

DISCUSSION OF: “MARGINS OF SERVICE TRADE: THE GERMAN CASE”

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MOTIVATION (I)



- The increasing importance of international trade in services

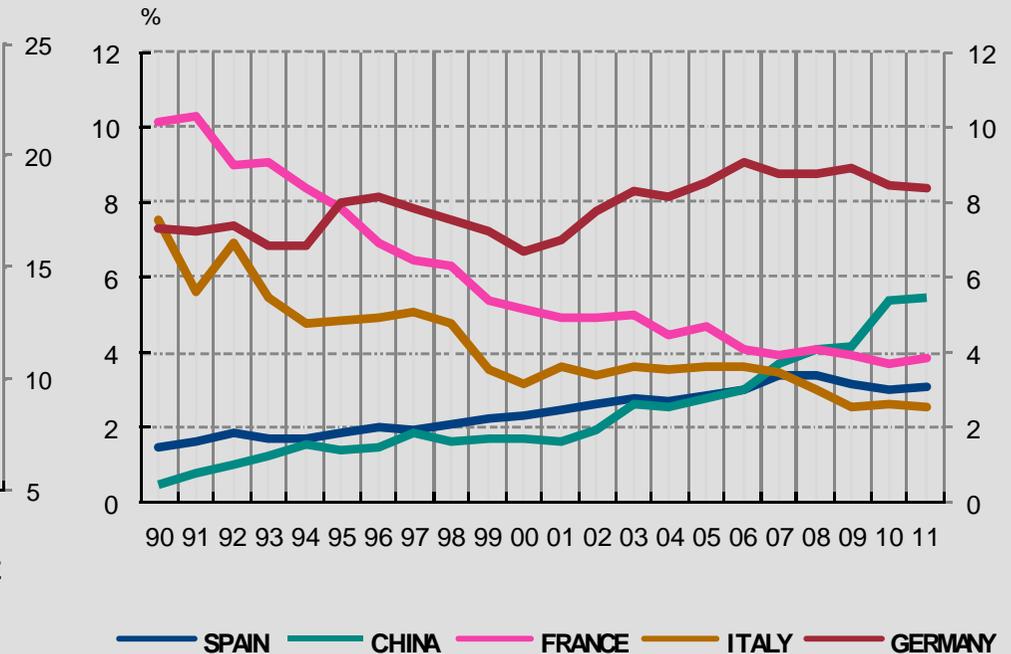
SERVICES SHARE (a)
(Nominal terms)



a. Excluded travel

SOURCES: IMF, WTO and Banco de España.

GLOBAL MARKET SHARES (SERVICES) (a)
(Nominal terms)



- **Causes:**

- *Technology advances (tradability and trade cost); International fragmentation of production (outsourcing and FDI); Services trade liberalisation (GATS)*

MOTIVATION (II)



- **The increasing importance of international trade in services**
- **Relevant questions for policymakers:**
 - *To what extent our understanding of trade in goods can be applied to trade in services?*
 - *Which firm-specific characteristics increase the probability to be a service trader?*
 - *What is the role of trade in services for a firm performance, i.e. productivity?*
 - *Are the international trade of services growth based on the extensive margin or on the intensive one?*
 - *Trade-flow dynamics by firm: are they volatile?; The role of regular and occasional traders*
 - *What is the impact of trade in services on the level of employment? (e.g. competition from low-wages countries)*
- **Paper objective: “To describe main characteristics of German service traders and to analyse the importance of extensive and intensive margins”**

THE DATASET



- **Sources of information:** The Germany's BoP statistics; a reporting threshold exists (15.000 €)
- **What is trade in services?:** Any transaction between a German resident and a non-resident that involves a service: only cross-border trade are measured (BoP definition)
 - Service trade through foreign affiliates is excluded
- **Type of data:** *Firm-level data; monthly data for 2001 to 2011 (a panel-data)*
- **Type of information:** *Value; type of trader (Exporter/Importer); type of services (BoP classification); sector of the German firm (i.e. Manufacturing or Services); the country partner*
- **Dataset STRENGTHS**
 - *Unique micro dataset on international service trade of German firms for 2001-2011*
 - *It allows us to address relevant issues*
 - *To present the main stylised facts of trade in services using firm-level data*
 - *To describe a service trade pattern across firms (across countries)*
 - *To identify similarities/differences between only exporters, only importers and both exporters and importers of services*
 - *To analyse service traders dynamics: entry to and exit from foreign markets*
 - *To calculate extensive and intensive margins of trade in services (and their determinants)*

THE EMPIRICAL APPROACH



- **Main characteristics of international trade in services**
 - A firm-level approach: per type of services, per country served/sourced, and per type of service and per country
 - Descriptive analysis (i.e. average, means, percentiles,..)

