Export Destinations and Input Prices
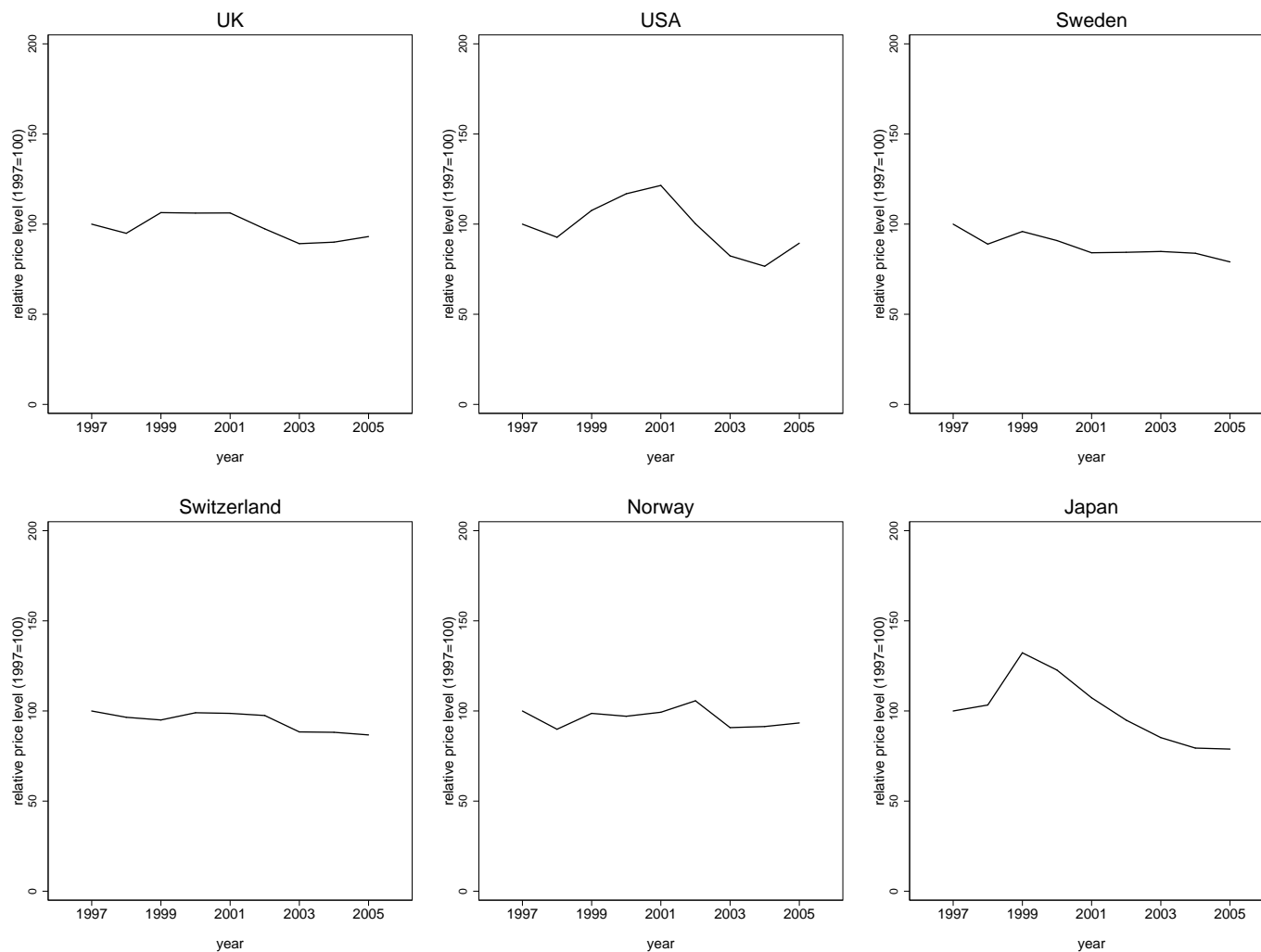
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Appendix A

For Online Publication

Figure A1. Real exchange rate, selected richer destinations

Notes: Real exchange rate calculated as $\frac{\epsilon_{hkt}}{CPI_{ht}/CPI_{kt}}$, where ϵ_{hkt} is the nominal exchange rate (defined as units of home (h) currency per unit of currency in destination k). (Refer to equation (20).) Given this definition, an increase reflects a real appreciation in the destination relative to Portugal. Real exchange rate normalized to 100 in 1997.

