	0.219	0.198	0.161
- On $s^{(k)}$	-0.022	-0.014	-0.007	-0.004
Sample average of $s^{(k)}$	0.206	0.080	0.041	0.024
Observations	739,358	306,639	158,689	92,743
Identified FE	534,203	261,074	144,751	87,609
of which singletons	435,955	233,007	134,894	83,682

Notes: Regressions are estimated at the importer × product level. The estimation samples include importers with more than two, three, four or five varieties depending on the specification, observed from 2001 to 2006. Robust standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. All regressions include the following additional controls: a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters, (ln) intermediate inputs per worker and an indicator of capital intensity (ln tangible assets per worker). Regressions in panel (A) include fixed effects for years, 4-digit industries interacted with 8-digit products and sourcing countries (of the specific varieties considered). Regressions in panel (B) include fixed effects for years, four-digit industries interacted with 8-digit products and entire sourcing strategies (for the product). Observations are weighted to give each firm an equal weight, independently of the number of imported products. The marginal impacts of an increase of sales by one standard deviation are computed at the mean of each sample in terms of sales, $s^{(1)}$, $s^{(2)}$, $s^{(3)}$, $s^{(4)}$ and $s^{(5)}$.

Table 20: Firm Size and the Intensive Margin of Trade, Using Employment as a Proxy for Firm Size

Panel (A): Controlling for the Number of Countries

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln TFP	0.222***	0.318***	0.516***	0.545***
	(0.031)	(0.061)	(0.097)	(0.144)
ln Nb countries	-0.823***	-1.431***	-1.901***	-2.318***
	(0.017)	(0.034)	(0.058)	(0.087)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.103	0.164	0.205	0.221
- On $s^{(k)}$	-0.015	-0.010	-0.007	-0.004
Sample average of $s^{(k)}$	0.206	0.080	0.041	0.024
Observations	588,820	244,644	126,947	74,335
Identified FE	381,856	185,782	103,533	63,393
of which singletons	283,730	150,750	87,687	55,408

Panel (B): Controlling for the Entire Sourcing Strategy

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln TFP	0.234***	0.285***	0.588***	0.583*
	(0.038)	(0.099)	(0.173)	(0.336)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.109	0.147	0.234	0.236
- On $s^{(k)}$	-0.016	-0.009	-0.007	-0.004
Sample average of $s^{(k)}$	0.206	0.080	0.041	0.024
Observations	588,820	244,644	126,947	74,335
Identified FE	435,964	210,613	116,501	70,404
of which singletons	358,144	188,657	108,847	67,312

Notes: Regressions are estimated at the importer × product level. The estimation samples include importers with more than two, three, four or five varieties depending on the specification, observed from 2001 to 2006. Robust standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. All regressions include the following additional controls: a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters, and an indicator of capital intensity (ln tangible assets per worker). Regressions in panel (A) include fixed effects for years, 4-digit industries interacted with 8-digit products and sourcing countries (of the specific varieties considered). Regressions in panel (B) include fixed effects for years, four-digit industries interacted with 8-digit products and entire sourcing strategies (for the product). Observations are weighted to give each firm an equal weight, independently of the number of imported products. TFP is estimated at the industry 2 digit level using the Petrin and Levinsohn (2012) methodology, on the sample of all French manufacturing firms (both importing and non-importing). The marginal impacts of an increase of sales by one standard deviation are computed at the mean of each sample in terms of sales, $s^{(1)}$, $s^{(2)}$, $s^{(3)}$, $s^{(4)}$ and $s^{(5)}$.

Table 21: Firm TFP and the Intensive Margin of Trade

Panel (A): Controlling for the Number of Countries

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.107***	0.147***	0.174***	0.185***
	(0.006)	(0.012)	(0.018)	(0.026)
ln Nb countries	-0.883***	-1.553***	-2.054***	-2.501***
	(0.015)	(0.031)	(0.052)	(0.081)
Affiliate in country	0.033	-0.060	-0.163	0.135
of main variety	(0.072)	(0.155)	(0.221)	(0.262)
Affiliate in country	0.046	0.034	-0.102	0.105
of kth variety	(0.082)	(0.130)	(0.183)	(0.346)
Affiliate in at least	0.039	0.087**	0.048	0.031
one country of σ_{ki}	(0.025)	(0.037)	(0.047)	(0.058)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.285	0.373	0.421	0.432
- On $s^{(k)}$	-0.040	-0.021	-0.013	-0.008
Sample average of $s^{(k)}$	0.206	0.080	0.041	0.024
Observations	739,167	306,573	158,652	92,722
Identified FE	462,159	226,593	126,607	77,729
of which singletons	339,672	181,470	105,941	67,223