- **Extensive/Intensive margins**
 - Cross-sectional variation in German service trade
 - *Country-level margins*
 - *Bernard et al. (2009, 2011)*
 - *Firm-level margins*
 - *Bernard et al. (2009, 2011)*
 - Time-series variation in German service trade
 - *Bernard et al. (2009) (Variation in absolute terms)*
 - *Bricongne et al. (2012) (Variation in mid-point growth rate)*

MAIN RESULTS (I)



- **High heterogeneity across trading firms**
 - In traded value/number of services traded/number of countries served: service trade is highly concentrated in a few top firms
 - *In line with trade in goods and with other reports results for service trade*
- **High concentration of trading activities also within firms**
 - Service traders concentrate their activities on the most important service and partner countries
 - *In line with trade in goods and with other reports results for service trade*

Main result: *Service traders share many common features with goods traders*

MAIN RESULTS (II)



- **Country-level variation in German service trade**
 - The intensive margin is the main driver of cross-country variation in both service exports and imports
 - For goods trade the extensive margin dominates (Bernard et al. (2009))
 - The extensive margin is also found to have a dominant role in service trade in other European countries (UK, Italy, Spain) (Breinlich and Criscuolo (2012), Federico and Tosti (2012))
- **Firm-level variation in German service trade**
 - Differences in exports and imports across firms are explained mainly by the intensive margin
 - For trade in goods, a more important role of the extensive margin is found (Bernard et al. (2009))
 - In line with other reports results for service trade (Breinlich and Criscuolo (2012), Federico and Tosti (2012), Galán and Rodríguez (2011))

Main result: there are differences between service trade and goods trade

MAIN RESULTS (III)



- **Time-series variation in German service trade**
 - Again, the intensive margin plays the dominant role. Over long time spans, the extensive margin is more relevant (no clear results in the case of imports)
 - *In line with trade in goods and with other reports results for service trade (Bernard et al. (2009), Gonzalez and Rodriguez (2011))*

“A very interesting paper, about a really important issue, one of the first analysing the international trade in services in Germany using firm-level data for 2001-2011”

COMMENTS (I). THE DATASET



- **Sample representativeness:** Only cross-border trade is measured and a reporting threshold exists
 - *The International trade through foreign affiliates is not included.*
 - *The reporting threshold hardly affects the volume of total trade, but it could affect the number of trading firms*
- **Type of data:** *Exports (imports) in services by categories show large differences with official statistics (Eurostat)*
- **Type of information:** *Firm characteristics are not available; only service traders are covered*
- **Dataset WEAKNESSES:** *Some relevant questions still can not be answered*
 - *To identify similarities/differences vs non-traders (“service traders premia”) (Martín and Rodríguez (2011), Eickelpasch and Vogel (2009))*
 - *To identify similarities/differences vs firms trading goods (can the “International trade theory” apply also to services?) (Breinlich and Criscuolo (2012), Martín and Rodríguez (2011), Ariu (2011))*
 - *What kind of firm is more likely to engage in the international trade of services? (Martín and Rodríguez (2012) Eickelpasch and Vogel (2009))*
 - *What is the role of service trade for a firm performance (i.e. productivity or employment)? (Heijzen et al. (2006))*
 - *Which service-exporting firms weathered the crisis better? (Martín and Rodríguez (2011))*

COMMENTS (II). THE EMPIRICAL APPROACH



- **Main characteristics of international trade in services**

- *The analysis could be extended*

- **Service-exporting/importing firm dynamics:** *starting exporters sell abroad small quantities, but export flows tend to increase as the relationship mature. How important are the regular traders? (Galán and Rodríguez (2012))*
- *To look at firms, that both export and import, because they constitute most of cross-border trade (Breinlich and Criscuolo (2012))*
- **Firms trading in services are found in all sectors:** *How important are manufacturing firms in international trade in services? Are international trade in goods and services complementary or substitutive? (Breinlich and Criscuolo (2012), Kelle and Kleinert (2010))*
- **Some basis figures:** *participation of German firms in international trade in services (e.g. N° exporters/total firms); trade intensity; regular vs occasional traders*

