

Online Appendix for “Trade and Investment under Policy
Uncertainty: Theory and Firm Evidence”
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D Supplementary Theory and Empirical Results

A Theory

1.. First-order Cutoff Approximation

We take a first-order Taylor approximation of $\ln c^U$ around $\tau_t = \tau_0$ and $\gamma = 0$.

$$\begin{aligned} \ln c^U(\gamma, \tau_t) &= \ln(c_t^D \times U_t) \\ &\approx \ln c^D(\ln \tau_0, \gamma = 0) \\ &\quad + (\ln \tau_t - \ln \tau_0) \times \left[\frac{\partial \ln c_t^D |_{(\tau_0, \gamma=0)}}{\partial \ln \tau} + \frac{\partial \ln U_t |_{(\tau_0, \gamma=0)}}{\partial \ln \tau} \right] \\ &\quad + \ln U(\ln \tau_0, \gamma = 0) + \gamma \frac{\partial \ln c_t^D |_{(\tau_0, \gamma=0)}}{\partial \gamma} + \gamma \frac{\partial \ln U_t |_{(\tau_0, \gamma=0)}}{\partial \gamma} \end{aligned}$$

Using the definition for c_t^D , equation (22), noting that $\partial \ln U_t / \partial \ln \tau |_{\gamma=0} = 0$ and $\partial \ln U_t / \partial \gamma |_{\tau_0, \gamma=0} = \frac{\beta}{1-\beta} \frac{\omega-1}{\sigma-1}$, and simplifying we obtain the expression the first order approximation used for the regression specification in the main text

$$(D1) \quad \ln c_t^U |_{\tau_t=\tau_0, \gamma=0} \approx \gamma \frac{\beta}{1-\beta} \frac{\omega(\tau_0) - 1}{\sigma - 1} - \frac{\sigma}{\sigma - 1} \ln \tau_t + \frac{1}{\sigma - 1} \ln \frac{A}{K(1-\beta)}$$

2. Impact of a simple mean preserving spread in $H(\tau)$ on entry cutoff

Claim: For any current tariff $\tau_t \in (\tau_l, \tau_h)$, the entry cutoff is higher under $H(\tau)$ than under a simple mean preserving spread of it, $F(\tau)$, with the same support and $F(\tau_t) = H(\tau_t)$.

Proof: From the cutoff condition we see that entry is higher under H if, conditional on a bad shock, expected profits are higher under H than F , i.e. if $\frac{1}{1-H(\tau_t)} \int_{\tau_t}^{\tau_h} \pi(c, \tau) dH(\tau) > \frac{1}{1-F(\tau_t)} \int_{\tau_t}^{\tau_h} \pi(c, \tau) dF(\tau)$. By construction $F(\tau_t) = H(\tau_t)$ so we need to show $\int_{\tau_t}^{\tau_h} \pi(c, \tau) dH(\tau) - \int_{\tau_t}^{\tau_h} \pi(c, \tau) dF(\tau) > 0$.

Using integration by parts we have $\int_{\tau_t}^{\tau_h} \pi(c, \tau) dX(\tau) = [\pi(c, \tau_h)X(\tau_h) - \pi(c, \tau_t)X(\tau_t)] - \int_{\tau_t}^{\tau_h} \pi'(\tau)X(\tau)d\tau$ for $X = H, F$. The term in brackets is identical for $X = H, F$ since by construction $H(\tau_h) = F(\tau_h) = 1$ and $F(\tau_t) = H(\tau_t)$. Thus we obtain

$$\int_{\tau_t}^{\tau_h} \pi(c, \tau) dH(\tau) - \int_{\tau_t}^{\tau_h} \pi(c, \tau) dF(\tau) = \int_{\tau_t}^{\tau_h} \pi'(\tau) [F(\tau) - H(\tau)] d\tau > 0.$$

The inequality follows because (i) if F is a simple mean preserving spread of H and $F(\tau_t) = H(\tau_t)$ then $F(\tau) < H(\tau)$ for $\tau \in (\tau_t, \tau_h)$ and (ii) $\pi'(\tau) < 0$.

