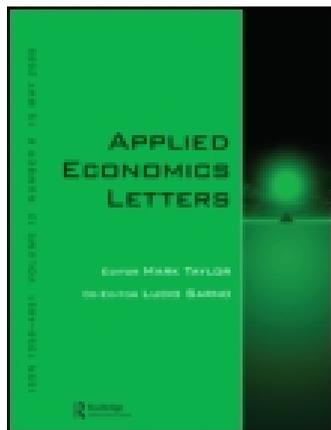


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Do new exporters grow so fast?

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Do new exporters grow so fast?

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The literature shows that new exporters have small levels of exports relative to regular exporters upon entry, and, if they survive, they have very high export growth rates between the entry year and the next year. However, these empirical facts might be biased by the partial year effect: firms that start to export late during the year have a lower level of exports upon entry and a higher growth rate between the entry year and the next year. We test the partial year effect for the whole universe of Spanish new exporters during the period 2002 to 2012. We confirm that the partial year undervalues entry levels and overvalues growth rates.

Keywords: new exporters; partial year effect; Spain; exports growth

JEL Classification: F1

I. Introduction

The empirical literature on the dynamics of firm-level exports points out that new exporters have a small level of exports relative to incumbent exporters. In addition, the surviving new exporters have much larger growth rates between the initial year and the second year than regular exporters (Eaton *et al.*, 2008; Lawless, 2009). Motivated by these empirical findings, scholars have developed theoretical models that introduce uncertainty and learning to explain these empirical regularities (Eaton *et al.*, 2011; Alborno *et al.*, 2012).

However, as recently argued by Bernard *et al.* (2014), the stylized facts on the dynamics of new exporters might be biased by a statistical artefact: the partial year effect. This effect arises because most researchers, due to limitations in the data, use the calendar year to determine the amount of annual

exports. If firms began to export in January, the total exports in the first 12 months and the total exports in the first calendar year would be the same. However, it is likely that firms start exporting in a month different to January. In this case, the total annual exports in the first calendar year might undervalue the amount of exports in the first 12 months, and overestimate the growth in exports between the first export year and the second export year.

In this article, we use monthly transaction data on the whole universe of Spanish exporters to calculate the growth rate of new exporters and evaluate to what extent this growth rate is biased due to a partial year effect. We find that the partial year effect leads to a substantial increase in entry value and to a severe attenuation of new exporters' growth rate. Hence, once the partial-year effect is taken into account, new exporters do not grow as fast between the first and second year as argued by previous literature.

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II. Estimating the Bias

The empirical analyses are carried out using monthly data drawn from the Customs and Excise Department of the Spanish Revenue Agency. This database includes all Spanish firms that carried out foreign trade transactions between 2002 and 2012.¹ For each firm we create two measures of annual exports. The first measure adds up monthly transactions during the calendar year (calendar value). The second measure sets the start of the year in the month where the first export operation took place; the annual value is the sum of the transactions in that month and the following 11 months (initial month adjusted value).

As in Bernard *et al.* (2014), the first empirical analysis focuses on the evolution of the export value for new exporters and for firms that cease to export. To be included in the sample, a firm has to export consecutively during 4 years and has to enter or exit the foreign market, but not both. As our database starts in 2002 and finishes in 2012, the first new exporters are born in 2003, and the last new exporters are born in 2009; the first firms exiting the market are identified in 2006 and the last in 2011. Our sample includes 11 844 new regular exporters and 11 984 firms that exit foreign markets.

Following Bernard *et al.* (2014), we estimate the following regression:

$$\ln X_{it} = \sum_{n=0}^2 \delta_{i,t-n}^{entry} + \sum_{m=1}^3 \delta_{i,t+m}^{exit} + \delta_i + \delta_t + \varepsilon_{it} \quad (1)$$

where X_{it} are exports of firm i at year t , $\sum_{n=0}^2 \delta_{i,t-n}^{entry}$ takes the value of 1 if firm i begins to export at year $t - n$ and zero otherwise, and $\sum_{m=1}^3 \delta_{i,t+m}^{exit}$ takes the value of 1 if firm i exits foreign markets at year $t + m$. In the case of new exporters, the omitted categories are all the years after the third year of exporting; for exiting exporters, the omitted categories are all the years before the last 3 years of exporting. Hence, the dummy variable $\delta_{i,t}^{entry}$ is the log value of exports in the entry year relative to the average value of exports after 3 years of exporting; the dummy variable $\delta_{i,t+1}^{exit}$ is the log export value of firm i relative to the average value of exports before the last 3 years of exporting. The regression includes year and firm fixed effects.

We estimate two different versions of regression (1). The first regression uses calendar annual exports as the dependent variable and the second regression uses the initial-month adjusted annual exports as dependent variable. We run two sets of regressions. The first set considers the whole foreign market and the second only considers a specific market, France, which constitutes the most important foreign market for Spanish firms.