**Figure A2. Real exchange rate, selected poorer destinations**
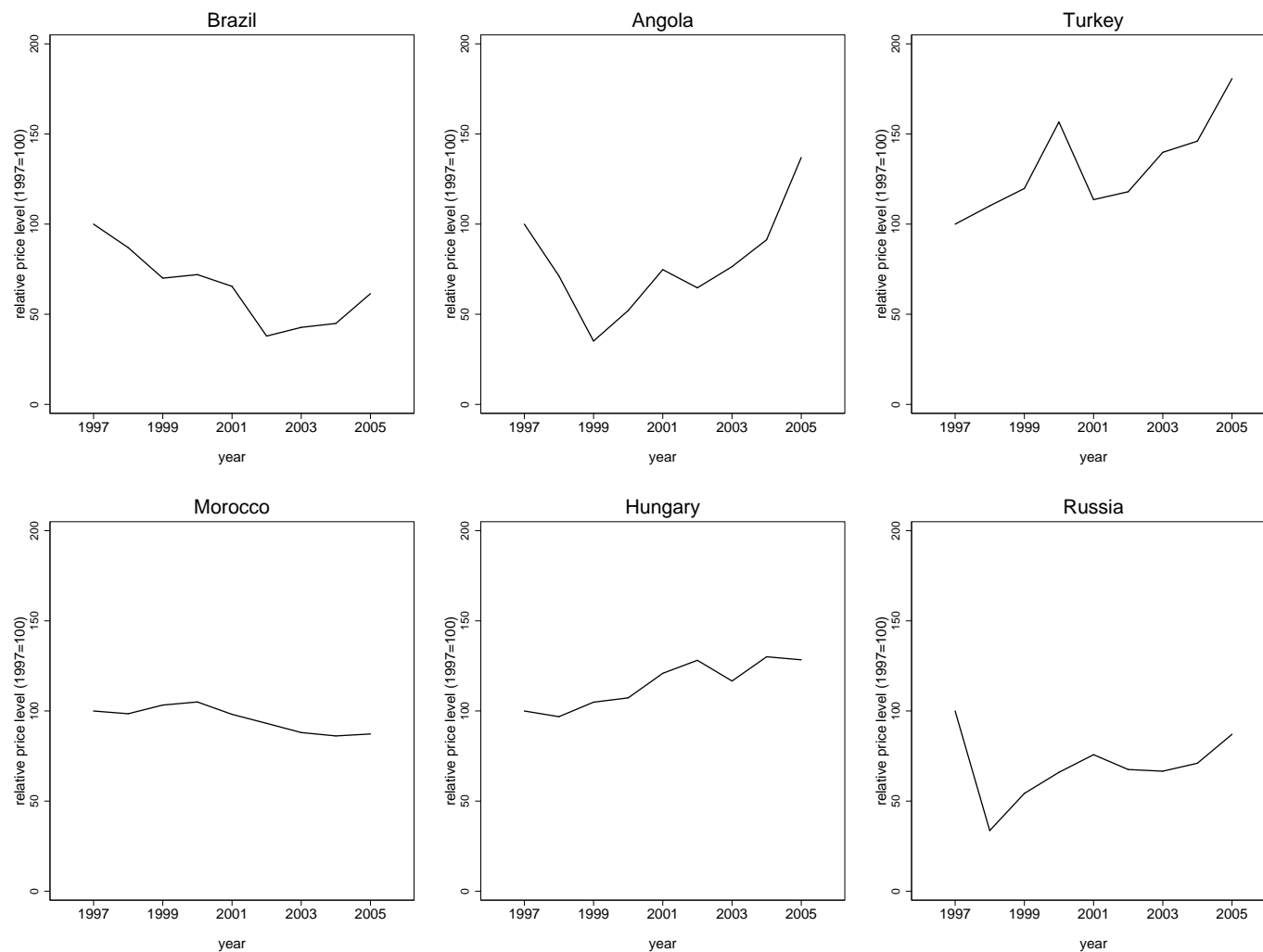


Notes: Real exchange rate calculated as $\frac{\epsilon_{hkt}}{CPI_{ht}/CPI_{kt}}$, where ϵ_{hkt} is the nominal exchange rate (defined as units of home (h) currency per unit of currency in destination k). (Refer to equation (20).) Given this definition, an increase reflects a real appreciation in the destination relative to Portugal. Real exchange rate normalized to 100 in 1997.

Figure A3. Non-overlap between export destinations and import sources
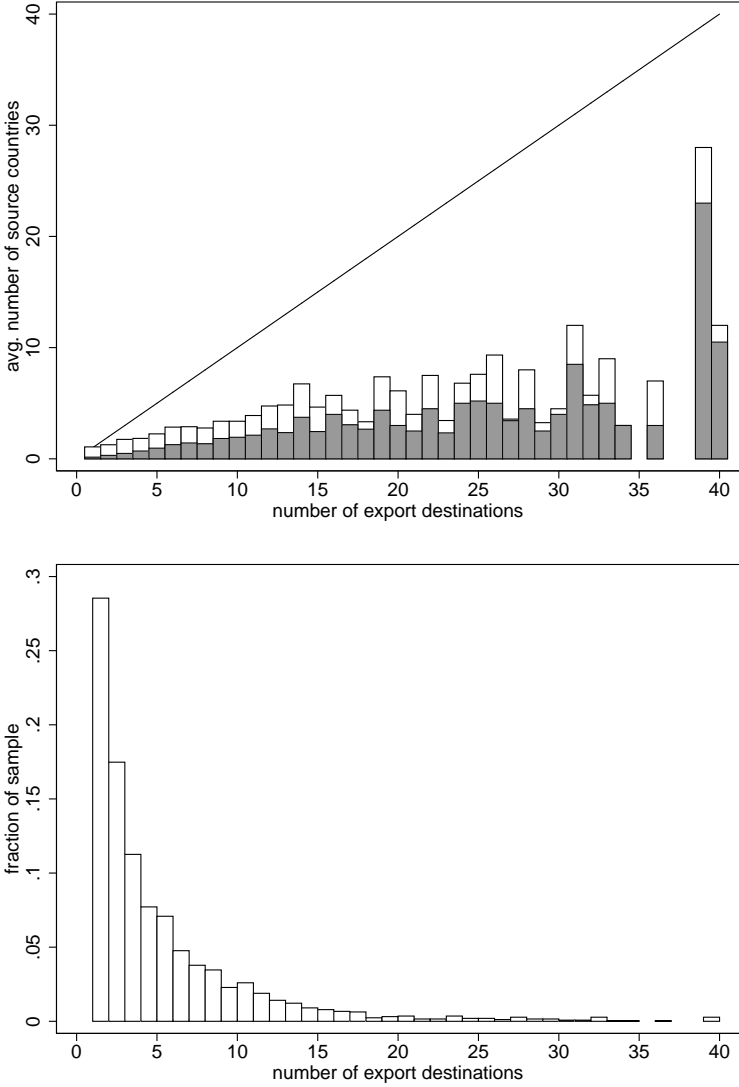
Notes: Sample is firms in the baseline estimation sample in 1997 with positive exports to one or more of top 100 non-Euro-zone destinations. Number of export destinations refers to non-Euro-zone destinations and is top-coded at 40; fewer than .1% of firms are above the top-code. The top panel illustrates the average number of source countries (hollow bars) and average number of source countries that are also destinations (gray bars), for firms with the number of destinations indicated on the x-axis. The line is a 45-degree line. The bottom panel is a histogram of the fraction of firms with the indicated numbers of export destinations.

Figure A4. First-stage coefficients from alternative IV procedure
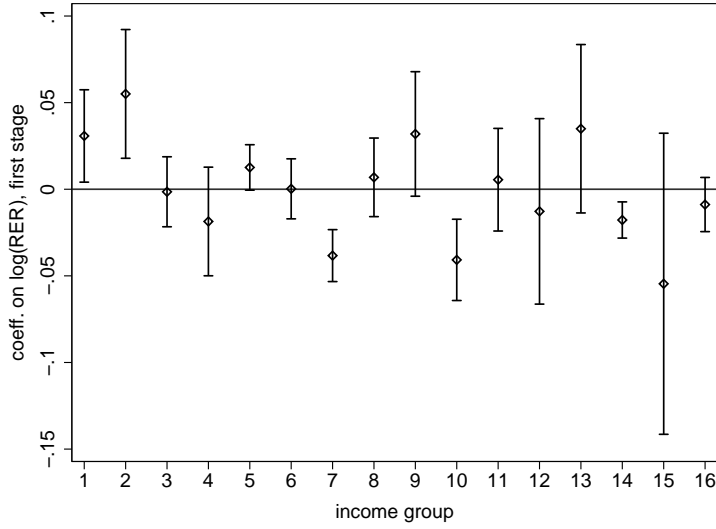
Notes: Figure plots first-stage coefficients on income-group instruments ($\log(\overline{RER}_{igt})$ for different income groups as defined in equation (22)) from Column 5 of Table 7, with 90% confidence intervals. Portugal's own income would put it in income group 4.