COMMENTS (III). THE EMPIRICAL APPROACH



- **Extensive/Intensive margins**

- **Cross-sectional variation in German service trade**

- *What explains the differences with Bernard's findings for trade in goods?; Do they deal with the different nature of services and goods?; Or with the sectoral specialization of the German economy?*
- *Which firm characteristics determine the extensive and intensive margins (i.e. size or productivity)? (Breinlich and Criscuolo (2012), Kelle and Kleinert (2010))*
- *What is the relation between the margins and the standard gravity variables (i.e GDP and distant)? (Breinlich and Criscuolo (2012), Federico and Tosti (2012))*

- **Time-series variation in German service trade**

- *The long-term analysis should be carried out excluding the crisis period to check the robustness of results*
- *Other issues: to homogenize the presentation of results (tables 7/8/9/10)/to include charts*

COMMENTS (IV). WHAT MORE CAN WE LEARN FROM FIRM-LEVEL DATA?



- **Some interesting questions: Spanish service-exporting firms**
 - Which firm characteristics affect the intensive and extensive margins?
 - What kind of firms are more likely to engage in exporting services?
 - Goods exporters and service exporters: are they similar?
 - Service exporters: which exporters fared the 2008 crisis better?

COMMENTS (V). CROSS-FIRM VARIATION. EXTENSIVE AND INTENSIVE MARGINS: DETERMINANTS



SPANISH SERVICE EXPORTS. EXTENSIVE AND INTENSIVE MARGINS

	Log (value of exp.)	Log (No. of export dest.)	Log (No. of services exported)	Log (exp. per dest/serv)
Panel A (a)				
Log (value of exports)	1	0.22	0.12	0.66
	(0.00) ***	(0.00) ***	(0.00) ***	(0.01) ***
R-squared	1	0.38	0.35	0.74
Panel B				
Log (employment)	0.45	0.16	0.11	0.18
	(0.01) ***	(0.00) ***	(0.00) ***	(0.01) ***
Log (labour prod.)	0.56	0.14	0.10	0.31
	(0.02) ***	(0.01) ***	(0.01) ***	(0.01) ***
Foreign Ownership (b)	0.49	0.01	0.07	0.41
	(0.04) ***	(0.02)	(0.27) ***	(0.03) ***
FDI (abroad) (b)	0.86	0.26	0.22	0.38
	(0.05) ***	(0.02) ***	(0.01) ***	(0.04) ***
R-squared	0.23	0.15	0.18	0.11

SOURCE: Banco de España.

a. Standart errors in brackets

b. Dummy variables.

*** Significance at 1% level.

- Firm-level variation is mainly driven by the intensive margin
- The firm characteristics and the three margins
 - Size and productivity have a positive correlation with the three margins, mainly with the intensive ones
 - Being a multinational affects positively the three margins, while being an affiliate mainly the intensive margin