Columns 1 and 2 of Table 1 report the estimates of the regression analyses when all markets are considered. Results for calendar annual exports show that at the entry year, the value of exports is only 24% of the average value of exports after 3 years of exporting

Table 1. Export levels for new regular exporters and regular exporters that cease to export

	All markets		France	
	Calendar (1)	Adjusted (2)	Calendar (3)	Adjusted (4)
First year	-1.41*** (0.03)	-0.66*** (0.03)	-0.99*** (0.04)	-0.43*** (0.04)
Second year	-0.58*** (0.02)	-0.43*** (0.02)	-0.41*** (0.04)	-0.33*** (0.03)
Third year	-0.29*** (0.02)	-0.21*** (0.02)	-0.21*** (0.03)	-0.18*** (0.03)
1 year before exit	-1.76*** (0.03)	-1.00*** (0.03)	-1.42*** (0.04)	-0.78*** (0.03)
2 years before exit	-0.67*** (0.02)	-0.56*** (0.02)	-0.54*** (0.03)	-0.45*** (0.02)
3 years before exit	-0.33*** (0.02)	-0.28*** (0.02)	-0.26*** (0.02)	-0.21*** (0.02)
Observations	160 421	160 421	50 056	50 056
Number of firms	23 828	23 828	7423	7423
Adjusted R^2	0.80	0.80	0.79	0.80

Notes: The estimation includes firm and year fixed effects. SEs clustered by firm in parentheses. *** statistically significant at 1%.

¹ A detailed explanation of the data set can be found in de Lucio *et al.* (2011).

($\exp(-1.41)$). During the second year of exporting, the average value rises to 56% ($\exp(-0.58)$) and during the third year it further rises to 75% ($\exp(-0.29)$). For firms that cease to export, results show that the value of exports, relative to the value of exports before the last 3 years of exporting, declines as firms approach their final year of exporting. In particular, 3 years before exiting the export value represents 72% of the average value, 2 years before 51% of the average value and 1 year before only 17% of the average value.

When the regression is estimated with the initial-month adjusted annual exports, we also observe that the initial value of exports is lower than the average; however, the differences are much lower than those calculated with calendar annual exports. The initial value of exports is now 52% of the average value after 3 years of exporting (versus 24% in calendar), the second year 65% of the average value (versus 56% in calendar) and the third year 81% of the average value (versus 75% in calendar). Hence, there is a large increase in the initial value of exports when initial-month adjusted annual exports are used. Results also indicate large differences for firms that cease to export when using initial-month adjusted annual exports. According to the new coefficients, the last year value of exports is 37% of the average value before the last 3 years of exporting (versus 17% in calendar), 2 years before exit 57% of the average value (versus 51% in calendar) and 3 years before exit 76% of the average value (versus 72% in calendar).

Focusing on the export growth rate, according to the calendar values, exports grow 83 log points ($-0.58 - (-1.41)$) or 129% between the initial year and the second year, 34% between the second year and the third year and 32% between the third year and the fourth year. These growth rates are severely reduced when the initial-month adjusted data are used: exports grow 26% between the initial year and the second year, 25% between the second year and the third year and 23% between the fourth year and the third year. Regarding firms that cease to export, based on initial-month adjusted values, the reduction in exports between 4 years before exit and the 3 years before exit is 24% (versus 28% in calendar), between 3 and 2 years 24% (versus 29% in calendar) and between 2 and the last year 36% (versus 66% in calendar).

Our results are very similar to those obtained in Bernard *et al.* (2014). They find that the average

value of Peruvian exporters in the initial year increases from 25% of the average value to 54% of the average value when adjusted annual exports are used instead of calendar annual exports. Our results, which report an increase from 24% to 52%, are almost identical. Bernard *et al.* (2014) also find that the exports growth rate between the initial and the second year reduces from 146% to 25% when adjusting for initial-month values; we report a similar drop: from 129% to 26%. Results are also similar for firms exiting the export market.

Columns 3 and 4 of Table 1 present the results when we do the analysis for a specific market: France. As before, controlling for the partial year effect leads to a large increase in the initial export value and to a reduction of the growth rate between the initial and the second year of exporting.

To test the robustness of our results, we estimate the partial-year effect establishing less stringent conditions to consider a firm as a new exporter. Now, we define a firm as a new exporter if it did export in $t - 1$, but exported in t and $t + 1$. We find that the entry value of exports rises by 74% when adjusted by initial-month, and there is a 75 log points difference between the calendar value growth rate and the adjusted value growth rate.

III. Conclusions

Using Spanish Customs firm-level monthly data, we show that the calendar year underestimates the exports value by 54% at entry and overestimates by 103% of the growth rate between the initial year and the next year. This result points out that, contrary to the facts presented in previous papers, new exporters do not grow so fast between the first and the second year.

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