Figure A5. Reduced-form coefficients from alternative IV procedure
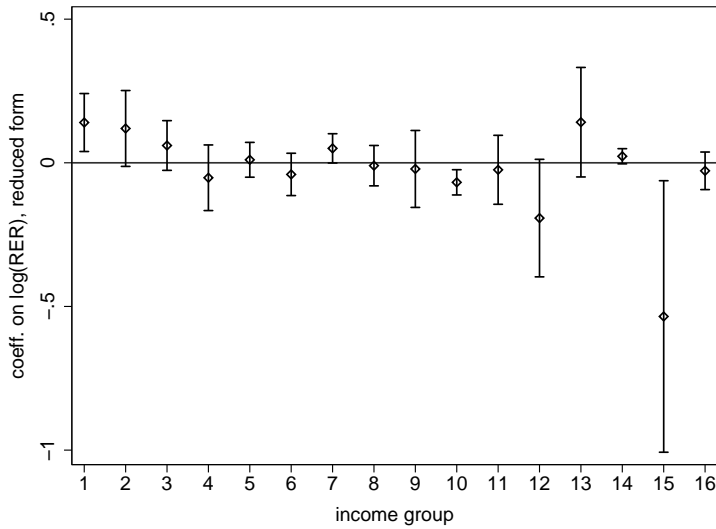
Notes: Figure plots reduced-form coefficients on income-group instruments ($\log(\overline{RER}_{igt})$ for different income groups as defined in equation (22)) from Column 5 of Table A10, with 90% confidence intervals. Portugal's own income would put it in income group 4.

Table A1. Summary statistics: exports, imports, initial income, 1997

	export rank	export share all exports	export share est. sample	import rank	import share all imports	import share est. sample	income rank	initial GDP/cap.
Germany	1	0.206	0.211	2	0.161	0.210	15	21213
Spain	2	0.148	0.150	1	0.250	0.226	33	12378
France	3	0.145	0.151	3	0.116	0.121	19	20148
United Kingdom	4	0.124	0.130	4	0.070	0.073	13	21886
Netherlands	5	0.051	0.054	6	0.050	0.040	16	21046
Belgium-Luxemburg	6	0.045	0.052	8	0.034	0.029	18	20221
United States	7	0.041	0.038	9	0.032	0.025	6	30704
Italy	8	0.040	0.039	5	0.087	0.063	28	17756
Sweden	9	0.022	0.019	13	0.012	0.007	11	23909
Denmark	10	0.018	0.018	17	0.007	0.007	8	27177
Austria	11	0.012	0.013	15	0.006	0.008	14	21608
Switzerland	12	0.013	0.011	16	0.013	0.008	5	32134
Brazil	13	0.010	0.009	10	0.018	0.026	67	3632
Norway	14	0.008	0.008	11	0.006	0.012	4	33694
Japan	15	0.006	0.005	7	0.026	0.029	3	36318
Finland	16	0.008	0.007	18	0.007	0.007	21	19532
Angola	17	0.018	0.007	34	0.001	0.000	136	578
Greece	18	0.004	0.005	41	0.001	0.002	39	10129
Singapore	19	0.004	0.002	28	0.002	0.001	20	20036
Israel	20	0.004	0.005	43	0.002	0.001	27	18017
Turkey	21	0.004	0.005	22	0.003	0.003	65	3779
Ireland	22	0.005	0.004	20	0.007	0.004	25	18243
Australia	23	0.004	0.004	83	0.001	0.000	23	18624
Canada	24	0.006	0.004	31	0.003	0.003	17	20276
Morocco	25	0.004	0.004	29	0.002	0.003	106	1282
Hungary	26	0.003	0.003	94	0.000	0.000	63	3871
Russia	27	0.003	0.004	14	0.005	0.009	98	1564
South Africa	28	0.003	0.003	21	0.004	0.004	75	3020
Chile	29	0.002	0.003	66	0.001	0.001	58	4509
Hong Kong	30	0.002	0.002	65	0.001	0.001	10	24044
Poland	31	0.002	0.002	52	0.001	0.001	68	3621
Cape Verde	32	0.004	0.002	64	0.000	0.001	117	997
China	33	0.002	0.002	26	0.008	0.003	129	716
Saudi Arabia	34	0.002	0.001	91	0.000	0.000	42	9043
Argentina	35	0.001	0.002	60	0.002	0.001	48	7489
Tunisia	36	0.001	0.001	38	0.001	0.002	93	1744
Korea	37	0.001	0.001	12	0.009	0.001	40	10119
Czech Republic	38	0.001	0.001	56	0.001	0.001	53	5314
Algeria	39	0.001	0.001	88	0.000	0.000	95	1700
Mexico	40	0.001	0.001	68	0.001	0.001	55	5064
Mozambique	41	0.002	0.001	50	0.001	0.001	179	194
Thailand	42	0.001	0.001	37	0.004	0.002	85	2096
Guinea-Bissau	43	0.001	0.001	117	0.000	0.000	175	203
Panama	44	0.001	0.000	110	0.000	0.000	70	3496
Venezuela	45	0.001	0.001	77	0.000	0.000	56	5005
India	46	0.001	0.001	19	0.004	0.006	151	393
Egypt	47	0.001	0.001	44	0.001	0.001	109	1250
Cyprus	48	0.001	0.001	120	0.000	0.000	38	10604
New Zealand	49	0.001	0.001	78	0.001	0.000	34	12319
Slovak Republic	50	0.000	0.001	105	0.000	0.000	72	3379

Notes: Columns 2, 5 report export and import shares for all firms, Columns 3, 6 for our estimation sample. Export, import ranks based on Columns 2, 5. Initial GDP/cap. is from 1996 (or first available subsequent year in 5 cases; see fn 21) from the World Development Indicators, in constant 2000 US dollars. Countries poorer than Portugal (in initial GDP/capita) appear in italics. Petroleum exports and imports excluded. Euro-zone countries included. Table continues on next two pages. Final row reports total exports for all destinations and total imports from all sources.