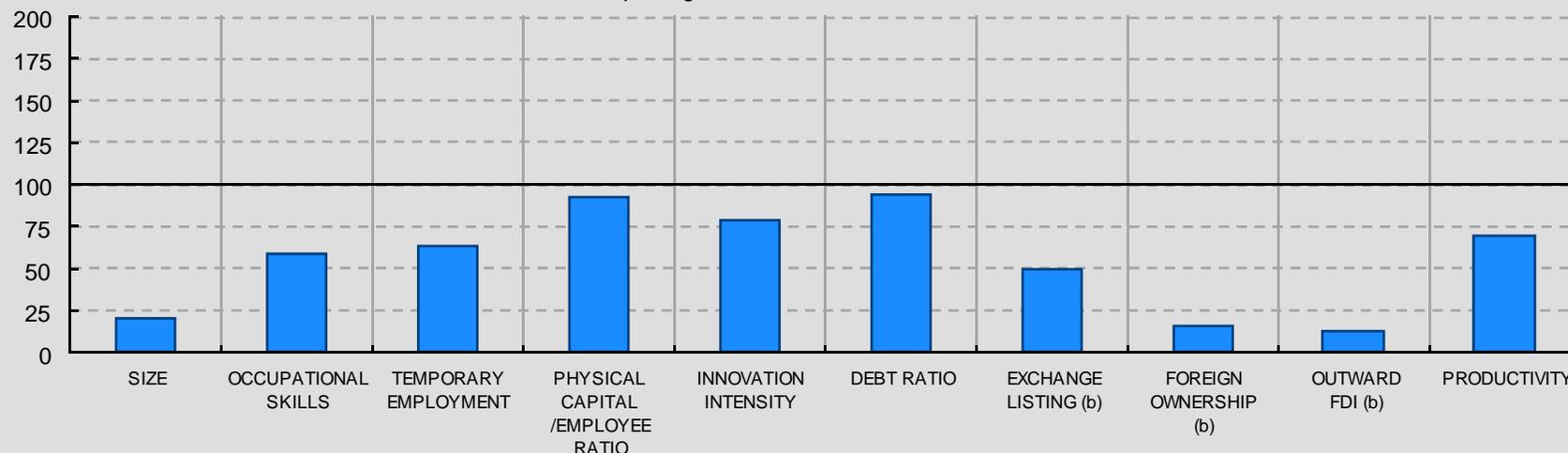
WHAT KIND OF FIRMS ARE MORE LIKELY TO ENGAGE IN EXPORTING SERVICES? THE SPANISH CASE



• Characteristics of Spanish exporting firms vs non-exporting firms (a)

2001-2010 MEDIAN

100 = Value of each variable in the case of other services exporting firms



SOURCE: Banco de España, based on balance of payments, CBSO and mercantile register statistics.

a. In the case of size, for example, the chart should be interpreted as meaning that size of other services non exporting firms is 80% lower than that of other services exporting firms. b. For these variables, the statistic plotted is the sample average.

• Main differences:

- Exporters are bigger, more innovative, have a higher labour productivity and more qualified workers than non-exporters (both in goods and services)
- Exporters are more likely to be foreign owned or part of a multinational enterprise and are listed
- This gap widens when exporters are stable or when they export to non-developed countries

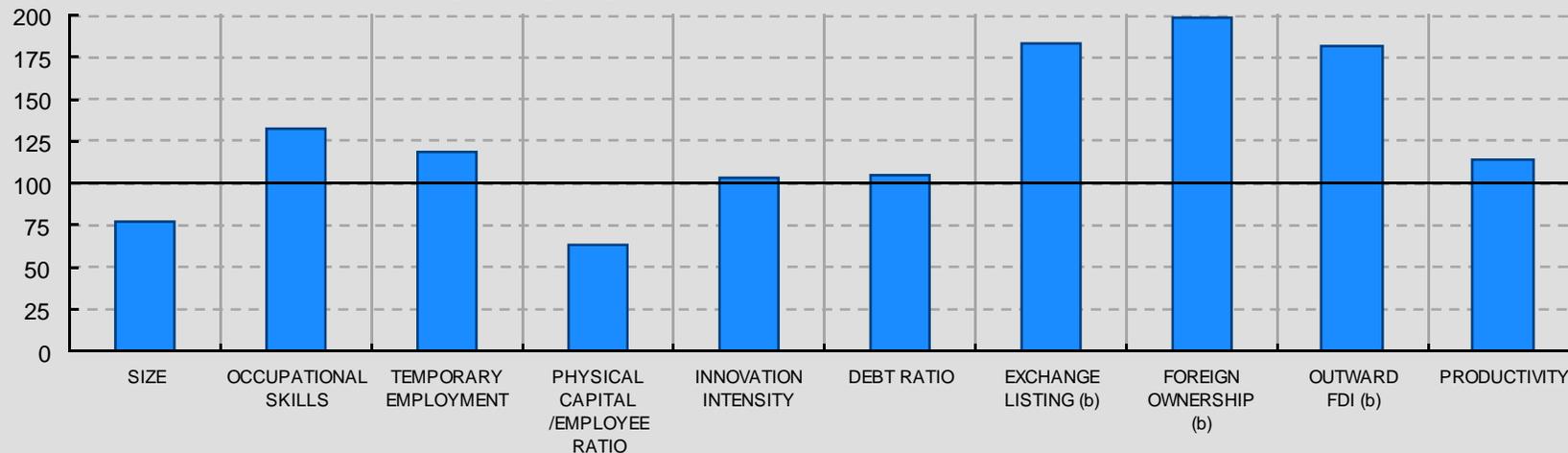
GOODS EXPORTERS AND SERVICE EXPORTERS: ARE THEY SIMILAR? THE SPANISH CASE



• Characteristics of Spanish exporting firms: service vs goods (a)

