

Intermediaries in International Trade: direct versus indirect modes of export

Andrew B. Bernard⁽¹⁾ Marco Grazzi⁽²⁾ and Chiara Tomasi⁽³⁾

(1) *Tuck School of Business at Dartmouth, CEPR & NBER,*

(2) *LEM, Scuola Superiore Sant'Anna, Pisa,*

(3) *Università di Trento & LEM, Scuola Superiore Sant'Anna*

University of Notre Dame
October 7th 2011

New Perspectives

- From trade flows at country and industry level to the central role of firms
- Interaction of firm characteristics and export status play an important role in shaping aggregate productivity, industry dynamics, and firm performance
- Characteristics of trading firms also matter for aggregate trade

Intermediaries in International Trade

- Who is Trading?
 - Manufacturers (Ms) and Intermediaries (Wholesalers - Ws) exporters
- Role of Intermediaries in aggregate trade
- Help solving country specific fixed costs
- Exports respond differently to trade costs depending on the type of firms

Intermediaries in International Trade: Our Contribution

- What do they look like?
 - Differences between Wholesalers and Manufacturers
- What are the product and destination markets characteristics that determine the choice of Ws versus Ms?
- What are the implications for aggregate trade flows?
 - Adjustments of product portfolio – product adding and dropping
 - Response to exogenous shocks

Intermediaries in International Trade

Wholesale firms account for:

- 23% of US firms and 25% of US employment in 2000 (Bernard, Jensen and Schott, 2009)
- 10% of exports in the US (Bernard, Jensen and Schott, 2009)
- 14% of exports in Sweden (Akerman, 2010)
- 20% of exports in China (Ahn, Khandelwal, and Wei, 2011)
- 10% of exports in Italy

Related Literature: Empirics

- Wholesalers are smaller and have lower exports
 - Bernard, Jensen, Redding and Schott (2010) [US]; Ahn, Khandelwal and Wei (2011) [China]; Akerman (2010) [Sweden]
- Wholesalers help solving fixed export costs
 - Ahn, Khandelwal and Wei (2011); Akerman (2010)
- Wholesalers exports positively related to distance and negatively to GDP
 - Akerman (2010); Ahn, Khandelwal and Wei (2011)

Related Literature: Theory

- International trade as an outcome of search and networks
 - Rauch, Watson (2004); Petropoulou (2007)
- Wholesalers facilitate the matching between exporters in country of origin and importers in destination countries
 - Blum, Claro and Horstmann (2011)
- Intermediary as an alternative technology to direct exporting
 - Akerman (2010), Ahn, Khandelwal and Wei (2011), Felbermayr, Jung (2011)

Intermediary technology

- “Technology”- based model (Ahn et al, Akerman)
 - Domestic single-product firms can either export directly or indirectly
 - Producers and intermediaries are distinct firms
 - Intermediary technology offers the potential to lower the fixed costs of exporting by spreading the country/ industry components across varieties

Intermediary technology and indirect export

- Fixed costs of exporting

- Country component – common to all products
- Industry component – common to all countries
- Product-country component – specific to the product and country

$$f_{pjc} = f_c + f_j + f_{kc}$$

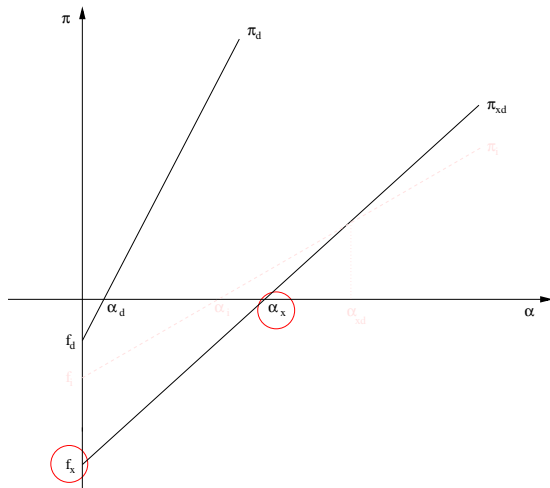
- Wholesalers help solving country fixed cost only:

$$f_{pjc} = \frac{f_c}{n} + f_{kc}$$

- Wholesalers spread country specific fixed costs on the n varieties
- Difference increases as country fixed cost rise.