Table A1. (Continued) Summary statistics: exports, imports, initial income, 1997

	export rank	export share all exports	export share est. sample	import rank	import share all imports	import share est. sample	income rank	initial GDP/cap.
Macao	51	0.001	0.001	97	0.000	0.000	29	14871
Uruguay	52	0.001	0.001	90	0.000	0.000	50	6708
Bulgaria	53	0.000	0.000	57	0.001	0.001	103	1424
Iceland	54	0.000	0.000	39	0.001	0.002	9	26594
Zimbabwe	55	0.000	0.000	30	0.001	0.003	131	662
Senegal	56	0.000	0.000	85	0.000	0.000	146	440
Colombia	57	0.000	0.000	71	0.003	0.001	80	2465
Jordan	58	0.001	0.000	93	0.000	0.000	94	1706
Nigeria	59	0.000	0.000	63	0.001	0.001	153	368
Pakistan	60	0.000	0.000	23	0.003	0.004	137	527
Malta	61	0.000	0.000	100	0.000	0.000	43	8544
Malaysia	62	0.001	0.000	25	0.003	0.003	64	3865
Ghana	63	0.000	0.000	73	0.000	0.000	168	238
Slovenia	64	0.000	0.000	70	0.000	0.000	45	8359
Philippines	65	0.000	0.000	86	0.001	0.000	122	927
Kuwait	66	0.000	0.000	136	0.000	0.000	26	18233
Romania	67	0.000	0.000	96	0.000	0.000	91	1817
Lithuania	68	0.000	0.000	58	0.000	0.001	78	2705
Moldova	69	0.000	0.000	92	0.000	0.000	158	319
Kenya	70	0.000	0.000	74	0.000	0.000	149	422
Dominican Republic	71	0.000	0.000	125	0.000	0.000	82	2257
Ukraine	72	0.000	0.000	33	0.001	0.002	134	609
Cote d'Ivoire	73	0.000	0.000	36	0.001	0.002	133	622
Libya	74	0.000	0.000	84	0.000	0.000	51	6511
Syrian Arab Republic	75	0.000	0.000	51	0.001	0.001	112	1203
Croatia	76	0.000	0.000	122	0.000	0.000	60	4296
Guatemala	77	0.000	0.000	72	0.000	0.001	96	1599
Peru	78	0.000	0.000	99	0.000	0.000	89	1983
Estonia	79	0.000	0.000	101	0.000	0.000	62	4106
Vietnam	80	0.000	0.000	75	0.000	0.000	156	328
Ethiopia	81	0.000	0.000	136	0.000	.	183	125
Mauritius	82	0.000	0.000	35	0.001	0.002	73	3191
Latvia	83	0.000	0.000	106	0.000	0.000	79	2477
Paraguay	84	0.000	0.000	118	0.000	0.000	102	1460
Bahrain	85	0.000	0.000	126	0.000	0.000	37	11329
Sri Lanka	86	0.000	0.000	109	0.000	0.000	128	727
Iran	87	0.000	0.000	81	0.000	0.000	100	1486
Netherlands Antilles	88	0.000	0.000	46	0.001	0.001	35	12126
El Salvador	89	0.000	0.000	98	0.000	0.000	88	1986
Armenia	90	0.000	0.000	136	0.000	.	141	497
Malawi	91	0.000	0.000	55	0.000	0.001	182	150
Jamaica	92	0.000	0.000	124	0.000	0.000	66	3647
Yemen	93	0.000	0.000	102	0.000	0.000	143	476
Gabon	94	0.000	0.000	48	0.001	0.001	57	4647
Cameroon	95	0.000	0.000	24	0.002	0.003	135	582
Tanzania	96	0.000	0.000	61	0.001	0.001	165	252
Costa Rica	97	0.000	0.000	76	0.001	0.000	69	3549
Qatar	98	0.000	0.000	136	0.000	0.000	7	28793
Indonesia	99	0.000	0.000	32	0.001	0.003	124	878
Honduras	100	0.000	0.000	69	0.000	0.001	114	1112

Table A1. (Continued) Summary statistics: exports, imports, initial income, 1997

	export rank	export share all exports	export share est. sample	import rank	import share all imports	import share est. sample	income rank	initial GDP/cap.
Kazakhstan	101	0.000	0.000	89	0.000	0.000	116	1044
Zambia	102	0.000	0.000	67	0.000	0.001	157	322
Burkina Faso	103	0.000	0.000	62	0.000	0.001	178	198
Bangladesh	104	0.000	0.000	108	0.000	0.000	162	293
Madagascar	105	0.000	0.000	87	0.000	0.000	166	243
Georgia	106	0.000	0.000	136	0.000	.	139	517
Albania	107	0.000	0.000	131	0.000	0.000	118	993
Togo	108	0.000	0.000	107	0.000	0.000	164	256
Benin	109	0.000	0.000	45	0.001	0.001	159	311
Dem. Rep. of Congo	110	0.000	0.000	47	0.001	0.001	186	112
Rep. of Congo	111	0.000	0.000	49	0.001	0.001	115	1051
Mauritania	112	0.000	0.000	111	0.000	0.000	145	441
Niger	113	0.000	0.000	115	0.000	0.000	181	168
Uganda	114	0.000	0.000	40	0.001	0.002	171	228
Rwanda	115	0.000	0.000	136	0.000	0.000	173	213
Bolivia	116	0.000	0.000	121	0.000	0.000	119	968
Nepal	117	0.000	0.000	127	0.000	0.000	174	206
Burundi	118	0.000	0.000	129	0.000	0.000	185	113
Gambia, The	119	0.000	0.000	136	0.000	0.000	160	307
Belarus	120	0.000	0.000	112	0.000	0.000	120	949
Swaziland	121	0.000	0.000	54	0.000	0.001	110	1236
Barbados	122	0.000	0.000	135	0.000	0.000	44	8523
Mali	123	0.000	0.000	53	0.000	0.001	172	217
Sudan	124	0.000	0.000	95	0.000	0.000	161	303
Central African Rep.	125	0.000	0.000	113	0.000	0.000	170	232
Trinidad and Tobago	126	0.000	0.000	82	0.000	0.000	54	5205
Chad	127	0.000	0.000	27	0.001	0.003	180	169
Haiti	128	0.000	0.000	136	0.000	.	144	446
Aruba	129	0.000	0.000	136	0.000	.	24	18548
Suriname	130	0.000	0.000	80	0.000	0.000	90	1898
Equatorial Guinea	131	0.000	0.000	79	0.000	0.000	126	802
Azerbaijan	132	0.000	0.000	103	0.000	0.000	142	489
Bahamas	133	0.000	0.000	130	0.000	0.000	30	14765
Laos	134	0.000	0.000	136	0.000	0.000	163	279
Lesotho	135	0.000	0.000	136	0.000	0.000	150	406
Guyana	136	0.000	0.000	59	0.000	0.001	123	885
Seychelles	137	0.000	0.000	136	0.000	0.000	52	6242
Belize	138	0.000	0.000	128	0.000	0.000	76	2865
Sierra Leone	139	0.000	0.000	116	0.000	0.000	177	202
Fiji	140	0.000	0.000	42	0.001	0.002	86	2048
Macedonia	141	0.000	0.000	134	0.000	0.000	97	1589
Solomon Islands	142	0.000	0.000	136	0.000	.	104	1366
Botswana	143	0.000	0.000	133	0.000	0.000	77	2726
Grenada	144	0.000	0.000	136	0.000	.	74	3140
Dominica	145	0.000	0.000	136	0.000	0.000	71	3479
Papua New Guinea	146	0.000	0.000	104	0.000	0.000	127	793
Total (bil. euros)		22.18	14.86		30.76	11.03		