Panel (B): Controlling for the Entire Sourcing Strategy

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.119***	0.178***	0.202***	0.177***
	(0.008)	(0.019)	(0.039)	(0.064)
Affiliate in country	-0.154*	-0.298**	-0.111	0.364
of main variety	(0.093)	(0.128)	(0.192)	(0.404)
Affiliate in country	0.081	0.025	0.124	0.248
of kth variety	(0.088)	(0.100)	(0.145)	(0.190)
Affiliate in at least	0.123	0.128	0.136	-0.336
one country of σ_{ki}	(0.100)	(0.152)	(0.221)	(0.319)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.319	0.452	0.491	0.414
- On $s^{(k)}$	-0.045	-0.026	-0.015	-0.007
Sample average of $s^{(k)}$	0.206	0.080	0.041	0.024
Observations	739,167	306,573	158,652	92,722
Identified FE	534,061	261,019	144,718	87,588
of which singletons	435,837	232,960	134,865	83,661

Notes: Regressions are estimated at the importer × product level. The estimation samples include importers with more than two, three, four or five varieties depending on the specification, observed from 2001 to 2006. Robust standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. All regressions include the following additional controls: a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters, and an indicator of capital intensity (ln tangible assets per worker). Regressions in panel (A) include fixed effects for years, 4-digit industries interacted with 8-digit products and sourcing countries (of the specific varieties considered). Regressions in panel (B) include fixed effects for years, four-digit industries interacted with 8-digit products and entire sourcing strategies (for the product). Observations are weighted to give each firm an equal weight, independently of the number of imported products. The marginal impacts of an increase of sales by one standard deviation are computed at the mean of each sample in terms of sales, $s^{(1)}$, $s^{(2)}$, $s^{(3)}$, $s^{(4)}$ and $s^{(5)}$.

Table 22: Firm Size and the Intensive Margin of Trade, Controlling for Intra-Firm Trade

Panel (A): Controlling for the Number of Countries

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.114***	0.157***	0.183***	0.182***
	(0.009)	(0.020)	(0.033)	(0.047)
ln Nb countries	-0.856***	-1.529***	-1.918***	-2.342***
	(0.021)	(0.047)	(0.088)	(0.137)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.214	0.291	0.342	0.345
- On $s^{(k)}$	-0.032	-0.018	-0.012	-0.007
Sample average of $s^{(k)}$	0.210	0.083	0.043	0.026
Observations	308,481	110,899	50,258	25,849
Identified FE	198,392	84,195	41,157	22,228
of which singletons	149,615	69,046	35,318	19,719

Panel (B): Controlling for the Entire Sourcing Strategy

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.136***	0.190***	0.292***	0.296***
	(0.011)	(0.029)	(0.054)	(0.103)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.255	0.352	0.547	0.561
- On $s^{(k)}$	-0.038	-0.022	-0.017	-0.009
Sample average of $s^{(k)}$	0.210	0.083	0.043	0.026
Observations	308,481	110,899	50,258	25,849
Identified FE	218,367	92,818	45,312	24,247
of which singletons	176,510	82,139	41,990	23,074

Notes: Regressions are estimated at the importer × product level. The estimation samples include importers with more than two, three, four or five varieties depending on the specification, observed from 2001 to 2006. Robust standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. All regressions include the following additional controls: a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, and an indicator of capital intensity (ln tangible assets per worker). Firms which are part of internationalized groups are excluded. Regressions in panel (A) include fixed effects for years, 4-digit industries interacted with 8-digit products and sourcing countries (of the specific varieties considered). Regressions in panel (B) include fixed effects for years, four-digit industries interacted with 8-digit products and entire sourcing strategies (for the product). Observations are weighted to give each firm an equal weight, independently of the number of imported products. The marginal impacts of an increase of sales by one standard deviation are computed at the mean of each sample in terms of sales, $s^{(1)}$, $s^{(2)}$, $s^{(3)}$, $s^{(4)}$ and $s^{(5)}$.