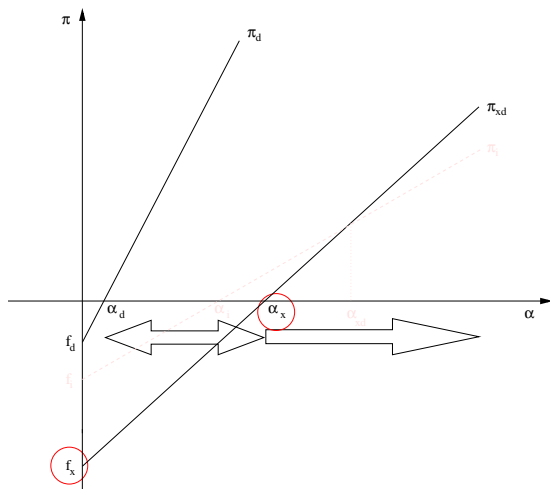
- Variable trade costs: a rise in variable costs affect both direct and indirect exporters

Direct Exporters



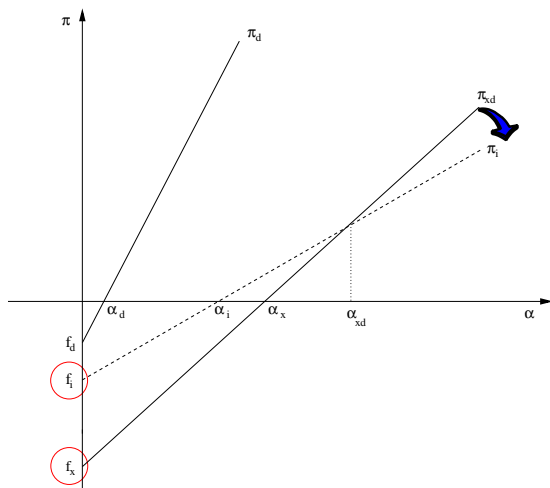
- Export occurs only directly

Direct Exporters



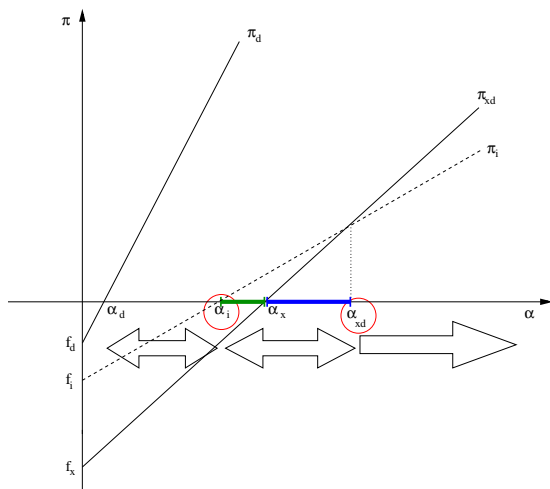
- Productivity sorting: direct exporters and non exporters

Direct and Indirect Exporters



- Indirect exporters face lower fixed cost,
- but the profit function is less steep

Direct and Indirect Exporters



- Three productivity thresholds: α_d , α_i and α_{xd}
- Firms whose productivity is too low for exporting directly (green segment), can do it through intermediaries

- **Statistiche del Commercio Estero (COE) Custom data**
 - Transactions level data: export values and quantity of the firm for HS6 product-country destination pairs
 - All cross-border transactions, 2000-2007

- **Archivio Statistico delle Imprese Attive (ASIA)**
 - Census of all operating businesses: sales, employment, main activity of the firm (NACE code)
 - Manufacturers (M) and Wholesalers (M) defined according to their primary NACE 3 digit industry

Country data

- GDP – World Bank Development Indicators
- Distance – CEPII
- Market Cost (cost of Exporting) – World Bank Doing Business
- Governance – World Bank governance dataset

Product data

- Entry/Exit Rate: min (entry, exit) (Source: computation on custom data)
- Coefficient of Variation (Source: computation on custom data)
- Relation Specificity (Source: Nunn, 2007)
- Tariffs: HS6 product-country level import tariffs (Source: WITS)

