Domestic demand and export performance in the euro area countries:
Does the exports structure matters?

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Literature review

- The relationship between domestic demand and exports from a macroeconomic perspective builds on the seminal paper of Ball et al. (1966) for the case of UK.

- This framework has found support by recent **microeconomic theory and empirical evidence** - see for example Vannoorenberghe (2012) for French firms and Altomonte, et al. (2013) for a dataset covering four European countries – France, Germany, Italy and UK).

- A survey of the literature rationalizing the negative effect of domestic demand on exports performance is presented in **Esteves and Rua (2013, 2015)**, which also present an application for the Portuguese economy, emphasizing that this negative relationship is stronger and more significant when domestic demand is declining.

- **Belke et al. (2013)** investigate the relationship between domestic conditions and exports for several individual euro area countries, namely Spain, Portugal, Italy, France, Ireland and Greece.

- **Bobeica et al. (2014)** explore this type of relation using a quarterly panel data for 11 of the former 12 euro area countries (Greece is excluded given the lack of a long time span quarterly data), extending for the euro area the results presented for the Portuguese economy in Esteves and Rua (2013, 2015).

Export performance:
The role of domestic demand

- **Motivation:** During economic downturns, weak domestic demand developments seem to be an additional driver to boost exports, as firms increase their efforts to serve markets abroad to compensate the fall in domestic sales.
- Annual data, Euro Area 12 countries excluding: Greece, Ireland and Luxembourg.
- No asymmetries.

$$\Delta X_{t,i} - \Delta D_{t,i} \quad = 0.003 \quad + 0.232(\Delta X_{t-1,i} - \Delta D_{t-1,i}) \quad - 0.314\Delta E_{t,i} \quad - 0.229\Delta DD_{t,i}$$
$$\qquad\qquad\qquad (4.93)^{***} \qquad (4.86)^{***} \qquad\qquad\qquad\qquad (7.73)^{***} \qquad (2.61)^{***}$$

Observations = 153 (9 countries during 17 periods)

Parameters = 12 (3 variables plus constant and 8 specific effects)

R^2 =0.394

Robustness check

- However, this substitution effect between domestic and foreign sales seems to impact differently in some Euro Area members.

	coefficient	t-value
Benchmark	-0,22	-2,61
excluding		
Luxemburg	-0,29	-3,77
Austria	-0,23	-2,58
Netherlands	-0,21	-2,26
Germany	-0,23	-2,65
Belgium	-0,21	-2,49
France	-0,21	-2,33
Italy	-0,24	-2,57
Spain	-0,24	-2,15
Portugal	-0,14	-2,28
including		
Finland	-0,15	-1,56
Greece	-0,10	-0,97
Ireland	-0,06	-0,56

One possible driver: the export structure.