B Policy Data

1. Pre-accession policy data

The earliest trade data for Portugal is from 1981 and the closest full EC trade policy schedule before then is for 1980 (Official Journal L 342, 31.12.1979, p. 1–382). This, and the fact that EC applied tariffs to Portugal in industrial goods were the ones set in the 1977 agreement, and thus remained in place until 1985, lead us to initially digitize and use the 1980 schedule.⁵¹ The 1980 schedule already reflects some of the EC multilateral tariff bindings negotiated in the Tokyo Round. However, some of these bindings, which we use to construct our uncertainty measure, continued to be reduced over a period of time.⁵² Therefore, if the worst case scenario for Portuguese exporters between 1981–1985 was the EC binding then it may have entailed a lower tariff than that implied by the 1980 binding.

We obtained the 1984 trade policy schedule for Spain. This schedule was published by the International Customs Tariff Bureau in the *International Customs Journal*. We believe this was the only full schedule published in the 1980s for Spain and it contains Spain’s preferences relative to Portugal and the EEC as well as its policy relative to the rest of the world. The documentation we found implies that Spain’s preferential tariffs for Portugal remained unchanged between 1984 and 1985 because the EFTA-Spain agreement that regulated these had reached a phase requiring additional negotiations of indefinite length.

⁵¹While our baseline results only use data for 1985 and 1987 to isolate the effect of the agreement in 1986, we also planned and ran robustness tests that include earlier years.

⁵²”Implementation of MTN concessions: Note by the secretariat, revision” TAR/W/8/Rev.3, October 15, 1981

2. Post-accession policy data

To construct the tariff profile faced by Portugal immediately after the agreement we applied the concessions schedule in the Articles of Accession, Protocol 3 for Spain (Official Journal L 302 , 15/11/1985 P. 0410) and Article 243 for the EC (Official Journal L 302 , 15/11/1985 P. 0094). These imply staged reductions of 12.5 percent per year for Spain and 14.2 percent for EC-10 with some exceptions for certain goods and industries. Portugal and Spain also harmonized their tariff with respect to the rest of the world to match the EC common external tariff.

3. Applied Protection and Uncertainty Measures

The schedules for the EC and Spain were manually keyed into digital format at the tariff line level by a firm specialized in data entry. We performed a number of checks to ensure that the quality of the entry and kept track of the few tariff lines with various combinations of minimum and maximum tariffs, specific tariffs and seasonal tariffs.⁵³ We then applied preference margins for the EFTA-Spain and EC-Portugal agreements to compute the applied tariff faced by Portuguese exporters in 1985. We applied the staged reductions of the Articles of Accession to these schedules for the EC and Spain to compute the 1987 tariff profile. These digitized schedules yield our tariff line measures of applied tariffs in 1985 and 1987. There are about 9500 tariff lines for Spain and 6500 lines for the EC in any particular year. Finally, we digitized a set of pre- and post-accession NTMs applied by Spain at the 4-digit industry level based on accession documentation submitted to the GATT.⁵⁴

4. Concordance and Aggregation

We constructed our tariff panels using the Brussels Tariff Nomenclature (BTN) to maintain consistency between published schedules and the preference margins stipulated in pre- and post-accession agreements. However, our firm level data are classified by Nimexe so we map each BTN code to a 6-digit Nimexe code using a time-consistent 6-digit Nimexe. We constructed the concordance by digitizing the EC's official concordance between the BTN and Nimexe.⁵⁵ To further maintain time-consistency, our concordance allows for

⁵³For example, Spain levies an ad valorem tariff of 14 percent on product 66.01-A-I "Umbrellas and sunshades: Covered with fabrics of silk or man-made fibres" subject to a minimum specific tariff of 75 pesetas each. We use the ad valorem tariff as our tariff line applied measure and track the presence of the minimum tariff in an indicator variable.

⁵⁴See "List of Non-Tariff Restrictive Measures Applied by Portugal and Spain before and after their Accession" L/5936/Add.5, 5 March 1987.

