

## How do firms in Argentina get financing to export?

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# Outline

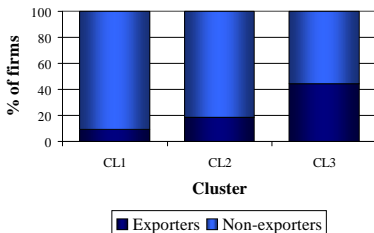
- Motivation
- Our contribution
- Descriptive analysis
- Econometric analysis
- Exports duration
- Conclusion

- Recent interest on the effects of credit constraints in firms' export performance (Chaney (2005); Manova (2006), (2010), (2011); Muûls (2008); Minetti and Zhu (2011))
- Models developed in a theoretical framework that assumes heterogeneity in productivity and high entry costs a la Melitz
- Scant evidence at the firm level and with mixed results:
  - Greenaway et al. (2007): financial health seems to be and outcome of export participation rather than the other way around (UK firms)
  - Berman and Héracourt (2010): financial development has a positive effect on trade but better financial health does not affect exports once the firm has entered to export markets (developing countries' firms)

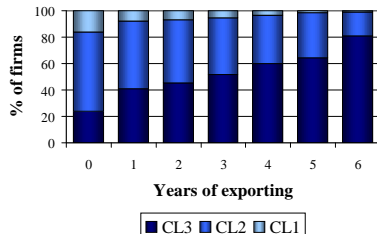
- Deepens our knowledge on the financing patterns of exporting firms
- By analyzing how access to domestic bank credit and foreign financing interact with firms' performance in export markets
- Making use of a rich microeconomic database that entails firms' characteristics, export and domestic bank credit and external financing figures

- Annual information (2001-2006) for 38.207 firms which produce tradable goods (9.807 of which are exporters)
- We identify firms' clusters according to size criterion
- Why size?
  - Larger firms have better export performance
  - Credit constraints relax as firms' size increases

## Exporters and non-exporters



## Years of exporting by cluster



	Exporters			Non-exporters			
	CL1	CL2	CL3	CL1	CL2	CL3	
Number of firms	477	3,898	5,432	4,553	17,048	6,799	
Exporters (% total)	9%	19%	44%				
Size	1.9	7.7	44.6	1.9	6.6	32.7	✓
Rationed firms	188	921	436	2,611	7,188	1,396	
Rationed firms (%)	39%	24%	8%	57%	42%	21%	
Domestic bank credit (log)	2.604	3.297	4.574	2.263	2.785	3.788	✓
Number of credit lines	0.82	1.05	1.42	0.81	0.91	1.13	✓
Number of financial entities	0.78	1.01	1.69	0.72	0.85	1.23	✓
Collateral pledging	28%	27%	25%	36%	31%	29%	✓



## Exporters to DC vs. Non-exporters to DC

	Exporters to DC			Non-exporters to DC			
	CL1	CL2	CL3	CL1	CL2	CL3	
Number of firms	183	1,330	2,490	294	2,568	2,942	
Exporters to DC (% total)	38%	34%	46%				
Size	1.9	7.7	50.5	1.9	7.7	39.6	✓
Domestic bank credit (log)	2.567	3.359	4.683	2.629	3.265	4.479	✗
Number of credit lines	0.75	1.07	1.44	0.88	1.04	1.40	
Number of financial entities	0.65	0.98	1.68	0.87	1.03	1.70	
Collateral pledging	25%	25%	25%	29%	28%	26%	✗
Foreign credit (% of total)	30.9%	33.3%	41.3%	18.1%	16.9%	21.8%	
Foreign transactions	0.57	0.91	2.46	0.17	0.26	0.58	✓
Foreign creditors	0.21	0.34	0.86	0.086	0.098	0.216	✓
Foreign credit (log)	2.542	3.572	5.896	1.225	1.558	2.652	✓



Year	Non-developed					Developed				
	Related company	Client	Supplier	Financial entity	Other	Related company	Client	Supplier	Financial entity	Other
2001	45.9	1.8	5.6	26.6	20.1	36.0	3.4	5.6	43.5	11.6
2002	43.5	1.2	6.1	27.0	22.2	32.7	1.8	5.6	51.4	8.5
2003	46.3	1.0	5.9	30.3	16.6	31.3	1.9	4.7	50.6	11.5
2004	36.3	1.9	11.5	29.6	20.8	28.9	2.0	5.4	53.4	10.4
2005	45.4	2.2	9.8	21.4	21.2	32.0	1.8	6.0	49.1	11.1
2006	50.1	3.2	9.6	20.2	16.9	33.3	2.6	6.5	45.0	12.6

## Limits of this analysis

- Direction of causality not obvious, according to the evidence in the literature
- Focus on correlations rather than on marginal effects

## The estimation methodology

- Linear probability model
- Panel with cross-section and time series fixed effects to control for non-observables
- Use lagged values of size and different *proxies* of access to credit to alleviate the endogeneity problem

Dummy Export	Total	CL1	CL2	CL3
Size <sub>(t-1)</sub>	0.0396*** [0.00217]	0.0112* [0.00615]	0.0310*** [0.00282]	0.0477*** [0.00382]
Domestic bank credit <sub>(t-1)</sub>	0.00170*** [0.000607]	-0.00511** [0.00216]	0.00224** [0.000915]	0.00202** [0.000935]
Constant	0.0617*** [0.00520]	0.0317*** [0.00730]	0.0296*** [0.00563]	0.125*** [0.0128]
Observations	139,844	15,238	73,672	50,934
Number of firms	37,718	4,930	20,694	12,094
R <sup>2</sup>	0.011	0.003	0.009	0.016
Individual effects	YES	YES	YES	YES
Time effects	YES	YES	YES	YES

Standard errors in brackets

\*\*\* Significant at 1%, \*\* at 5%, \* at 10%.