Table A2. Summary statistics, baseline estimation sample, 1997-2005

	1997	1998	1999	2000	2001	2002	2003	2004	2005
sales	5.57	5.45	5.18	4.97	5.04	7.36	6.91	9.86	9.35
	(0.51)	(0.44)	(0.45)	(0.46)	(0.50)	(0.67)	(0.61)	(0.79)	(0.70)
number of output categories	4.51	4.52	4.51	4.53	4.47	5.93	6.04	3.89	3.82
	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)	(0.17)	(0.17)	(0.09)	(0.09)
export share of sales	0.21	0.21	0.21	0.20	0.19	0.14	0.14	0.24	0.24
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
share of exports to richer countries	0.79	0.80	0.81	0.80	0.79	0.76	0.75	0.79	0.78
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
number of destination countries	7.71	7.53	7.53	7.53	7.50	7.32	7.15	8.85	8.94
	(0.15)	(0.14)	(0.14)	(0.14)	(0.15)	(0.33)	(0.30)	(0.27)	(0.27)
number of export categories	10.03	9.89	9.88	9.86	10.02	9.76	9.39	13.04	13.77
	(0.28)	(0.26)	(0.26)	(0.25)	(0.27)	(0.72)	(0.61)	(0.56)	(0.59)
avg. log income of destination	11.62	11.63	11.60	11.48	11.41	10.73	10.69	11.46	11.36
	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.07)	(0.06)	(0.07)	(0.07)
purchases	3.24	3.09	2.91	2.87	2.92	4.19	3.70	5.49	5.12
	(0.43)	(0.35)	(0.36)	(0.43)	(0.42)	(0.37)	(0.32)	(0.55)	(0.47)
number of input categories	7.70	8.12	8.44	8.78	8.90	7.05	7.18	7.75	7.87
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.14)	(0.14)	(0.15)	(0.15)
import share of purchases	0.20	0.20	0.20	0.20	0.19	0.18	0.18	0.28	0.27
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
share of imports from richer countries	0.90	0.89	0.90	0.90	0.88	0.87	0.88	0.87	0.87
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
number of source countries	5.63	5.65	5.65	5.58	5.56	5.34	5.21	6.78	6.83
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.18)	(0.17)	(0.14)	(0.14)
number of import categories	21.74	21.70	21.94	22.01	21.62	20.06	20.60	29.41	31.04
	(0.65)	(0.64)	(0.61)	(0.59)	(0.59)	(1.19)	(1.51)	(1.28)	(1.33)
average log income of source	10.87	10.88	10.89	10.81	10.68	10.55	10.51	11.17	11.07
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.06)	(0.05)	(0.06)	(0.06)
fraction exporter	0.49	0.49	0.49	0.47	0.45	0.45	0.46	0.59	0.60
fraction importer	0.50	0.52	0.51	0.49	0.48	0.45	0.45	0.60	0.59
N (firms)	6585	6873	7194	7713	7994	2046	2160	2455	2639

Notes: Table reports averages across firms, weighting firms equally. Average income of sales destinations and purchase sources include the home market as possible destination or source, as described in Section 4 of the text. Sales and purchases are in millions of 2000 Euros, avg. incomes of destination and source in thousands of 2000 Euros.

Table A3. Source-country characteristics and import prices in cross section, 1997

| | dep. var.: firm-product log import price | | | |
	(1)	(2)	(3)	(4)
richer than Portugal	0.58***	0.33***		
	(0.11)	(0.10)		
log GDP/cap.			0.23***	0.13***
			(0.03)	(0.03)
log GDP	0.08***	0.03	0.06***	0.02
	(0.02)	(0.02)	(0.02)	(0.02)
European Union	-0.34***	-0.16	-0.30***	-0.15
	(0.12)	(0.13)	(0.08)	(0.10)
landlocked	0.20***	0.02	0.14***	-0.00
	(0.06)	(0.07)	(0.04)	(0.06)
log distance	0.02	0.07	-0.01	0.06
	(0.05)	(0.06)	(0.03)	(0.05)
product effects	Y	N	Y	N
firm-product effects	N	Y	N	Y
R2	0.68	0.94	0.68	0.94
N	99365	99365	99365	99365

Notes: Sample is all firm-input-source observations in 1997 for firms in baseline estimation sample. Euro-zone origins included. "Richer than Portugal" defined using 1996 GDP/capita, consistent with our use of 1996 values elsewhere; log GDP/cap. variable is from 1997. Robust standard errors, clustered by source country, in parentheses.

Table A4. Destination characteristics in cross section, 1997, excluding Euro-zone

| | dep. var.: firm-product log export price | | | |
	(1)	(2)	(3)	(4)
richer than Portugal	0.092***	0.107***		
	(0.032)	(0.027)		
log GDP/cap.			0.026**	0.033***
			(0.011)	(0.010)
log GDP	0.007	0.001	0.005	-0.001
	(0.004)	(0.005)	(0.005)	(0.006)
European Union	0.063**	0.028	0.071***	0.035
	(0.026)	(0.023)	(0.027)	(0.025)
landlocked	-0.019	0.030	-0.048	0.009
	(0.039)	(0.053)	(0.040)	(0.062)
log distance	0.054***	0.042***	0.055***	0.044***
	(0.013)	(0.008)	(0.014)	(0.009)
product effects	Y	N	Y	N
firm-product effects	N	Y	N	Y
R2	0.73	0.94	0.73	0.94
N	35438	35438	35438	35438

Notes: Sample is firm-product-destination observations in 1997 for firms in estimation sample, excluding Euro-zone destinations. Results when including Euro-zone destinations are similar (see Table 3). "Richer than Portugal" defined using 1996 GDP/capita, consistent with our use of 1996 values elsewhere; log GDP/cap. variable is from 1997. Robust standard errors, clustered by destination, in parentheses.

Table A5. Sales response to real-exchange-rate movements, alternative specification

	(1)	(2)	(3)	(4)
	dep. var.: $\sinh^{-1}(sales)$			
log(RER)	0.370***	0.489***	0.356***	0.403***
	(0.049)	(0.048)	(0.082)	(0.050)
log(RER)*1(any exports in 1997)			0.215**	
			(0.101)	
log(RER)*(sales share in 1997)				0.037***
				(0.005)
firm effects	Y			
destination effects	Y			
firm-destination effects	N	Y	Y	Y
year effects	Y	Y	Y	Y
R2	0.34	0.83	0.83	0.83
N	158762	158762	158762	158762

Notes: Table similar to Table 4 but with inverse hyperbolic sine of firm's sales (rather than firm's sales share) as dependent variable. Robust standard errors, clustered at firm-year level, in parentheses.