Export volumes and Number of Exporters

Table 1

| Year | Total Exports (billion) | Manuf | Whol Share (%) | Retail | Others |
|------|----------------------------|-------|-------------------|--------|--------|
| 2000 | 246.79 | 85.09 | 9.85 | 0.74 | 4.32 |
| ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... |
| 2007 | 350.57 | 85 | 11.27 | 0.84 | 6.91 |

| Year | Exporters (N. of firms) | Manuf | Whol Share (%) | Retail | Others |
|------|----------------------------|-------|-------------------|--------|--------|
| 2000 | 137347 | 57.3 | 26.43 | 7.67 | 8.6 |
| ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... |
| 2007 | 128472 | 54.77 | 27.91 | 6.88 | 13.3 |

Differences between type of exporters

- Sales, Employment

$$\ln(Y_f) = c + \delta D_f^W + \beta D_f^X + \gamma(D_f^W \cdot D_f^X) + \varepsilon_f$$

Table 3

| | In Sales _f | In Employment _f | In Sales/Empl. _f | In Exports _f |
|---------------------|-----------------------|----------------------------|-----------------------------|-------------------------|
| D_f^W | -0.111*** | -0.533*** | 0.433*** | -1.047*** |
| D_f^X | 2.775*** | 1.533*** | 1.229*** | |
| $D_f^W \cdot D_f^X$ | -0.081*** | -0.489*** | 0.388*** | |

- Ms are 12% larger in terms of sales and 70% in terms of employment

Differences between type of exporters

- Sales, Employment

$$\ln(Y_f) = c + \delta D_f^W + \beta D_f^X + \gamma(D_f^W \cdot D_f^X) + \varepsilon_f$$

Table 3

| | In Sales _f | In Employment _f | In Sales/Empl. _f | In Exports _f |
|---------------------|-----------------------|----------------------------|-----------------------------|-------------------------|
| D_f^W | -0.111*** | -0.533*** | 0.433*** | -1.047*** |
| D_f^X | 2.775*** | 1.533*** | 1.229*** | |
| $D_f^W \cdot D_f^X$ | -0.081*** | -0.489*** | 0.388*** | |

- Exporters are larger – both Ms and Ws

Differences between type of exporters

- Sales, Employment

$$\ln(Y_f) = c + \delta D_f^W + \beta D_f^X + \gamma(D_f^W \cdot D_f^X) + \varepsilon_f$$

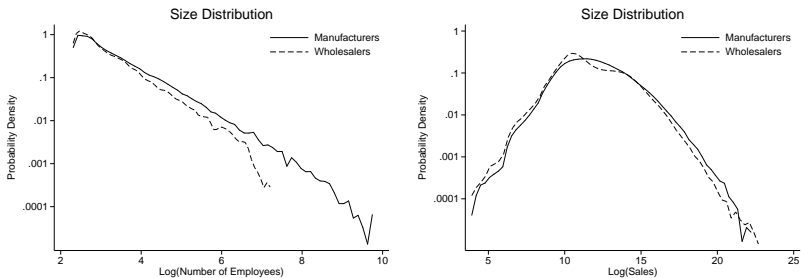
Table 3

| | In Sales _f | In Employment _f | In Sales/Empl. _f | In Exports _f |
|---------------------|-----------------------|----------------------------|-----------------------------|-------------------------|
| D_f^W | -0.111*** | -0.533*** | 0.433*** | -1.047*** |
| D_f^X | 2.775*** | 1.533*** | 1.229*** | |
| $D_f^W \cdot D_f^X$ | -0.081*** | -0.489*** | 0.388*** | |

- Sales per employee are higher at Ws, especially for exporters

Size Distribution: Wholesalers and Manufacturers

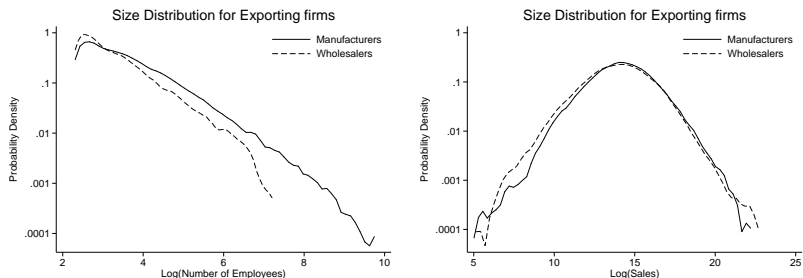
Figure 2 (a)