⁵⁵See "Commission Regulation(EEC) No 3840/86 amending the nomenclature of goods

changes the Nimexe system over the sample period. We tracked these yearly changes according to schedules found in the Eurostat publication External Trade Nomenclature of Goods, Volume 5 (1990). When there are multiple BTN codes mapped to single Nimexe code, we average within the Nimexe code. The same schedules give us the pre- and post- accession worst case tariff used to compute the uncertainty measure as described in the main text. We aggregate by industry up to the 2-digit Nimexe level by taking the arithmetic mean of tariffs and our uncertainty measures. Within each industry, we keep track of detailed tariff line information by computing the shares of tariff lines with complex and specific tariffs and use these as additional controls in the robustness checks.⁵⁶

5. Implementation of Tariff Uncertainty in Discrete Case

To construct the empirical measure of $\omega(\tau_t)$ we consider a discrete probability distribution for tariffs. We then ask, given that a policy shock above the current trigger τ_t arrives, what is the expected value of the proportional loss in profits? This quantity is summarized by $\omega(\tau_t) - 1$, which we now compute for a two- and three-state tariff process relevant to our empirical implementation.

Two State Tariff Distribution: High, Low		
Initial State ($\tau_T = \tau_s$)	Probability (p_s)	$\omega(\tau_T = \tau_s) - 1$
τ_h	p_h	0
τ_l	$1 - p_h$	$-p_h (\tau_l^{-\sigma} - \tau_h^{-\sigma}) / \tau_l^{-\sigma}$

In the two state case, any firm with an entry trigger $\tau_t \geq \tau_h$ would enter when the tariff is in the high state. The likelihood of a shock to trade policy

for the external trade statistics of the Community and statistics of trade between Member States (NIMEXE)” (Official Journal L368, 29/12/1986).

⁵⁶Our estimation method requires an industry level net entry dependent variable, but this is not the only reason to aggregate tariff line policy data over the sample period. From 1980 to 1987 the Brussels Tariff Nomenclature (BTN) and Nimexe classifications are updated annually, but our tariff schedules reflect the classification in place at the time of implementation. Spain, Portugal and the EC further differentiate tariffs within BTN categories. BTN and Nimexe are time-consistent and equivalent at the 2-digit level.

leading to a worse outcome is zero. As was the case with a general continuous distribution, the cutoffs in the deterministic and uncertain model will coincide at the maximum. In the low state, $\omega(\tau_l) - 1$ is nonzero and less than unity. In the estimation, we construct the observable counterpart to the $\omega(\tau_l) - 1$ from tariff data and assumptions on σ .

Three State Tariff Distribution: High, Medium and Low		
Initial State ($\tau_T = \tau_s$)	Probability (p_s)	$\omega(\tau_T = \tau_s) - 1$
τ_h	p_h	0
τ_m	p_m	$-p_h (\tau_m^{-\sigma} - \tau_h^{-\sigma}) / \tau_m^{-\sigma}$
τ_l	$1 - p_m - p_h$	$- [(p_m + p_h) (\tau_l^{-\sigma} - E(\tau^{-\sigma} \tau > \tau_l))] / \tau_l^{-\sigma}$ $= - \sum_{s=m,h} [p_s (\tau_l^{-\sigma} - \tau_s^{-\sigma})] / \tau_l^{-\sigma}$

The three state distribution is slightly more involved, but makes it clear how to generalize to many discrete states. We argue in the empirical section that Portugal had “medium” preferential tariffs with respect to Spain by 1983 of an indefinite nature due to the EFTA-Spain agreement. If $p_m \rightarrow 0$, then we see that the measures in the second and third row coincide with our empirical implementation for the EC and Spain.

C Firm and Aggregate Data

Our firm level data is from the Portuguese census (INE). We use the transaction level trade data available for the period 1981-1990 from customs declaration forms processed by INE. Since the 1981-1987 trade data had not previously been used we did several basic exercises to check their accuracy. We found no law establishing minimum value thresholds for filling out the customs forms in this period. There are no discontinuities at low values in the shipment value distribution. We confirmed that the aggregate yearly values of both imports and exports matched those reported by the official INE printed publication “Estatísticas do Comércio Externo” for several years. INE

converted data for all years into euros at a rate of 200.482 esc/euro even before the euro was implemented.