Dummy Starters	Total	CL1	CL2	CL3
Size <sub>(t-1)</sub>	0.0329*** [0.00171]	0.0119*** [0.00410]	0.0249*** [0.00209]	0.0372*** [0.00352]
Domestic bank credit <sub>(t-1)</sub>	0.000911* [0.000539]	-0.000536 [0.00148]	0.00194*** [0.000710]	0.00169* [0.000996]
Constant	-0.0760*** [0.00383]	-0.0111** [0.00486]	-0.0509*** [0.00414]	-0.128*** [0.0114]
Observations	109,108	14,275	63,334	31,499
Number of firms	32,657	4,723	18,975	8,959
R <sup>2</sup>	0.035	0.011	0.026	0.06
Individual effects	YES	YES	YES	YES
Time effects	YES	YES	YES	YES

Standard errors in brackets

\*\*\* Significant at 1%, \*\* at 5%, \* at 10%.

Destinations' number	Total	CL1	CL2	CL3
Size <sub>(t-1)</sub>	0.445*** [0.0384]	-0.0329 [0.224]	0.393*** [0.0577]	0.473*** [0.0497]
Foreign credit <sub>(t-1)</sub>	0.0358*** [0.00330]	-0.000688 [0.0201]	0.0254*** [0.00554]	0.0386*** [0.00409]
Constant	0.924*** [0.114]	1.476*** [0.268]	0.994*** [0.118]	0.871*** [0.175]
Observations	25,221	721	8,073	16,427
Number of firms	8,724	368	3,357	4,999
R <sup>2</sup>	0.086	0.017	0.067	0.095
Individual effects	YES	YES	YES	YES
Time effects	YES	YES	YES	YES

Standard errors in brackets

\*\*\* Significant at 1%, \*\* at 5%, \* at 10%.

Mercosur + Chile	Total	CL1	CL2	CL3
Size <sub>(t-1)</sub>	-0.0395*** [0.00877]	0.0791 [0.0685]	-0.0361** [0.0157]	-0.0428*** [0.0107]
Foreign credit <sub>(t-1)</sub>	-0.00156** [0.000754]	0.00797 [0.00613]	0.00157 [0.00151]	-0.00273*** [0.000882]
Constant	0.596*** [0.0260]	0.423*** [0.0818]	0.596*** [0.0322]	0.607*** [0.0377]
Observations	25,221	721	8,073	16,427
Number of firms	8,724	368	3,357	4,999
R <sup>2</sup>	0.010	0.016	0.011	0.011
Individual effects	YES	YES	YES	YES
Time effects	YES	YES	YES	YES

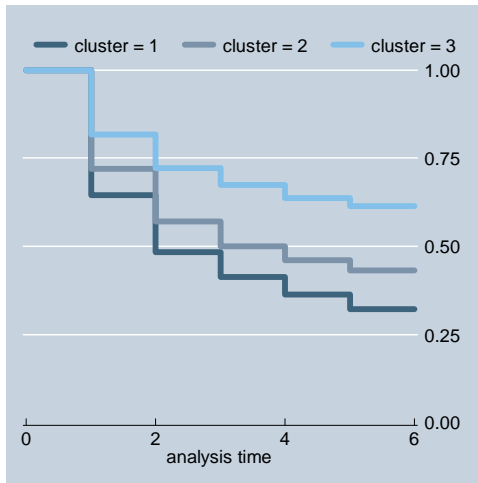
Standard errors in brackets

\*\*\* Significant at 1%, \*\* at 5%, \* at 10%.

Type of Exporter	CL1	CL2	CL3	Total
Sporadic	4.3	30.7	29.8	<b>65</b>
Regular	0.5	9.0	25.6	<b>35</b>

- 65% of the firms are sporadic exporters
- 35% are permanent exporters (of which 26% belong to *CL3*)

## Kaplan-Meier survival estimates by cluster





- More likely to export for firms that have a larger domestic bank debt
- Access to bank credit is important for the decision to enter export markets, particularly in the case of medium firms
- Focusing on exporters
  - Access to foreign financing increases the probability of exporting to industrial and distant markets
  - Better performance in terms of quantity of products and number of markets they serve

- Permanent exporters are mostly the largest firms, while small and medium size firms are predominantly sporadic exporters
- The larger firms in the sample exhibit a quite higher survival probability than small and medium size ones
- But once firms remain as exporters for more than 3 years, the probability of survival decreases at similar rate, independently of size