- We are much smaller in terms of employment
- Difference is reduced for sales

Size Distribution: Ws and Ms exporters

Figure 2 (b)



- Same ranking when focusing on Ws and Ms exporters

Wholesalers and Manufacturers exporters

Figure 3



- Wholesalers require fewer employees to attain any given export value

Differences Between Export Types

- Countries, Products

$$Y_f = c + \delta D_f^W + \varepsilon_f \quad \text{if } D_f^X = 1$$

Table 4

| | Products _f | Products _f | Products _f | Countries _f | Countries _f | Countries _f |
|---------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|
| D_f^W | -1.269*** | 3.005*** | 1.668*** | -4.562*** | -0.158*** | -1.630*** |
| In Employment | | 4.180*** | | | 4.307*** | |
| In Exports | | | 2.805*** | | | 2.801*** |

- We unconditionally export fewer HS6 products and reach a smaller set of countries

Differences Between Export Types

- Countries, Products

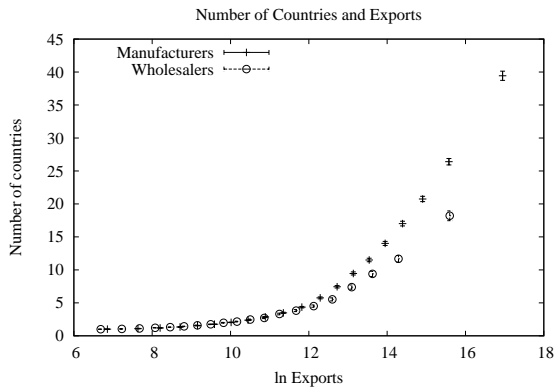
$$Y_f = c + \delta D_f^W + \varepsilon_f \quad \text{if } D_f^X = 1$$

Table 4

| | Products _f | Products _f | Products _f | Countries _f | Countries _f | Countries _f |
|---------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------|------------------------|
| D_f^W | -1.269*** | 3.005*** | 1.668*** | -4.562*** | -0.158*** | -1.630*** |
| In Employment | | 4.180*** | | | 4.307*** | |
| In Exports | | | 2.805*** | | | 2.801*** |

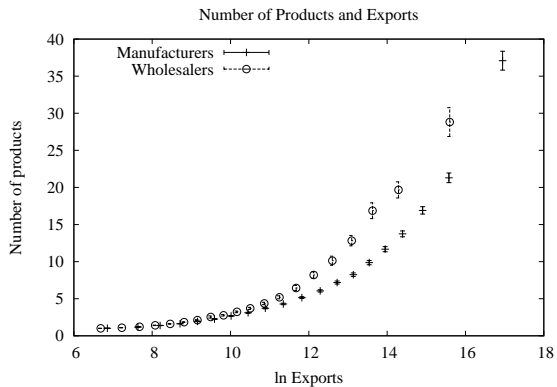
- Controlling for size, coefficient for number of HS6 products is positive
- We serve fewer countries also when adjusting for firm size

Figure 4 (a)



- Wholesalers reach fewer countries for any given level of exports

Figure 4 (b)



- Wholesalers export more products for any given level of exports

Export Within Product-Country (PC)

- The theory predicts differences in shipments to PC pair among Ws and Ms

$$\ln Y_{fcp} = c + \delta D_f^W + \beta \ln Sales + d_{pc} + \varepsilon_{fcp}$$

Table 5

| | In Exports ⁱ _{fcp} (2) | In Quantity ⁱ _{fcp} (4) | In UnitValue ⁱ _{fcp} (6) |
|----------|---|--|---|
| D_f^W | -0.113*** | -0.115*** | 0.002 |
| In Sales | 0.196*** | 0.201*** | -0.005 |

- Wholesalers have lower exports within product-country pairs

Export Within Product-Country (PC)

- The theory does not address the issue of differences in Unit Value between Ws and Ms

$$\ln Y_{fcp} = c + \delta D_f^W + \beta \ln Sales + d_{pc} + \varepsilon_{fcp}$$

Table 5

| | In Exports ⁱ _{fcp} (2) | In Quantity ⁱ _{fcp} (4) | In UnitValue ⁱ _{fcp} (6) |
|----------|---|--|---|
| D_f^W | -0.113*** | -0.115*** | 0.002 |
| In Sales | 0.196*** | 0.201*** | -0.005 |

- Lower Wholesalers exports entirely driven by lower Q

A dynamic extensions

- The existing frameworks only consider single-product firms in a static environment
- What happen in a dynamic setting given that sunk export costs vary across firm types?
- Lower per unit sunk costs should result in higher probabilities of both entry into exporting and exit from exporting
- Are Wholesalers more likely to add and drop products than Manufacturers?