A high concentration of exports will reduce this trade-off between sales to domestic and foreign markets. While more diversified exports works in the other direction.
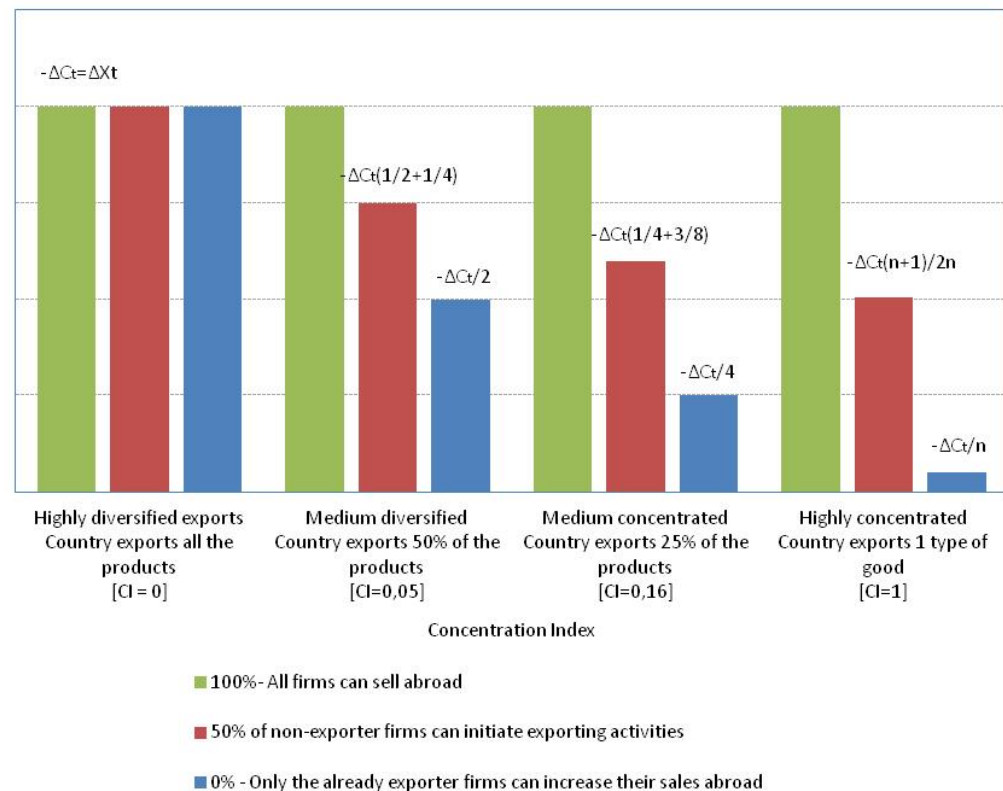
Some simple intuition…

n products are consumed $C_i = c/n$

Two extreme cases can be considered:

- Only sector k is an exporter $X_i = X$ $i = k$

- All sectors export $X_i = X/n$

Two intermediate cases are considered.

Chart labels:

$-\Delta C_t = \Delta X_t$

$-\Delta C_t(1/2 + 1/4)$

$-\Delta C_t/2$

$-\Delta C_t(1/4 + 3/8)$

$-\Delta C_t(n+1)/2n$

$-\Delta C_t/4$

$-\Delta C_t/n$

Highly diversified exports
Country exports all the products
[CI = 0]

Medium diversified
Country exports 50% of the products
[CI=0,05]

Medium concentrated
Country exports 25% of the products
[CI=0,16]

Highly concentrated
Country exports 1 type of good
[CI=1]

Concentration Index

- 100% - All firms can sell abroad
- 50% of non-exporter firms can initiate exporting activities
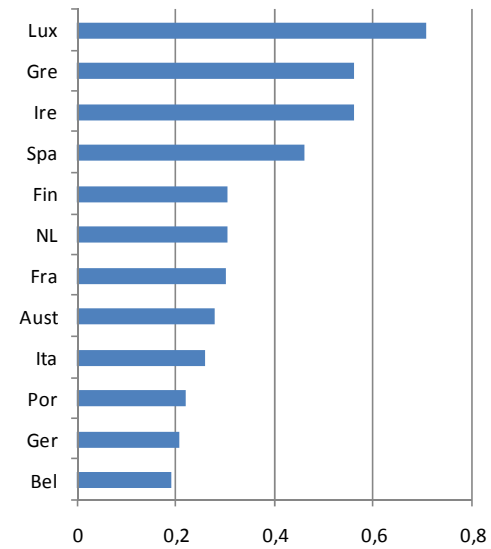- 0% - Only the already exporter firms can increase their sales abroad