Table 23: Firm Size and the Intensive Margin of Trade, Excluding Firms in Internationalized Groups

Panel (A): Controlling for the Number of Countries

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.102***	0.147***	0.166***	0.231***
	(0.005)	(0.009)	(0.013)	(0.017)
ln Nb countries	-0.917***	-1.658***	-2.154***	-2.610***
	(0.012)	(0.023)	(0.036)	(0.052)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.274	0.376	0.409	0.551
- On $s^{(k)}$	-0.038	-0.022	-0.012	-0.010
Sample average of $s^{(k)}$	0.204	0.081	0.043	0.026
Observations	597,628	283,009	158,801	97,756
Identified FE	315,037	180,785	112,075	73,840
of which singletons	211,584	133,194	86,898	59,541

Panel (B): Controlling for the Entire Sourcing Strategy

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.115***	0.166***	0.172***	0.220***
	(0.007)	(0.015)	(0.030)	(0.049)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.309	0.427	0.424	0.526
- On $s^{(k)}$	-0.043	-0.024	-0.013	-0.010
Sample average of $s^{(k)}$	0.204	0.081	0.043	0.026
Observations	597,628	283,009	158,801	97,756
Identified FE	404,647	231,751	141,864	91,213
of which singletons	321,900	202,799	130,588	86,435

Notes: Regressions are estimated at the importer × product level. The estimation samples include importers with more than two, three, four or five varieties depending on the specification, observed from 2001 to 2006. Robust standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. All regressions include the following additional controls: a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters, and an indicator of capital intensity (ln tangible assets per worker). Regressions in panel (A) include fixed effects for years, 4-digit industries interacted with 4-digit products and sourcing countries (of the specific varieties considered). Regressions in panel (B) include fixed effects for years, four-digit industries interacted with 4-digit products and entire sourcing strategies (for the product). Observations are weighted to give each firm an equal weight, independently of the number of imported products. The marginal impacts of an increase of sales by one standard deviation are computed at the mean of each sample in terms of sales, $s^{(1)}$, $s^{(2)}$, $s^{(3)}$, $s^{(4)}$ and $s^{(5)}$.

Table 24: Firm Size and the Intensive Margin of Trade: Aggregation of Products at the 4-digit Level

Panel (A): Controlling for the Number of Countries

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.096***	0.145***	0.195***	0.303***
	(0.015)	(0.028)	(0.044)	(0.064)
ln Nb countries	-0.892***	-1.557***	-2.197***	-2.654***
	(0.035)	(0.075)	(0.126)	(0.183)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.260	0.379	0.493	0.747
- On $s^{(k)}$	-0.036	-0.019	-0.013	-0.010
Sample average of $s^{(k)}$	0.195	0.072	0.036	0.021
Observations	366,870	173,160	98,026	61,451
Identified FE	321,082	159,768	92,879	59,199
of which singletons	294,172	150,525	88,906	57,383

Panel (B): Controlling for the Entire Sourcing Strategy

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.086***	0.155***	0.184**	0.509***
	(0.019)	(0.054)	(0.078)	(0.173)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.234	0.405	0.465	1.254
- On $s^{(k)}$	-0.033	-0.022	-0.013	-0.014
Sample average of $s^{(k)}$	0.195	0.072	0.036	0.021
Observations	366,870	173,160	98,026	61,451
Identified FE	340,104	168,491	96,928	61,145
of which singletons	323,767	165,152	96,074	60,880

Notes: Regressions are estimated at the importer × product level. The estimation samples include importers with more than two, three, four or five varieties depending on the specification, which are consistently active between 2001 to 2006. In contrast to other specifications, we remove firms which either enter our sample after 2001 or exit before 2006. (This selection of surviving firms between 2001 and 2006 avoids the difficulty to adjust the variable of "number of countries" for different spell lengths). Robust standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. All regressions include the following additional controls: a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters, and an indicator of capital intensity (ln tangible assets per worker). Regressions in panel (A) include fixed effects for years, 4-digit industries interacted with 8-digit products and sourcing countries (of the specific varieties considered). Regressions in panel (B) include fixed effects for years, four-digit industries interacted with 8-digit products and entire sourcing strategies (for the product). Observations are weighted to give each firm an equal weight, independently of the number of imported products. The marginal impacts of an increase of sales by one standard deviation are computed at the mean of each sample in terms of sales, $s^{(1)}$, $s^{(2)}$, $s^{(3)}$, $s^{(4)}$ and $s^{(5)}$.