1. Firm identifiers

Evidence on new vs. continuing firms makes use of the shipper’s identifier variable (labelled NPC) to determine if it is a new or existing exporter to a market. INE reports that this is a unique firm identifier after 1986 and it is in fact used to match trade data to employment and other firm-level data collected by INE in recent years in other work. There is also a unique identifier in 1981-1985 but so far neither INE nor Portuguese customs have been able to provide a correspondence that would allow linking specific firms between 1985 and 1986. Given that the pre-1986 data had not previously been used we requested INE to confirm with Portuguese customs that pre-1986 identifiers were unique and allowed us to track firms in that period, which they did. We further investigated this by calculating statistics by NPC in each year (e.g. industry of modal product exported, # products, # destinations, total shipment value and weight, etc) and verifying they were highly correlated in adjacent years, e.g. the elasticity of total export values by NPC between 1985 and 1984 is one, similarly for other variables. Moreover, these relationships were identical to those found when comparing adjacent years in the post-1986 data where the NPC identifier was known to be unique.

2. Destination country

To ensure that country codes are consistent over time we used the official list of changes in trade partners published yearly in the “Estatísticas do Comércio Externo”. When a country splits, the code for the “larger” unit (e.g. Russia) is the same as the existing (e.g. USSR) and a new code is created for others (e.g. Ukraine). When a country merges (e.g. Germany) we assign the same code as the largest of the existing (West Germany) and drop the other (East Germany).

3. Summary Statistics

In addition to the firm-level summary statistics for the baseline regressions in Table 2, we report summary statistics in Table D4 for the macro evidence gravity regressions in Table 1.

D Additional evidence for new vs. continuing exporters

In this appendix we (1) discuss theoretical and empirical motives for focusing on net or gross entry; (2) provide additional evidence on the contribution of

new firms for export growth post 1986 and (3) provide analysis complementing the aggregate gravity evidence in section III with information for new vs. continuing exporters.

D.1 Model implications for net entry

The model in section II has implications for both net and gross entry. We could potentially consider them separately, but the nature of the data and entry/exit processes may not always allow us to distinguish between them separately. The central prediction of interest is that certain reductions in uncertainty lower the cost threshold and, all else equal, imply larger numbers of firms exporting. This larger number can be due to two effects

1. Entry of “new” firms: Firms that previously did not export and would not have entered the market in the absence of this uncertainty reduction but now do so.
2. Re-entry or non-exit of “existing” firms: if a firm is hit by a shock that leads it to exit then if it is still below the threshold it will re-enter but if it is above the threshold it will not. When the threshold falls with uncertainty this firm is now more likely to re-enter or not exit in the first place.

To test the central prediction (lower uncertainty leading to higher number of exporters) we must construct an appropriate counterfactual. In Table 1 we considered the number of firms exporting to a preferential market relative to those exporting to the rest of the world before vs. after the PTA while controlling for aggregate determinants of entry. To decompose the effect of uncertainty into new vs. existing firms using the exact same approach and time period we would require data on a consistent set of firm identifiers over the full period. These identifiers are not available in our data for 1985-1986. We do have consistent identifiers for a few months prior to when the accession is implemented (early 1986) and after accession, which we explore below. But even if we had consistent firm identifiers over the full period we cannot observe the “exit” shock and may therefore not observe the exit at all (e.g. if a firm suffers a cost increase that would make it exit if the cutoff were unchanged but not if the cutoff cost increased). Therefore we emphasize net entry in our results, because if we focused *only* on gross entry (e.g. those by firms never before in that market) we could miss an important effect of uncertainty.

We provide some additional motivation for the model and rule out some alternative explanations for the increase in firm export entry in the aggregate data. One concern in particular is whether the agreement increased re-entry (or lowered exit) and thus could have led to a higher number of firms even if the threshold had not changed.