2001-2010 MEDIAN

100 = Value of each variable in the case of goods exporting firms



SOURCE: Banco de España, based on balance of payments, CBSO and mercantile register statistics.

a. In the case of size, for example, the chart should be interpreted as meaning that size of other services exporting firms is 23% lower than that of goods exporting firms. b. For these variables, the statistic plotted is the sample average.

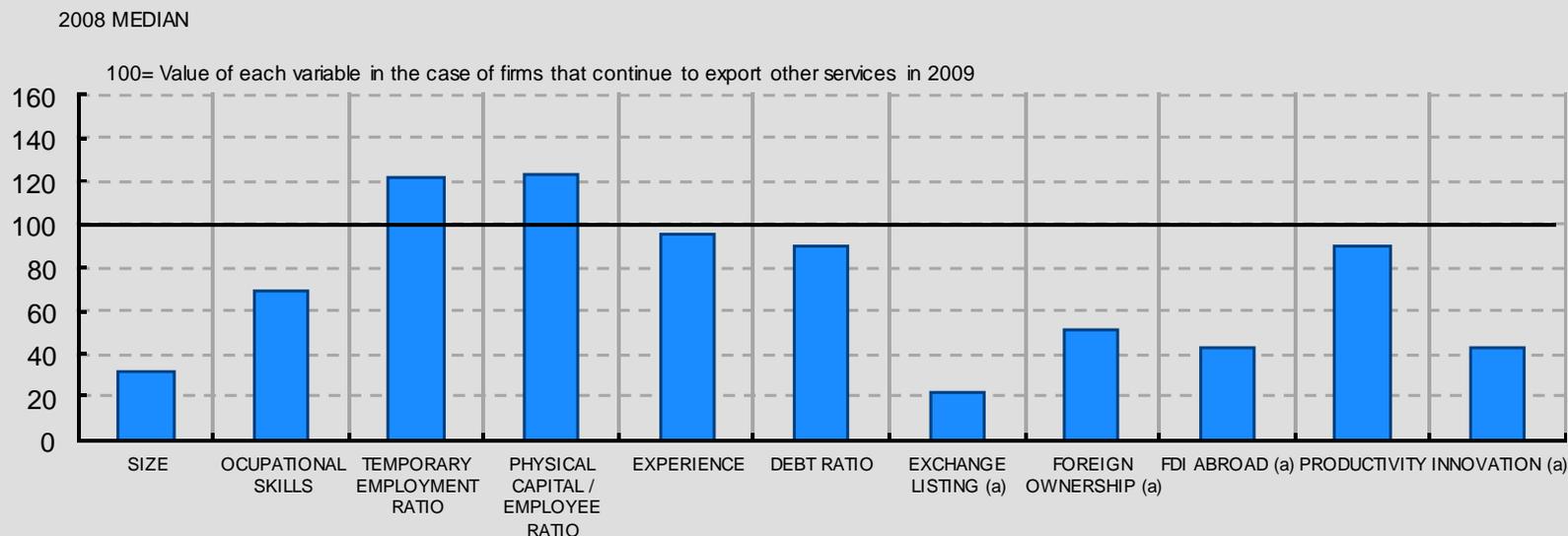
• Main differences:

- Spanish services exporting firms have more high-skilled workers, employ less temporary workers, are more productive and listed, and are more likely to be foreign owned or belong to a foreign multinational group than goods exporting firms, ...
-but are smaller and less capital intensive

SERVICE EXPORTERS: WHICH EXPORTERS FARED THE 2008 CRISIS BETTER? THE SPANISH CASE



- **Characteristics of Spanish exporting firms: firms leaving versus firms remaining in export markets**



SOURCE: Banco de España, based on balance of payments, CBSO and mercantile register statistics
a. For these variables the statistic plotted is the sample average

- **Main differences:**
 - Continuing exporters are bigger, more productive, more innovative, have a higher percentage of skilled workers, are listed and are more likely to be foreign owned or belong to a foreign multinational group than firms leaving export markets
 - However, they have a lower temporary workers ratio and are less capital intensive