Table 25: Firm Size and the Intensive Margin of Trade: Results Aggregated Across Years 2001 to 2006

Panel (A): Controlling for the Entire Sourcing Strategy
Interacted with Firms' Regions (24)

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.125***	0.154***	0.315***	0.272***
	(0.012)	(0.030)	(0.057)	(0.090)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.333	0.391	0.766	0.635
- On $s^{(k)}$	-0.047	-0.023	-0.020	-0.010
Sample average of $s^{(k)}$	0.206	0.080	0.041	0.024
Observations	739,167	306,573	158,652	92,722
Identified FE	583,068	270,376	146,975	88,235
of which singletons	489,863	244,740	137,932	84,586

Panel (B): Controlling for the Entire Sourcing Strategy
Interacted with Firms' Departments (102)

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.139***	0.147***	0.335***	0.177*
	(0.014)	(0.038)	(0.070)	(0.107)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.370	0.373	0.814	0.413
- On $s^{(k)}$	-0.052	-0.022	-0.021	-0.006
Sample average of $s^{(k)}$	0.206	0.080	0.041	0.024
Observations	739,167	306,573	158,652	92,722
Identified FE	594,343	272,221	147,389	88,334
of which singletons	503,258	247,219	138,536	84,738

Panel (C): Controlling for the Entire Sourcing Strategy
Interacted with Firms' Municipalities (10,149)

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.110***	0.082*	0.278***	0.068
	(0.020)	(0.046)	(0.067)	(0.110)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.293	0.209	0.674	0.160
- On $s^{(k)}$	-0.042	-0.013	-0.019	-0.002
Sample average of $s^{(k)}$	0.206	0.080	0.041	0.024
Observations	739,167	306,573	158,652	92,722
Identified FE	605,697	273,933	147,719	88,412
of which singletons	516,847	249,600	139,030	84,853

Notes: Regressions are estimated at the importer × product level. The estimation samples include importers with more than two, three, four or five varieties depending on the specification, observed from 2001 to 2006. Robust standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. All regressions include the following additional controls: a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters, and an indicator of capital intensity (ln tangible assets per worker). Regressions in panel (A) include fixed effects for years, four-digit industries interacted with 8-digit products, entire sourcing strategies (for the product) and the regions where the considered firms are located. Regressions in panel (B) include fixed effects for years, four-digit industries interacted with 8-digit products, entire sourcing strategies (for the product) and the departments where the considered firms are located. Last, regressions in panel (C) include fixed effects for years, four-digit industries interacted with 8-digit products, entire sourcing strategies (for the product) and the municipalities where the considered firms are located. Observations are weighted to give each firm an equal weight, independently of the number of imported products. The marginal impacts of an increase of sales by one standard deviation are computed at the mean of each sample in terms of sales, $s^{(1)}$, $s^{(2)}$, $s^{(3)}$, $s^{(4)}$ and $s^{(5)}$.

Table 26: Firm Size and the Intensive Margin of Trade, Controlling for Firms' Location

Panel (A): Firms Located in the Region of Paris Only

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.128***	0.183***	0.180*	0.003
	(0.020)	(0.055)	(0.100)	(0.107)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.314	0.427	0.399	0.007
- On $s^{(k)}$	-0.044	-0.025	-0.012	0.000
Sample average of $s^{(k)}$	0.204	0.079	0.041	0.024
Observations	222,041	101,353	56,691	35,421
Identified FE	176,213	90,504	53,025	33,925
of which singletons	150,020	82,816	50,135	32,685

Panel (B): Removing Neighboring Sourcing Countries (ES, IT, CH, DE, LU, BE, GB)

	$\ln\left(\frac{s^{(1)}}{s^{(2)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(3)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(4)}}\right)$	$\ln\left(\frac{s^{(1)}}{s^{(5)}}\right)$
	(1)	(2)	(3)	(4)
ln Sales	0.145***	0.165***	0.254**	0.176
	(0.018)	(0.044)	(0.107)	(0.235)
Impact of a 1 standard deviation increase in sales (from mean):				
- On dependent variable	0.360	0.382	0.541	0.332
- On $s^{(k)}$	-0.053	-0.024	-0.019	-0.008
Sample average of $s^{(k)}$	0.221	0.091	0.050	0.032
Observations	169,377	52,679	21,805	10,568
Identified FE	138,558	48,436	20,897	10,317
of which singletons	121,353	45,436	20,158	10,097

Notes: Regressions are estimated at the importer × product level. The estimation samples include importers with more than two, three, four or five varieties depending on the specification, observed from 2001 to 2006. Robust standard errors in parentheses with ***, ** and * respectively denoting significance at the 1%, 5% and 10% levels. All regressions include the following additional controls: a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters, and an indicator of capital intensity (ln tangible assets per worker). All regressions include fixed effects for years, four-digit industries interacted with 8-digit products and entire sourcing strategies (for the product). Regressions in panel (A) focus exclusively on firms located in the region of Paris ("Ile-de-France") while Regressions in panel (B) only considers varieties of the different products which are imported from "remote" countries (excluding neighboring countries). Observations are weighted to give each firm an equal weight, independently of the number of imported products. The marginal impacts of an increase of sales by one standard deviation are computed at the mean of each sample in terms of sales, $s^{(1)}$, $s^{(2)}$, $s^{(3)}$, $s^{(4)}$ and $s^{(5)}$.