Table A6. Export price and quantity response to real-exchange-rate movements

dep. var.:	log export quantity		log export price	
	(1)	(2)	(3)	(4)
$\log(RER_t)$	0.373***	0.383***	0.085***	0.040*
	(0.080)	(0.079)	(0.025)	(0.023)
$\log(RER_{t-1})$	0.047	0.025	0.024	0.014
	(0.072)	(0.069)	(0.025)	(0.024)
$\log(RER_{t-2})$	-0.055	-0.046	0.002	0.011
	(0.058)	(0.058)	(0.021)	(0.024)
$\log(RER_{t-3})$	0.058	0.051	-0.042	-0.041*
	(0.061)	(0.058)	(0.026)	(0.022)
firm-product-destination effects	Y	Y	Y	Y
year effects	Y	N	Y	N
product-year effects	N	Y	N	Y
R2	0.87	0.89	0.92	0.93
N	202243	202243	202243	202243

Notes: log real exchange rate (log(RER)) defined as in (20) in text. Observations are at the firm-destination-product-year level for firms in the estimation sample, excluding Euro-zone destinations. Robust standard errors, clustered at firm-year level, in parentheses.

Table A7. Examining role of intensive and extensive margins, OLS estimates

	dep. var.: firm-average log real input price			
	(1)	(2)	(3)	(4)
$\triangle$ log avg. dest. gdp/cap. (intensive)	0.051**	0.050**	0.048**	0.047**
	(0.022)	(0.022)	(0.022)	(0.022)
$\triangle$ log avg. dest. gdp/cap. (extensive)	0.020	0.026	0.022	0.016
	(0.016)	(0.017)	(0.018)	(0.018)
log(1 + avg. dest. distance)		-0.002	-0.003	-0.003
		(0.002)	(0.003)	(0.003)
export share of sales			0.018	0.020
			(0.030)	(0.030)
log sales				0.024***
				(0.007)
initial source interactions	Y	Y	Y	Y
firm effects	Y	Y	Y	Y
year effects	Y	Y	Y	Y
R2	0.80	0.80	0.80	0.80
N	45635	45635	45635	45635

Notes: Table similar to Table 5, using baseline estimation sample. Variation over time in log average destination GDP/capita (intensive) reflects only changes in sales shares to continuing destinations. Variation in log average destination GDP/capita (extensive) reflects solely movements in sales shares associated with exit and entry in destinations. See footnote 34. Robust standard errors in parentheses.

Table A8. Linear probability model of export entry, IV estimates

	dep. var.: indicator for any exports		
	richer than Portugal (1)	poorer than Portugal (2)	all destinations (3)
firm-avg log real input price	-0.013*	0.002	-0.001
	(0.007)	(0.002)	(0.002)
initial destination interactions	Y	Y	Y
firm effects	Y	Y	Y
destination-year effects	Y	Y	Y
N	1552406	5753034	7305440

Notes: Data are at firm-destination-year level. Estimating equation is (27) in Section 5.2. Instruments are interactions of indicators for positive imports to source in 1997 and log real-exchange rates for Portugal's top 100 non-Euro-zone export destinations. First-stage results are in Appendix Table B15. Robust standard errors, clustered at firm-year level, in parentheses.

Table A9. Destination income and firm average input prices, LIML estimates

	(1)	(2)	(3)	(4)	(5)	(6)
			dep. var.: firm-average log real input price			
log avg. destination gdp/cap	0.99***	0.90***	1.18***	1.15***	1.39***	0.96**
	(0.33)	(0.32)	(0.44)	(0.44)	(0.49)	(0.48)
log(1+avg dest. distance)		-0.02***	-0.00	-0.00	0.17*	0.25**
		(0.01)	(0.00)	(0.00)	(0.09)	(0.12)
export share of sales			-0.57**	-0.56**	-1.71**	-0.47
			(0.23)	(0.23)	(0.70)	(0.68)
log sales				0.02**	0.00	-0.01
				(0.01)	(0.01)	(0.02)
initial source interactions	Y	Y	Y	Y	Y	Y
firm effects	Y	Y	Y	Y	Y	Y
year effects	Y	Y	Y	Y	Y	Y
N	45659	45659	45659	45659	45659	45659
Kleibergen-Paap LM statistic (under-identification)	264.22	269.91	249.61	248.92	245.01	232.20
Kleibergen-Paap LM p-value	0.00	0.00	0.00	0.00	0.00	0.00
Kleibergen-Paap Wald rk F-stat (weak insts.)	3.11	3.11	2.67	2.65	2.53	2.32
Anderson-Rubin Wald test F-stat	2.20	2.20	2.19	2.17	2.17	2.18
Anderson-Rubin Wald test p-value	0.00	0.00	0.00	0.00	0.00	0.00

Notes: Table presents limited-information maximum likelihood (LIML) estimates of equation (23) in text. Instruments are interactions of indicators for positive exports to destination in 1997 and log real-exchange rate for Portugal's top 100 non-Euro-zone export destinations. Initial source interactions, included directly as covariates, are defined analogously to the instruments, using indicators for initial imports. Columns 1 to 4 treat only log avg. destination GDP/cap as endogenous; Column 5 adds log(1 + avg. destination distance), and Column 6 adds export share of sales to endogenous set. Destination gdp/cap measured in 1996. Robust standard errors in parentheses.