D.2 New vs. continuing firms: definitions and stylized facts

To fix ideas we decompose the number of firms exporting to a particular market into continuers (C_t), defined as those that exported at t and $t - 1$, and entrants (E_t), those that export at t but not $t - 1$. The total number of exporters, n_t , is therefore

$$n_t = C_t + E_t$$

Since $C_t = (1 - exit_t) \times n_{t-1}$ (where $exit_t$ is the exit rate between t and $t - 1$, i.e. $\frac{\text{number of exits}}{n_{t-1}}$), we can write the net entry rate as

$$\frac{n_t}{n_{t-1}} - 1 = entry_t - exit_t$$

When we examine the raw data we find that average yearly exit rates in the period after agreement (87-90) are similar to pre-agreement for Spain (about 0.35) and actually increase for the EC-10. Growth in the number of firms in these markets appears to be driven by gross entry. Some direct evidence for this is provided in Figure D1 comparing the yearly number of entering firms into different markets. There is a differentially larger effect for Spain and EC-10. The EC and ROW levels and trend prior to the agreement are very similar but after the agreement the EC had on average almost 800 additional new exporters per year. Spain started from a lower level than the ROW but ended up near the same level and the differential increase in new exporters is more than 750. The effect is more pronounced when compared to a single large market such as the US.

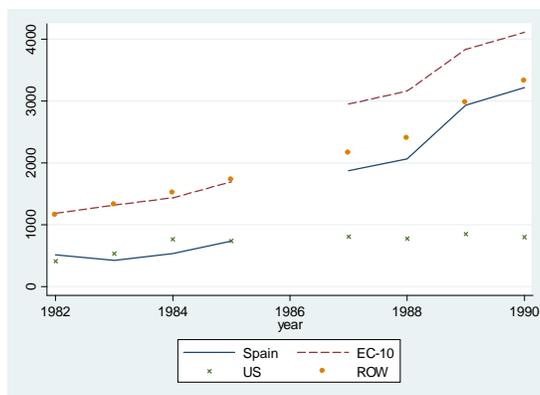


Figure D1: Number of New Firms Exporting to Preferential and Other Markets

Figure D1 also indicates that the increase in the number of exporting firms can't be explained solely by continuing firms choosing to stay in EC markets following accession. Our approach is to identify a counterfactual with the cohort of firms we observed exporting to the market just before the agreement was implemented, or shortly thereafter (since some of the potential new entrants may have waited until implementation to decide to make the fixed cost investment). Because the consistent firm identifier starts in January 1986 we use the cohort of firms that were exporting in 1986. If the agreement did not lead to immediate entry then the change in the stock of firms relative to the 1986 cohort provides a reasonable measure of the stock of "new" entrants. But if some entry already occurred, as the large increase in net entry in 1986 suggests, then this will be an underestimate.

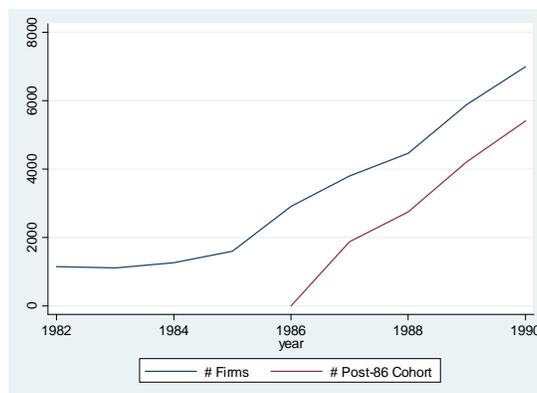


Figure D2: Number of Total vs Post-Accession Exporters to Spain

Figure D2 shows the total number of firms and those in the post-86 cohort. The latter are zero in 1986 by definition and increase quickly, clearly driving the growth in the total number of firms. The narrowing difference between the lines indicates a decline in continuing firms from the 86 cohort, which implies that re-entry for that initial cohort is insufficient to offset exit. This suggests that the agreement effect is not simply on re-entry or non-exit of firms present before the agreement but on entry of new firms.