Product Dropping

- Unconditional firm-product drop rate: 48% Manufacturers and 53% Wholesalers
- Probability of dropping conditional on firm-product characteristics:

$$Drop_{fpt}^i = c + \delta D_{ft}^W + \beta_1 \ln Sales_{ft} + \beta_2 Deviation_{fpt} + \beta_3 \ln Products_{ft} + d_p + d_t + \varepsilon_{fpt}$$

- Firm-Product level regression
- *Deviation* captures the relative importance of the firm in the exports of the product

Product Dropping

Table 6

| | Drop' _{fpt} (1) | Drop' _{fpt} (2) | Drop' _{fpt} (3) | Drop' _{fpt} (4) |
|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| D_{ft}^W | 0.069*** | 0.043*** | 0.017*** | 0.021*** |
| In Sales _{ft} | | -0.034*** | -0.010*** | -0.004*** |
| Deviation _{fpt} | | | -0.099*** | -0.099*** |
| In Products _{ft} | | | | -0.013*** |

- We are more likely to drop a product (6.9 percentage points)

Product Dropping

Table 6

| | Drop _{<i>fpt</i>} ^{<i>l</i>} (1) | Drop _{<i>fpt</i>} ^{<i>l</i>} (2) | Drop _{<i>fpt</i>} ^{<i>l</i>} (3) | Drop _{<i>fpt</i>} ^{<i>l</i>} (4) |
|----------------------------------|---|---|---|---|
| D_{ft}^W | 0.069*** | 0.043*** | 0.017*** | 0.021*** |
| In Sales _{<i>ft</i>} | | -0.034*** | -0.010*** | -0.004*** |
| Deviation _{<i>fpt</i>} | | | -0.099*** | -0.099*** |
| In Products _{<i>ft</i>} | | | | -0.013*** |

- Robust to inclusion of controls

Product Adding

- Who is more likely to add products?

$$Add_{ft}^i = c + \delta D_{ft}^W + \beta_1 \ln Sales_{ft} + \beta_2 \ln Products_{ft} + d_{ind} + d_t + \varepsilon_{ft}$$

- Firm level regression
- Controlling for industry (HS2) mix d_{ind}
- Single Vs Multi-Product firms

Product Adding

Table 7

| | All firms Add_{ft}^i (4) | SPF Add_{ft}^i (5) | MPF Add_{ft}^i (6) | All firms Add_{ft}^i (7) | MPF Add_{ft}^i (8) |
|---------------------------|----------------------------------|----------------------------|----------------------------|----------------------------------|----------------------------|
| D_{ft}^W | 0.031*** | 0.071*** | 0.017*** | 0.036*** | 0.022*** |
| In Sales _{ft} | 0.023*** | 0.009*** | 0.026*** | 0.013*** | 0.012*** |
| In Products _{ft} | | | | 0.057*** | 0.085*** |

- We more likely to add products than Ms

Product Adding

Table 7

| | All firms Add_{ft}^i (4) | SPF Add_{ft}^i (5) | MPF Add_{ft}^i (6) | All firms Add_{ft}^i (7) | MPF Add_{ft}^i (8) |
|---------------------------|----------------------------------|----------------------------|----------------------------|----------------------------------|----------------------------|
| D_{ft}^W | 0.031*** | 0.071*** | 0.017*** | 0.036*** | 0.022*** |
| In Sales _{ft} | 0.023*** | 0.009*** | 0.026*** | 0.013*** | 0.012*** |
| In Products _{ft} | | | | 0.057*** | 0.085*** |