POLICY IMPLICATIONS



- **Aggregate data mask relevant issues for policy makers: high heterogeneity across and within service-exporting and -importing firms**
 - *To improve firm-level statistics and make it available for research is crucial*
- **Manufacturing firms, and not only firms in the service sector, export and import services**
- **Complementarity between goods and services production/trade**
 - *Liberalizing trade in services might benefit both sectors: gains for liberalizing international trade in services could be underestimated*
- **Cross-sectional sectional variation in service trade: less role of the extensive margin**
- **Service exporters expand their exports along the intensive margin, while the extensive margin play a more important role for goods traders**
 - *Do service exporters face higher export costs than goods traders?*
 - *Will the liberalisation of trade in services increase trade through the intensive margin, the extensive margin or both?*
- **Firms characteristics: Differences between service and goods exporters (and importers)**
 - **MAIN RESULT: International trade in services have many similarities with trade in goods, but relevant differences that suggest to analyse both separately**



THANK YOU FOR YOUR ATTENTION

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COMMENTS (I). THE DATASET. THE ROLE OF FOREIGN AFFILIATES



- **Sample representativeness:**
- Only cross-border trade is measured (GATS mode 1, 2 and 4). International trade through foreign affiliates is not included (GATS mode 3)
 - *The provision of services through foreign affiliates is often more important than through cross-border trade (Francois and Hoekman, 2010). This is the case in Germany (Kelle and Kleinert, 2011). Caution in extrapolating the results to the whole international trade in services*

SERVICES TRADE IN GERMANY. TRADE MODES. 2005 (Bn euros)

	FLOW	TOTAL VOLUME
CROSS-BORDER	EXPORTS	90.2
	IMPORTS	96.5
COMMERCIAL PRESENCE (AFFILIATES)	EXPORTS	220.7
	IMPORTS	96.6

SOURCE: Kelle and Kleinert (2010)

COMMENTS (I). THE DATASET. THE REPORTING THRESHOLD



- **Sample representativeness:**

- *In Spain, the increase of the BoP reporting threshold affected considerably the number of reporting firms (50%), while the total reported value was very similar*
 - *Small- and medium-sized firms that trade in services are not included in the database: the high heterogeneity in trade in services across-firms could be biased*

LOSS OF INFORMATION DUE TO A THRESHOLD INCREASE

SPANISH EXPORTS OF SERVICES			
	Threshold	Number of firms (%)	Volume (%)
2000	From 3000 to 12500 euros	63.8	2.1
2007	From 12500 to 50000 euros	57.3	3.0

SOURCE: Banco de España.

SPANISH EXPORTS OF SERVICES BY TYPES (2007)

Threshold increase from 12.500 € to 50.000 €	Number of firms (%)	Volume (%)
TRANSPORT	49.0	3.1
COMMUNICATION	35.9	0.3
CONSTRUCTION	55.5	2.7
COMPUTER AND	36.2	0.5
ROYALTIES	33.0	0.6
BUSINESS SERVICES	52.0	3.7
CULTURAL SERVICES	51.3	5.0

SOURCE: Banco de España.