D.3 Contribution of new firms to exports: 1986-1990

Table D1 uses the raw data to further quantify the aggregate importance of new Portuguese exporters to EC-10 and Spain after accession. Since we are interested in capturing the more immediate effects of the agreement and initially do not control for other factors we focus on a period close to the accession date: 1986-1990. Between these years alone, real exports to the world grew by 50 percent driven in large part by exports to Spain and the EC, which account for 23 percent and 59 percent of that growth. Because these calculations start in 1986, when we can track specific firms, they miss the considerable growth that already took place relative to 1985 (about 7%) and was fully driven by the EC-10 and Spain (real exports to the ROW actually fell in 1986). We find that 46 percent of the increase in exports between 1986 and 1990 to Spain and 62 percent to EC-10 is from “new” firms, i.e. those that did not export to those markets in 1986.

We view these numbers as a lower bound of the contribution of firms that entered after the agreement since they exclude the many firms that entered in 1986. Despite this data limitation, we can provide some additional criteria to identify firms that are “likely” new exporters in 1986. The agreement only began implementation in March 1986. So some firms may have waited until that date or later in the same year before starting to export: either because the actual tariff reductions did not start until March (in case of Spain and some EC agricultural products) or because they wanted to be certain that the agreement would in fact be implemented. In fact, we observe that the typical first month of shipment across all firms to Spain in 1986 is May, which is two months later than the median in previous years. For EC-10 countries the median increased about 1 month in 1986. This suggests that we can use a firm’s first shipment to these markets in 1986 as a way to help identify when it enters. Using this information we augment the “new exporters” category to include those that export in 1987 or later and also those firms that exported in the second half of 86 but not the first. This criterion identifies about 532 firms in the case of Spain but it is important to note that they only account for about 2% of exports to Spain in 1986. For the EC the criterion typically identifies about 200 firms. Using this criterion the share of new firms in export growth between 1986 and 1990 goes up to 54 percent for Spain and 73 percent for the EC, as shown in Table D1.

When making year to year comparisons one potential issue is that if one of the groups fares particularly badly in the final year then the decomposition may be misleading. We account for this by averaging exports for each cohort over the years 1987-1990 and calculating the difference relative to 1986. Doing so generates results similar to Table D1. In sum, we find new exporting firms accounted for a significant fraction of export growth to Spain and EC between 1986 and 1990.

D.4 Decomposing the effect of accession: new vs. continuing exporters

The raw data in Table D1 shows that entrants account for a substantial share of export growth between 1986 and 1990. However, this is consistent with different motives for new entry: (a) it is common to all export markets; (b) entry relative to Spain and EC is already present before the agreement, or; (c) it is generated by other determinants, e.g. income and price changes. We rule out these possibilities in Table D2, in which we report the gravity regression coefficients due to accession for exports of continuing vs. new entrants, total

number of new entrants, and average annual exports from new entrants. There are two basic changes relative to the sample in Table 1 in the text. First, the new sample excludes countries with zero exports of existing firms in 1981 or 1986 or zero exports of new firms, so the control group is in some ways more similar to the “treatment”. Second, we exclude the initial years, 1981 and 1986, since we use them to define firm status.⁵⁷

As we can see in column 3 of Table D2 there is a positive significant effect of the agreement on total exports of new firms for both Spain and EC-10. Decomposing this effect into the number of new firms (column 4) and their average sales (5), we see that it is the former that increases exports. In fact, we see that the average sales of new firms post agreement are lower, which provides evidence that the agreement changed the entry threshold making it easier for smaller firms to export.

To decompose the impact of the agreement we use the estimates to predict the average change in export value to a market implied by the agreement for new firms (column 3) and existing ones (column 2) for each year 87-90, deflate it and average them. The sum of these two predictions is in Table D3: over 500 million euro for Spain and over 600 for EC-10 of additional exports on average per year after 1986. New firms account for about 30 percent of this predicted change to either of them.⁵⁸

The last two columns of Table D3 show a similar decomposition for the number of firms using the estimates in Table D2 (column 4) and an analogous specification for existing firms (not shown). The predicted average increase in the number of firms due to the agreement is about 3500 for Spain and over 7200 for all the EC-10 countries combined. A large part of this change is from new firms (0.68 for Spain and 0.78 for the EC), as we report in section III.

⁵⁷We must necessarily do when we use the post-initial year definition. We do the same for comparability purposes when employing alternative definitions of new entrants that may include some exports in the initial year. Neither of these changes to the sample has much effect on the aggregate export specification (not shown), which looks similar to the one for the full sample in column 1.