Table 27: Firm Size and the Intensive Margin of Trade, Investigating the Role of Geography

O.3 The Variance of the Domestic Variety

We focus on the regression[47]

$$\ln\left(\frac{s_{Dit}}{1 - s_{Dit}}\right) = \alpha_S + \alpha_t + \alpha_\Sigma + u_{it}, \tag{50}$$

where α_S and α_t are industry and year fixed effects and α_Σ denotes the control for firm i's sourcing strategy. We are interested in the residual variation u_{it}. Table 28 contains the results for different choices regarding α_Σ. We report the results after dropping any sourcing strategy that only has a single observation. We focus on this sample without singletons because this is where we can test the theory.[48]

Column 1 reports the variation in domestic shares without any controls for the extensive margin. The variation across years and industries accounts for about 10% of the cross-firm variation in domestic expenditure shares. Columns 2 and 3 add a full set of product *set* or country *set* fixed effects, respectively. That is, we look at the set of firms sourcing the exact same 8-digit products from abroad (column 2) or import from the exact same set of countries (column 3). In the case of products (countries), this amounts to controlling for about 7,000 (8,000) fixed effects in the corresponding samples of 41,745 (116,125) observations.[49] Controlling for the sourcing strategy in this way increases the R^2 of the regression to 44% and 28%. Conversely, between 56% and 72% of the variation remains unexplained. Column 4 includes both sets of fixed effects. The results are similar to the "products only" specification in column 2. Finally, column 5 controls for the entire sourcing strategy, i.e. the whole set of interactions of product set and county set fixed effects, as prescribed by the theory. Even then, we find that one third of the cross-sectional variation in domestic shares remains unexplained. Finally, for completeness, column 6 allows firms' domestic shares to vary across industries within each sourcing strategy. This still leaves one quarter of the variation unexplained.

Figure 8 displays these results graphically. In particular, it plots the distribution of residuals from the regressions in Table 28. For brevity, we report the specifications of columns 1 and 5 only, which we interpret as the unconditional variation in domestic shares and the variation conditional on the extensive margin of trade, respectively. The theory of Section 2 implies that the conditional distribution should be degenerate. Figure 8 shows that this is clearly not the case. While the mass in the tails of the distribution shrinks considerably, there is still ample heterogeneity in the extent to which firms rely on domestic inputs within narrowly defined sourcing strategy bins. This fact is inconsistent with the vast majority of firm-based models of the literature.

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[47]We focus on the logit transformation of firms' domestic shares, i.e. $\ln\left(\frac{s_{Dit}}{1-s_{Dit}}\right)$. This transformation turns out to be useful for the case of foreign varieties in Section 3.3. For symmetry we also focus on this transformation here.

[48]Singletons are observations whose sourcing strategy is unique. It follows that Proposition 1 cannot be tested on these observations. See Correia (2015) and Gaure (2013) for a discussion of inference with(out) singletons in regression settings with fixed effects.

[49]These numbers are computed as 134,768 - 127,917 and 60,743 - 52,537 respectively. Samples without singletons contain 168,662 - 127,917 = 41,745 and 168,662 - 52,537 = 116,125 observations, respectively.

		(1)	(2)	(3)	$\ln\left(\frac{s_D}{1-s_D}\right)$ (4)	(5)	(6)
Observations		168,662	168,662	168,662	168,662	168,662	168,662
Identified FE		334	134,768	60,743	137,607	150,317	156,152
of which singletons		3	127,917	52,537	130,466	143,572	150,307
Variance decomposition, removing singletons (Correia, 2015; Gaure, 2013):							
R^2		0.105	0.444	0.280	0.487	0.642	0.762
Year and ind. FE		0.105	0.124	0.087	0.126	0.163	0.000
Product and Sourcing Strat. FE		0.000	0.401	0.207	0.447	0.612	0.772
Covariance term		0.000	-0.081	-0.014	-0.086	-0.133	-0.010
Fixed effects:		Years	Years	Years	Years	Years	Years
		Industry	Industry	Industry	Industry	Industry	Industry ×
			Products		Products	Products ×	Products ×
				Countries	Countries	Countries	Countries

Notes: Regressions at the importer level, observed from 2001 to 2006. Industry fixed effects are at the four digit level. Product fixed effects are at the eight digit level. The row entitled "Year and Industry Fixed Effects" contains the contribution to total variance of year and industry dummies, except in the fully saturated specification of column (6), where industry dummies are interacted with product and sourcing strategies. The row entitled "Product and Sourcing Strategy Fixed Effects" contains the contribution to total variance of product and / or sourcing strategy dummies or product × sourcing strategy interaction dummies.