Export concentration: stylized facts

Exports concentration indicators

Concentration index of merchandise exports
2005
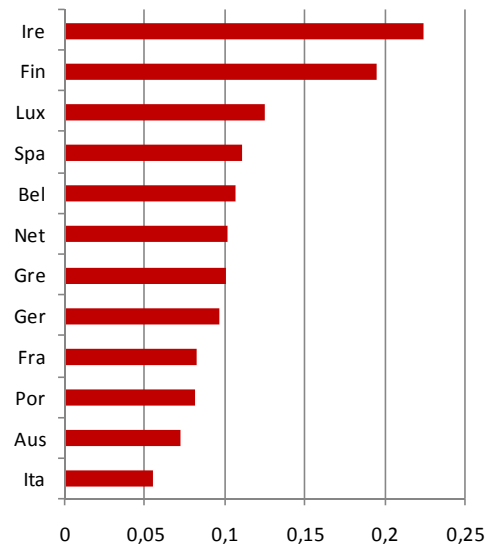
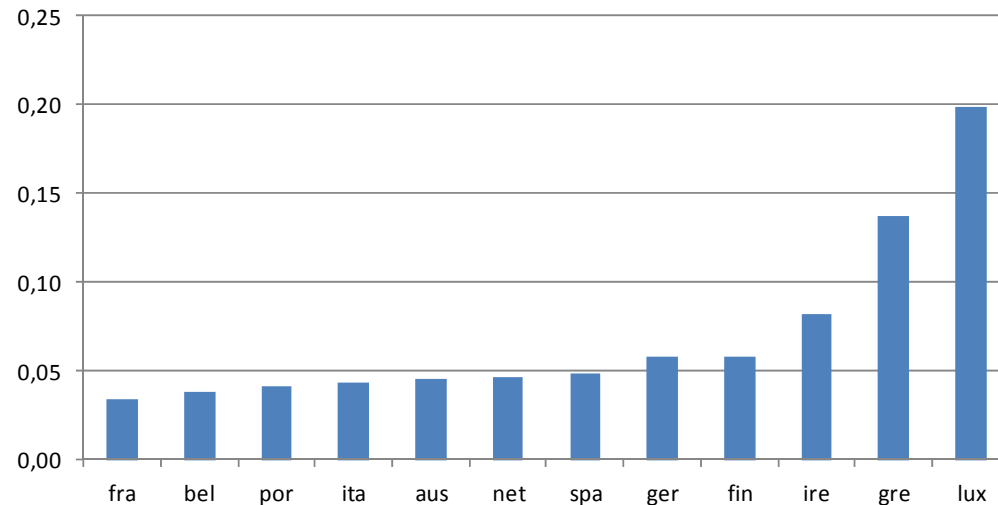Services exports (% of total exports)
1995 – 2013

A novel concentration index with goods and services

- Computation of the Herfindahl-Hirschman index covering goods and services (around 100 goods and 20 services).

- Herfindahl–Hirschman Concentration Index

goods and services, average 2004-2013

$$I = \frac{\sum_{i=1}^{n} s_i^2 - \frac{1}{n}}{1 - \frac{1}{n}}$$

Results with the interaction of domestic demand and the concentration index

$$\Delta X_{t,i} - \Delta D_{t,i} = 0.000 \quad + \quad 0.341\big(\Delta X_{t-1,i} - \Delta D_{t-1,i}\big) - 0.369\,\Delta E_{t,i}$$

$$(0.08) \qquad\qquad (3.38)^{***} \qquad\qquad\qquad\qquad (8.84)^{***}$$

$$- 0.366\,\Delta DD_{t,i} + 0.266\,\Delta DD_{t-1,i} + \quad 2.081\,\Delta DD_{t,i}\,CI_i$$

$$(3.82)^{***} \qquad\quad (3.08)^{***} \qquad\qquad (3.54)^{***}$$

Countries where exports are more concentrated seem to be less sensitive to domestic demand developments.

Conclusion

- This paper is based on previous results concerning a negative relation between domestic demand and export performance in the euro area countries, pointing to some substitution of firms' sales between domestic and foreign markets.

- This effect is particular important when domestic demand is depressed, constituting therefore an additional adjustment channel given the real exchange rate stickiness implied by the low inflation environment and a fixed exchange rate.

- Nevertheless this overall effect, this kind of adjustment channel could be more important to some countries than to others.

- This could explain the differences concerning the adjustment processes in stressed countries, namely the very different evolution of exports market shares in Greece and on the other stressed countries. Greek exports have a high degree of concentration in some sectors, and contrary to the other countries did not gain market shares during the recent years. This lack of responsiveness of the export sector certainly contributed for the lower success of the Greek adjustment program.