⁵⁸More specifically, denoting y_{itf} as the log nominal value of exports to i at t for type of firm f we obtain the predicted change as $\exp \mathbf{E}(y_{itf}|PTA_i = 1) - \exp \mathbf{E}(y_{itf}|PTA_i = 0)$ for each $t > 1986$ and $i = \text{Spain or EC}$, $f = \text{new or existing}$. We then average over the years and deflate using a 1985 based export price index.

Supplementary Online Appendix Tables

Table D1: Change in real exports from 1986 to 1990 and shares of “new” firms (million euro, 1985 base)

	Total	Share of post-86 firms ^a	Share of post mid-86 firms ^b
Spain	788	0.46	0.55
EC	1966	0.62	0.73

Notes:

(a) Fraction of change in exports accounted for by firms that did not already export in 1986.

(b) Fraction of change in exports accounted for by firms that did not already export in 1986 *and* those that exported only in the second half of 86 and also first half of 1987.

We treat export to an EC-10 country as a new entry even if the firm exports to a different member.

Table D2: Growth Margins of existing vs. new firms

	(1)	(2)	(3)	(4)	(5)
Sample:	All Firms	Existing firms	New firms ^a		
<i>Dependent variable (ln)</i>	<i>Exports</i>	<i>Exports</i>	<i>Exports</i>	<i>Number</i>	<i>Exports /firm</i>
EC10*Post_86	0.232*** [0.0829]	0.145 [0.0945]	0.302** [0.141]	0.506*** [0.0539]	-0.204* [0.115]
Spain*Post_86	1.146*** [0.199]	1.173*** [0.172]	1.178*** [0.288]	1.338*** [0.131]	-0.159 [0.214]
Real Imp. GDP (ln)	1.045*** [0.306]	0.463 [0.332]	1.792*** [0.487]	0.757*** [0.183]	1.036** [0.410]
Imp. Price Index (ln)	0.167** [0.0776]	0.235** [0.107]	0.19 [0.124]	0.0884 [0.0573]	0.102 [0.0967]
Exchange rate (ln)	0.211*** [0.0763]	0.311*** [0.112]	0.204* [0.116]	0.0522 [0.0535]	0.151* [0.0914]
Observations	1,305	900	900	900	900
Adj R2	0.92	0.943	0.87	0.964	0.605

Notes:

Heteroskedasticity robust s.e. in brackets. *** p<0.01, ** p<0.05, * p<0.1. All specifications include year and country effects. Sample (a) in columns (3)-(5) defined as follows. For 1987-1990: firms that did not export in 1986 and those that exported only in the second half of 86 and also first half of 1987. For 1982-1985: firms that did not export in 1981 and those that exported only in the second half of 81 and also first half of 1982. Existing firms are all others exporting to that market. The larger sample size in the first columns is due to including 1981 and 1986 as well as export destinations served only by existing or new firms.

Table D3: Predicted yearly change in exports and number of firms due to accession & shares of “new” firms

	<i>Exports (million euro)</i>		<i>Number of firms</i>	
	Average change	Share “new” firms ^a	Average change	Share new firms ^a
Spain	544	0.27	3546	0.78
EC	654	0.31	7207	0.68

Notes:

- (a) Fraction of predicted change in value of export or number of firms of those that did not already export in 1986 *and* those that exported only in the second half of 86 and also first half of 1987.
- (b) Export values in million euro (1985 base)
- (c) We treat export to an EC-10 country as a new entry even if the firm exports to a different member. The predicted change refers to the sum over all such countries.

Table D4: Summary Statistics for Gravity Regressions

Variable	Mean	SD	Obs
Exports (ln, euro)	13.780	3.065	1305
Number of Firms Exporting (ln)	3.478	1.986	1305
Exports per Firm (ln)	10.303	1.488	1305
Real Importer GDP (ln, bil. importer currency)	5.161	3.366	1305
Importer Price Index (ln)	-1.412	1.839	1305
Exchange Rate (ln)	-2.087	3.209	1305