Table 28: Variance Decomposition for Domestic Shares
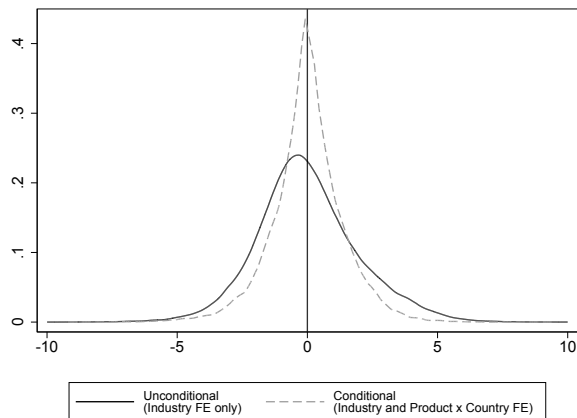
Notes: This figure plots the residuals obtained for specifications (1) and (5) in Table 28. "Singletons" (observations that are unique in at least one dimension of the fixed effects, and whose associated residual is therefore nil) are removed (Correia, 2015; Gaure, 2013).

Figure 8: Residuals in the Variance Decomposition of Domestic Shares

O.4 Unit Values and Firm Size : Robustness

In this section we provide additional robustness checks for the relationship between firm size and import prices reported in Table 4. In Table 29 we propose an extension of the analysis in Section 4 where we insert an additional set of firm fixed effects in Equation (28). This implies that in these specifications, the coefficients of interest are identified from *variation* in both unit values and either firm sales or shipment quantities. The results obtained in these alternative specifications are almost unaffected.

Dependent variable:			$\ln p_{ickt}$		
	(1)	(2)	(3)	(4)	(5)
ln Sales	0.016***	0.060***	0.068***	0.074***	0.091***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
ln Shipment Quantity		-0.205***	-0.206***	-0.198***	-0.198***
		(0.001)	(0.001)	(0.001)	(0.001)
Other controls:	No	No	No	No	Yes
Fixed effects:	Years	Years	Years	Years	Years
	Industry	Industry	Industry	Industry ×	Industry ×
	Products	Products	Products ×	Products ×	Products ×
	Countries	Countries	Countries	Countries	Countries
Impact of a 1sd increase in sales (from mean):					
	0.041	0.159	0.181	0.198	0.242
Observations	2,195,456	2,195,456	2,195,456	2,195,456	2,141,864
Identified FE	38,966	38,966	216,348	646,114	637,030
of which singletons	4	4	63,907	311,112	307,837

Notes: Regressions at the importer × product × country, importers of at least 2 varieties of the considered product. These importers are observed from 2001 to 2006. Robust standard errors in parentheses with ***,** and * respectively denoting significance at the 1%, 5% and 10% levels. "Other controls" denote a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters, and an indicator of capital intensity (tangible assets per worker). All regressions include industry fixed at the four digit level, product fixed effects at the eight digit level, year and country level fixed effects as well as firm fixed effects. Observations are weighted to give each firm an equal weight.

Table 29: Unit Values and Firm Size, Controlling for Firm Fixed Effects

In Tables 30 and 31, we present the estimation results obtained for Equation (28) with an alternative proxy of firm size (employment) or productivity (TFP à la Petrin and Levinsohn, 2012). Again, the regression results show that our findings are largely preserved qualitatively, although the quantitative implications are slightly lower.[50]

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[50]Notice that since the information about sales is not taken from the same data set as the information about import spending, the difference in the results is unlikely to be mainly driven by correlation in measurement errors across both sets of variables, as suggested in Kugler and Verhoogen (2012).

Dependent variable:			$\ln p_{ickt}$		
	(1)	(2)	(3)	(4)	(5)
ln Employment	0.036***	0.067***	0.070***	0.071***	0.069***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
ln Shipment Quantity		-0.222***	-0.218***	-0.208***	-0.210***
		(0.001)	(0.001)	(0.001)	(0.001)
Other controls:	No	No	No	No	Yes
Fixed effects:	Years	Years	Years	Years	Years
	Industry	Industry	Industry	Industry ×	Industry ×
	Products	Products	Products ×	Products ×	Products ×
	Countries	Countries	Countries	Countries	Countries
Impact of a 1sd increase in employment (from mean):					
	0.068	0.127	0.132	0.135	0.131
Observations	2,184,904	2,184,904	2,184,904	2,184,904	2,136,058
Identified FE	10,995	10,995	188,058	618,156	610,732
of which singletons	3	3	63,362	308,901	306,077

Notes: Regressions at the importer × product × country, importers of at least 2 varieties of the considered product. These importers are observed from 2001 to 2006. Robust standard errors in parentheses with ***,** and * respectively denoting significance at the 1%, 5% and 10% levels. "Other controls" denote a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters,(ln) intermediate inputs per workers and an indicator of capital intensity (ln tangible assets per worker). All regressions include industry fixed at the four digit level, product fixed effects at the eight digit level, year and country level fixed effects as well as firm fixed effects. Observations are weighted to give each firm an equal weight.