Table A10. Reduced form, income-group instruments

	dep. var.: firm-average log real input price					
	(1)	(2)	(3)	(4)	(5)	(6)
$\log(\overline{RER}_{it})$, inc. ranks 1-10	0.139**	0.139**	0.138**	0.140**	0.140**	0.140**
	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)
$\log(\overline{RER}_{it})$, inc. ranks 11-20	0.118	0.118	0.119	0.121	0.120	0.119
	(0.080)	(0.080)	(0.080)	(0.080)	(0.080)	(0.080)
$\log(\overline{RER}_{it})$, inc. ranks 21-30	0.059	0.060	0.060	0.061	0.060	0.060
	(0.053)	(0.053)	(0.053)	(0.053)	(0.053)	(0.053)
$\log(\overline{RER}_{it})$, inc. ranks 31-40	-0.052	-0.053	-0.053	-0.053	-0.052	-0.052
	(0.070)	(0.070)	(0.070)	(0.069)	(0.069)	(0.069)
$\log(\overline{RER}_{it})$, inc. ranks 41-50	0.009	0.010	0.009	0.011	0.011	0.011
	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)
$\log(\overline{RER}_{it})$, inc. ranks 51-60	-0.038	-0.038	-0.038	-0.041	-0.040	-0.041
	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)	(0.045)
$\log(\overline{RER}_{it})$, inc. ranks 61-70	0.051*	0.052*	0.052*	0.052*	0.050	0.050
	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)	(0.031)
$\log(\overline{RER}_{it})$, inc. ranks 71-80	-0.011	-0.011	-0.011	-0.009	-0.010	-0.010
	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)
$\log(\overline{RER}_{it})$, inc. ranks 81-90	-0.025	-0.025	-0.025	-0.022	-0.021	-0.022
	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)	(0.081)
$\log(\overline{RER}_{it})$, inc. ranks 91-100	-0.068**	-0.068**	-0.068**	-0.069**	-0.068**	-0.068**
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
$\log(\overline{RER}_{it})$, inc. ranks 101-110	-0.029	-0.028	-0.029	-0.024	-0.024	-0.024
	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)	(0.073)
$\log(\overline{RER}_{it})$, inc. ranks 111-120	-0.195	-0.194	-0.188	-0.188	-0.192	-0.194
	(0.125)	(0.125)	(0.125)	(0.124)	(0.124)	(0.124)
$\log(\overline{RER}_{it})$, inc. ranks 121-130	0.150	0.150	0.149	0.141	0.141	0.142
	(0.116)	(0.116)	(0.116)	(0.116)	(0.116)	(0.116)
$\log(\overline{RER}_{it})$, inc. ranks 131-140	0.022	0.023	0.023	0.024	0.023	0.023
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
$\log(\overline{RER}_{it})$, inc. ranks 141-150	-0.539*	-0.541*	-0.542*	-0.538*	-0.535*	-0.535*
	(0.287)	(0.287)	(0.287)	(0.288)	(0.287)	(0.287)
$\log(\overline{RER}_{it})$, inc. ranks 151+	-0.028	-0.027	-0.026	-0.026	-0.028	-0.028
	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)
$\log(1+\text{avg dest. distance})$		-0.002	-0.004	-0.004		
		(0.002)	(0.002)	(0.002)		
export share of sales			0.035	0.034	0.010	
			(0.027)	(0.027)	(0.023)	
log sales				0.024***	0.024***	0.024***
				(0.007)	(0.007)	(0.007)
initial source interactions	Y	Y	Y	Y	Y	Y
firm, year effects	Y	Y	Y	Y	Y	Y
R2	0.80	0.80	0.80	0.80	0.80	0.80
N	45659	45659	45659	45659	45659	45659
F-stat (insts=0)	2.08	2.09	2.10	2.12	2.09	2.10

Notes: Table presents reduced-form estimates corresponding to the alternatve IV model described in Section 5.4 and reported in Table 8. Instruments are log weighted-average RERs at the country-income-group level, weighting by firm-level initial export shares to destination, as defined in equation (22). Euro-zone countries and countries outside of Portugal's top 100 export destinations excluded when constructing instruments. Robust standard errors in parentheses.

Table A11. Excluding initial source interactions, OLS estimates

| | dep. var.: firm-average log real input price | | | |
	(1)	(2)	(3)	(4)
log avg. destination gdp/cap	0.065***	0.073***	0.074***	0.069**
	(0.023)	(0.024)	(0.028)	(0.028)
log(1+avg dest. distance)		-0.003	-0.003	-0.003
		(0.002)	(0.002)	(0.002)
export share of sales			-0.003	-0.002
			(0.031)	(0.031)
log sales				0.024***
				(0.007)
initial source interactions	N	N	N	N
firm effects	Y	Y	Y	Y
year effects	Y	Y	Y	Y
R2	0.80	0.80	0.80	0.80
N	45659	45659	45659	45659

Notes: Table is similar to Table 5 but excludes the initial source interactions (interactions of indicators for positive imports from origin in 1997 and log RER). Robust standard errors in parentheses.

Table A12. Excluding initial source interactions, IV estimates

			dep. var.: firm-average log real input price			
	(1)	(2)	(3)	(4)	(5)	(6)
log avg. destination gdp/cap	0.56***	0.52**	0.69***	0.67***	0.70***	0.65***
	(0.20)	(0.20)	(0.25)	(0.25)	(0.25)	(0.25)
log(1+avg dest. distance)		-0.01***	-0.00	-0.00	0.04*	0.05**
		(0.00)	(0.00)	(0.00)	(0.02)	(0.02)
export share of sales			-0.32**	-0.31**	-0.60***	-0.35
			(0.13)	(0.13)	(0.20)	(0.30)
log sales				0.02***	0.02**	0.01*
				(0.01)	(0.01)	(0.01)
initial source interactions	N	N	N	N	N	N
firm effects	Y	Y	Y	Y	Y	Y
year effects	Y	Y	Y	Y	Y	Y
N	45659	45659	45659	45659	45659	45659
Kleibergen-Paap LM statistic (under-identification)	285.04	290.21	282.69	281.82	314.75	269.43
Kleibergen-Paap LM p-value	0.00	0.00	0.00	0.00	0.00	0.00
Kleibergen-Paap Wald rk F-stat (weak insts.)	3.30	3.32	3.08	3.06	3.53	2.62
Anderson-Rubin Wald test F-stat	2.36	2.36	2.35	2.33	2.32	2.33
Anderson-Rubin Wald test p-value	0.00	0.00	0.00	0.00	0.00	0.00

Notes: Table is similar to Table 6 but excludes the initial source interactions (interactions of indicators for positive imports from origin in 1997 and log RER). First-stage results in Appendix Table B16. Robust standard errors in parentheses.

Table A13. Including current source interactions, OLS estimates

	dep. var.: firm-average log real input price			
	(1)	(2)	(3)	(4)
log avg. destination gdp/cap	0.06***	0.07***	0.07**	0.07**
	(0.02)	(0.02)	(0.03)	(0.03)
log(1+avg dest. distance)		-0.00	-0.00	-0.00
		(0.00)	(0.00)	(0.00)
export share of sales			-0.00	-0.00
			(0.03)	(0.03)
log sales				0.02***
				(0.01)
current source interactions	Y	Y	Y	Y
firm effects	Y	Y	Y	Y
year effects	Y	Y	Y	Y
R2	0.80	0.80	0.80	0.80
N	45659	45659	45659	45659

Notes: Table is similar to Table 5 but includes current source interactions (interactions of indicators for positive imports from origin in current year and log real-exchange rate) instead of initial source interactions. Robust standard errors, clustered at destination-year level, in parentheses.