COMMENTS (I). THE DATASET. EXPORTS BY TYPE OF SERVICES



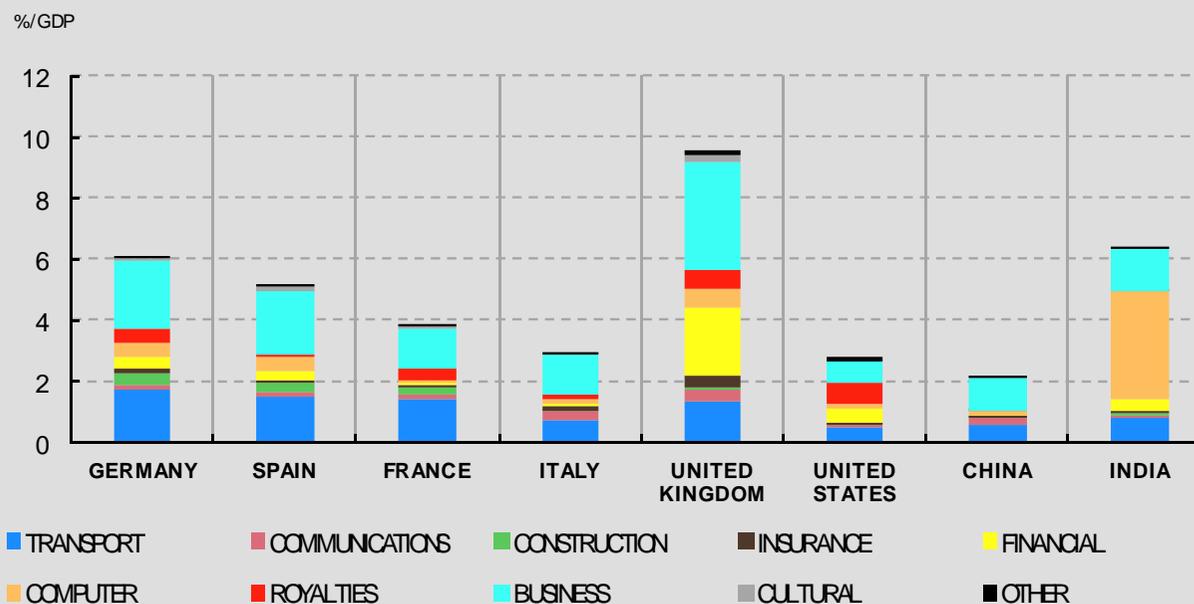
- **Type of data:** Exports (imports) in services by categories show large differences with official statistics (Eurostat)

Export	SHARE (%) (2001-2011)
Biewen and Blank (2012) (Nominal data)	GERMANY
Insurance/financial services	28.6
Transports of goods	24.4
Technological services	21.8
Professional bussines services	15.6
Other commercial services	9.6

Export	SHARE (%) (2001-2011)
Eurostat (Nominal Data)	GERMANY
Construction services	6.7
Insurance/financial services	8.9
Transports of goods	28.4
Technological services	15.3
Professional bussines services	36.1
Other commercial services	4.6

SOURCE: Biewen and Blank (2012) and Eurostat

INTERNATIONAL TRADE OF SERVICES, EXPORTS (2010)



SOURCE: WTO and Eurostat (ITS).

COMMENTS (III). THE EMPIRICAL APPROACH. THE EXTENSIVE AND INTENSIVE MARGINS



COUNTRY-LEVEL MARGINS FOR TRADE IN SERVICES

MARGIN (a)	EXPORTS	
	GERMANY (2001-2011)	SPAIN (2001-2010)
Firms	0.385 (0.01)	0.640 (0.01)
Services	0.262 (0.00)	0.331 (0.00)
Density	-0.248 (0.00)	-0.372 (0.01)
Intensive	0.602 (0.01)	0.401 (0.01)
Observations	2632	2144

SOURCE: Biewen and Blank (2012) and Banco de España.
a. Clustered standard errors in parentheses



SPANISH EXPORTING FIRMS OF OTHER SERVICES: MAIN CHARACTERISTICS (I)



- **Between 2001-2007 there was an increase of export geographical diversification**
- **Despite this diversification, the majority of firms exporting to less than five countries**
- **There is a positive relationship between firm productivity level and geographical diversification**
- **Stable exporters (those who exported at least four consecutive years between 2001 and 2007) are present in more countries on average (4 versus 2 in the case of non-stable exporters)**
- **Gap between exporters and non-exporters widens when exports are directed to non-developed economies**
 - **Trade with non-developed economies implies higher costs (distance, cultural and institutional differences)**

SPANISH EXPORTING FIRMS OF OTHER SERVICES: MAIN CHARACTERISTICS (II)



- **Exporting firms accounts for only 6.1% of total (in other services the percentage decreases to 2.6%)**
- **Exporters on average are bigger, have higher capital intensity and are more efficient than non-exporters**
 - Size gap between exporting and non-exporting firms is ample
 - Exporters labour productivity is on average 45% higher than in non-exporters
 - *Capital intensity is 58% higher*
 - *Exporters innovate more than non-exporters*
 - *Temporary employment ratio is smaller in exporters than in non-exporters (69%)*
- **Percentage of exporting firms increases with size: 40% of large companies exports**
- **Export value is very concentrated: the top 1% of exporters account for 61% of export value (top 10% exporters represent 88% of export value)**
 - *These percentages are similar to other european countries*
- **A greater fraction of exporters than non- exporters undertakes FDI**