Table 30: Unit Values and Firm Size, Using Employment as a Proxy for Firm Size

Dependent variable:			$\ln p_{ickt}$		
	(1)	(2)	(3)	(4)	(5)
ln TFP	0.068***	0.131***	0.123***	0.108***	0.098***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
ln Shipment Quantity		-0.220***	-0.215***	-0.204***	-0.206***
		(0.001)	(0.001)	(0.001)	(0.001)
Other controls:	No	No	No	No	Yes
Fixed effects:	Years	Years	Years	Years	Years
	Industry	Industry	Industry	Industry ×	Industry ×
	Products	Products	Products ×	Products ×	Products ×
	Countries	Countries	Countries	Countries	Countries
Impact of a 1sd increase in TFP (from mean):					
	0.060	0.114	0.107	0.095	0.086
Observations	1,748,936	1,748,936	1,748,936	1,748,936	1,748,936
Identified FE	10,302	10,302	167,540	536,776	536,776
of which singletons	4	4	56,435	270,171	270,171

Notes: Regressions at the importer × product × country, importers of at least 2 varieties of the considered product. These importers are observed from 2001 to 2006. Robust standard errors in parentheses with ***,** and * respectively denoting significance at the 1%, 5% and 10% levels. "Other controls" denote a dummy indicating that the firm is an exporter, a dummy indicating that the firm is an affiliate of a larger corporate group, a dummy indicating that the latter has foreign affiliates (and not simply French domestic affiliates), a dummy indicating foreign headquarters, and an indicator of capital intensity (ln tangible assets per worker). All regressions include industry fixed at the four digit level, product fixed effects at the eight digit level, year and country level fixed effects as well as firm fixed effects. TFP is estimated at the industry 2 digit level using the Petrin and Levinsohn (2012) methodology, on the sample of all French manufacturing firms (both importing and non-importing). Observations are weighted to give each firm an equal weight.

Table 31: Unit Values and Firm Productivity

O.5   The Variance of Foreign Prices

In Table 32, we propose a decomposition of the variance of unit values. We proceed in the same way as we did for firms' domestic shares in Table 28 or firms' foreign expenditure Shares in Table 11. In column 1 we show that, unsurprisingly, a large part of the variation in prices is across products.[51] In particular, product-level fixed effects capture almost three quarters of the variation. More surprisingly, column 2 shows that country fixed effect contribute little even though they presumably capture differences in transportation costs across different varieties of the same product. When inserted on top of the product level fixed effects (column 2), they explain 1.3 percentage point of the variance, while more than 25% of the variance of prices remains un-explained. When we control for an interaction of country and product level fixed effects, they explain 6.5 percentage point of the variance (column 3), while again, 20% remains un-explained. Therefore, average prices appear to be relatively homogeneous across countries (Waugh, 2010; Hsieh and Klenow, 2007), or rather the within-country variation is large relative to the cross-country variation (once controlled for product level fixed effects).

In columns 4 to 7 we investigate the nature of this large residual within countries. In particular, we show that there is an important firm-component driving this variation. Firm-level fixed effects alone explain about 5% of the variation conditional on a full set of product-country interactions (column 4). Their explanatory power increases when interacted with product and/or country level effects (columns 5 - 7). These patterns of firm-specific prices within country-product pairs are consistent with quantitatively meaningful firm-level price biases (which are correlated with firm size) as documented in Tables 4 and 7. They are also consistent with firm-level disagreement in the ranking of varieties that is documented in Section 3.