Table A14. Including current source interactions, IV estimates

	(1)	(2)	(3)	(4)	(5)	(6)
	dep. var.: firm-average log real input price					
log avg. destination gdp/cap	0.58***	0.54***	0.74***	0.73***	0.78***	0.75***
	(0.21)	(0.21)	(0.26)	(0.26)	(0.26)	(0.26)
log(1+avg dest. distance)		-0.01***	-0.00	-0.00	0.04*	0.05*
		(0.00)	(0.00)	(0.00)	(0.02)	(0.02)
export share of sales			-0.35**	-0.34**	-0.63***	-0.47
			(0.14)	(0.14)	(0.21)	(0.30)
log sales				0.02***	0.02**	0.01**
				(0.01)	(0.01)	(0.01)
current source interactions	Y	Y	Y	Y	Y	Y
firm effects	Y	Y	Y	Y	Y	Y
year effects	Y	Y	Y	Y	Y	Y
N	45659	45659	45659	45659	45659	45659
Kleibergen-Paap LM statistic (under-identification)	267.66	275.89	261.81	259.87	305.43	278.77
Kleibergen-Paap LM p-value	0.00	0.00	0.00	0.00	0.00	0.00
Kleibergen-Paap Wald rk F-stat (weak insts.)	3.05	3.13	2.71	2.68	3.20	2.64
Anderson-Rubin Wald test F-stat	2.27	2.28	2.27	2.26	2.26	2.27
Anderson-Rubin Wald test p-value	0.00	0.00	0.00	0.00	0.00	0.00

Notes: Table is similar to Table 6 but includes current source interactions (interactions of indicators for positive imports from origin in current year and log real-exchange rate) instead of initial source interactions. First-stage results in Appendix Table B17. Robust standard errors in parentheses.

Table A15. Excluding richest destinations from instrument set, IV estimates

	dep. var.: firm-average log real input price				
	excluding from instrument set the richest				
	5 dest.	10 dest.	15 dest.	20 dest.	25 dest.
	(1)	(2)	(3)	(4)	(5)
log avg. destination gdp/cap	0.65**	0.77***	0.69**	0.69***	0.58**
	(0.26)	(0.27)	(0.27)	(0.26)	(0.29)
log(1+avg dest. distance)	0.06**	0.07***	0.06**	0.05**	0.05*
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
export share of sales	-0.29	-0.13	-0.01	-0.15	-0.14
	(0.31)	(0.32)	(0.33)	(0.33)	(0.34)
log sales	0.01	0.01	0.01	0.01	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
initial source interactions	Y	Y	Y	Y	Y
firm effects	Y	Y	Y	Y	Y
year effects	Y	Y	Y	Y	Y
N	45659	45659	45659	45659	45659
Kleibergen-Paap LM statistic (under-identification)	239.67	161.92	162.20	148.72	139.61
Kleibergen-Paap LM p-value	0.00	0.00	0.00	0.00	0.00
Kleibergen-Paap Wald rk F-stat (weak insts.)	2.51	1.96	2.04	1.92	2.00
Anderson-Rubin Wald test F-stat	2.28	2.34	2.37	2.24	2.16
Anderson-Rubin Wald test p-value	0.00	0.00	0.00	0.00	0.00

Notes: Specifications are similar to Table 6 Column 6, but excluding subsets of the richest destinations from instrument set. Column 1 excludes the 5 richest non-Euro-zone countries, leaving the other 95 destinations in the instrument set, and similarly for the other columns. First-stage results in Appendix Tables B5-B9. Robust standard errors in parentheses.

Table A16. Excluding poorest destinations from instrument set, IV estimates

	dep. var.: firm-average log real input price				
	excluding from instrument set the poorest				
	5 dest.	10 dest.	15 dest.	20 dest.	25 dest.
	(1)	(2)	(3)	(4)	(5)
log avg. destination gdp/cap	0.69**	0.66**	0.67**	0.63**	0.54*
	(0.27)	(0.27)	(0.27)	(0.27)	(0.28)
log(1+avg dest. distance)	0.06**	0.05*	0.06*	0.06*	0.05*
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
export share of sales	-0.25	-0.26	-0.23	-0.18	-0.12
	(0.32)	(0.33)	(0.34)	(0.34)	(0.35)
log sales	0.01	0.01	0.01	0.01	0.01*
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
initial source interactions	Y	Y	Y	Y	Y
firm effects	Y	Y	Y	Y	Y
year effects	Y	Y	Y	Y	Y
N	45659	45659	45659	45659	45659
Kleibergen-Paap LM statistic (under-identification)	224.77	212.81	208.93	204.56	202.84
Kleibergen-Paap LM p-value	0.00	0.00	0.00	0.00	0.00
Kleibergen-Paap Wald rk F-stat (weak insts.)	2.41	2.41	2.50	2.64	2.80
Anderson-Rubin Wald test F-stat	2.20	2.26	2.30	2.35	2.43
Anderson-Rubin Wald test p-value	0.00	0.00	0.00	0.00	0.00

Notes: Specifications are similar to Table 6 Column 6, but excluding subsets of the poorest destinations from instrument set. Column 1 excludes the 5 poorest non-Euro-zone countries, leaving the other 95 destinations in the instrument set, and similarly for the other columns. First-stage results in Appendix Tables B10-B14. Robust standard errors in parentheses.

Table A17. Destination income and firm average input prices, two-step feasible EGMM estimates

	(1)	(2)	(3)	(4)	(5)	(6)
			dep. var.: firm-average log real input price			
log avg. destination gdp/cap	0.41**	0.37**	0.44**	0.42**	0.47**	0.42*
	(0.17)	(0.17)	(0.21)	(0.21)	(0.21)	(0.22)
log(1+avg dest. distance)		-0.01**	-0.00	-0.00	0.03	0.04
		(0.00)	(0.00)	(0.00)	(0.02)	(0.02)
export share of sales			-0.19*	-0.18	-0.40**	-0.14
			(0.11)	(0.11)	(0.19)	(0.27)
log sales				0.02***	0.02***	0.02**
				(0.01)	(0.01)	(0.01)
initial source interactions	Y	Y	Y	Y	Y	Y
firm effects	Y	Y	Y	Y	Y	Y
year effects	Y	Y	Y	Y	Y	Y
N	45659	45659	45659	45659	45659	45659
Kleibergen-Paap LM statistic (under-identification)	264.22	269.91	249.61	248.92	245.01	232.20
Kleibergen-Paap LM p-value	0.00	0.00	0.00	0.00	0.00	0.00
Kleibergen-Paap Wald rk F-stat (weak insts.)	3.11	3.11	2.67	2.65	2.53	2.32
Anderson-Rubin Wald test F-stat	2.20	2.20	2.19	2.17	2.17	2.18
Anderson-Rubin Wald test p-value	0.00	0.00	0.00	0.00	0.00	0.00

Notes: Table reports estimates of equation (23) in text, using a two-step feasible efficient GMM estimator. Specifications are similar to those in Table 6. Robust standard errors in parentheses.