	$\ln p_{ickt}$						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Observations	2,195,456	2,195,456	2,195,456	2,195,456	2,195,456	2,195,456	2,195,456
Identified FE	10,428	10,674	18,8157	216,324	337,688	259,400	1,167,534
of which singletons	2	3	63,517	63,907	4	78,416	698,564
Variance decomposition, removing singletons (Correia, 2015; Gaure, 2013):							
R^2	0.730	0.743	0.795	0.849	0.880	0.868	0.942
Fixed effects 1:	0.730	0.705	0.000	0.107	0.861	0.194	0.000
Fixed effects 2:	0.000	0.015	0.795	0.581	0.005	0.476	0.942
Covariance term	0.000	0.023	0.000	0.161	0.014	0.199	0.000
Fixed effects 1:	Year	Year	Year	Year	Year	Year	Year
	Product	Product		Firm	Firm ×	Firm ×	Firm ×
					Product	Country	Product ×
							Country
Fixed effects 2:	-	Country	Product ×	Product ×	Country	Product	-
			Country	Country			

Notes: Regressions at the importer × product × country, importers of at least 2 varieties of the considered product. These importers are observed from 2001 to 2006. Industry fixed effects are at the four digit level. Product fixed effects are at the eight digit level.

Table 32: Variance Decomposition for Foreign Variety Prices

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[51]This is unsurprising since these fixed effects capture differences in measurement units across products in the index of quantity of the custom data. Therefore, this amount of heterogeneity is hardly interpretable.

O.6 Robustness for Section 4.2

In Section 4.2 we documented that quality elastic countries are large sellers (Table 8) and that this quality elasticity is negatively correlated with income per capita (Table 9). In this section we provide additional robustness for these results.

In Table 8 we restricted attention to the sample of positive and significant estimates of β. In Table 33 we show that the same patterns hold true for the sample of all positive βs: varieties with low quality elasticities sell - on average - in much large quantities. Hence, as in Table 8, there seems to be a strong correlation between absolute advantage and comparative advantage when we look at the population of varieties for which our theory applies (i.e. where β is positive).

Nb of obs.	10$^{\text{th}}$ perc.	25$^{\text{th}}$ perc.	50$^{\text{th}}$ perc.	75$^{\text{th}}$ perc.	90$^{\text{th}}$ perc.	Share of $m_{ik}^{jl} < 1$	Nb. obs.
\multicolumn{8}{c}{Aggregation level: 8 digit products}							
53,374	0.6	2.7	13.1	69.0	346.2	0.136	>10
13,930	2.4	7.5	26.1	102.3	387.5	0.042	> 50
5,665	4.5	11.6	34.4	117.4	401.4	0.015	> 100
\multicolumn{8}{c}{Aggregation level: 4 digit products}							
57,649	0.6	3.2	17.2	92.1	461.7	0.131	> 10
29,106	1.8	6.9	29.1	130.0	554.6	0.064	> 50
16,605	3.3	11.0	39.3	155.7	591.1	0.033	> 100

Notes: This table describes the distribution of $m_{ikt}^{jl,r} \equiv s_{ikt}^{[j]}/s_{ikt}^{[l]}$ where $j < l$. All product × country pairs with positive (significant or insignificant) βs are considered.

Table 33: The Level of Expenditure Shares and β: Robustness for the Insignificant but Positive βs.

In Table 34 we replicate the results of Table 9 when we use β (instead of $\ln \beta$) as the dependent variable. Specifically, we consider a specification

$$\beta_{ck} = \alpha_k + \phi \times \ln y_c + u_{ck}. \tag{51}$$

Table 34 shows that we find qualitatively similar results. The relationship is negative but often imprecisely estimated. This might not be surprising given that we only use the variation across 20-60 counties to identify the coefficient of interest. As in our main analysis we take Table 34 as providing suggestive evidence that rich countries have a comparative advantage in the production of high quality inputs.

Dep. Var.:				β_{ck}		
Aggregation level:		8 digit products			4 digit products	
Sample of betas:	Positive	Positive	Positive	Positive	Positive	Positive
	sig.	sig.	sig.	sig.	sig.	sig.
Min obs./variety:	10	50	100	10	50	100
ln GDP/cap.	-0.018	-0.030*	-0.047**	0.282	-0.009	-0.018*
	(0.058)	(0.015)	(0.019)	(0.500)	(0.011)	(0.010)
Nb varieties (obs. 1st stage)	2,809	755	429	1,701	1,004	801
Nb products	1,836	469	254	637	393	308
Nb countries (obs. 2nd stage)	52	28	19	67	43	35
R^2	0.00	0.08	0.08	0.00	0.00	0.06

Notes: This tables reports the correlations obtained between the country level fixed effects obtained in a regressions of the un-logged β_{kc} on product and country fixed effects. The subset of β_{ck} coefficients that are significant at the 1 percent level in first stage regressions is denoted by "sig." All regressions are weighted by import values.

Table 34: The β_{ck} and Sourcing Countries' GDP per Capita: Robustness with Un-logged Specification