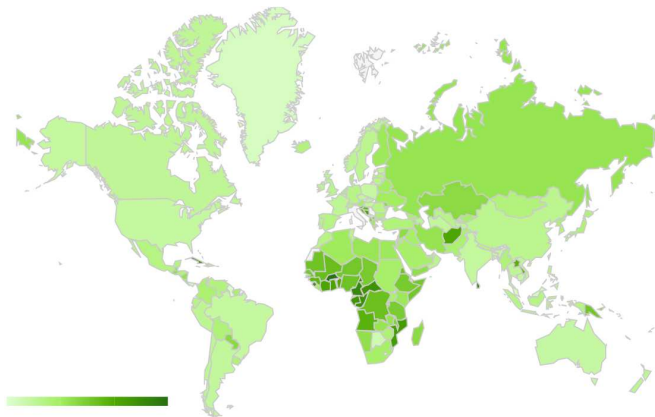
- The effect is more pronounced when comparing Ws and Ms among SPF

Export by Intermediaries

- Product dropping and adding regressions suggest that Wholesalers face lower per unit sunk costs of participation in the export market
- Which are the implications in terms of the countries they serve and the products they export?
- Are the country and product specific fixed costs relevant for the choice of export mode?

Intensity map of Wholesalers shares around the world

Google Chart Tools - Intensity map

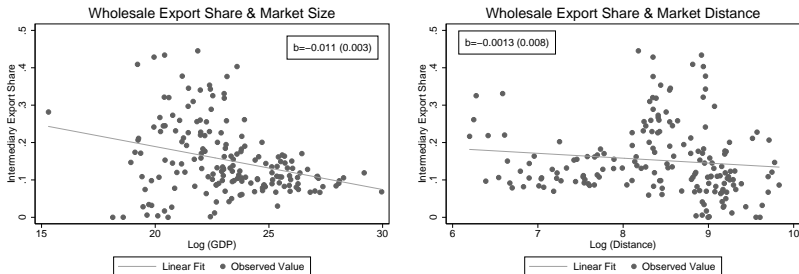


Markets characteristics

- What market characteristics make it more likely that Ws are chosen for exporting?
- Market characteristics
 - Size - GDP
 - Distance
 - Markets specific costs of exporting - Market Costs
 - Contracting environments - Governance Indicator

Intermediary Export Share: markets size and distance

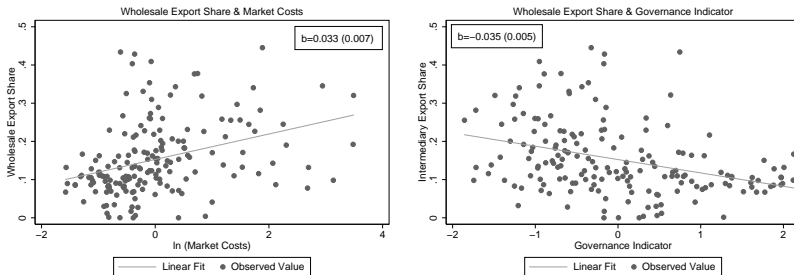
Figure 5



- Wholesale export share is declining in GDP → in smaller markets fixed costs have to be spread over fewer units
- No relationship with distance

Intermediary Export Share: market costs and governance

Figure 6



Wholesalers export share

- increases with the market specific fixed costs
- falls with the level of contracting environments

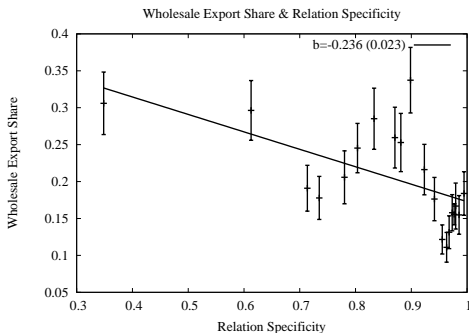
Product characteristics

- First evidence of the role of product-specific factors in the choice of indirect exporting
- What product characteristics make it more likely that Ws are chosen for exporting?
- Product characteristics
 - Complex goods whose production requires highly specialized inputs are more likely to be handled by Ms
 - The share of exports managed by Ws and Ms is related to the degree of product differentiation
 - The magnitude of product sunk costs of entry matters for the choice of the export mode

Intermediary Export Share and relation-specificity

- Relation-specificity variable (Nunn,2007) to measure the commodity contents of the product

Figure 7 (top left)



- Wholesalers are more likely to handle less complex products → low level of relation-specificity

Intermediary Export Share and price dispersion

- Coefficient of variation of export unit values as a proxy of product differentiation

Figure 7 (top right)

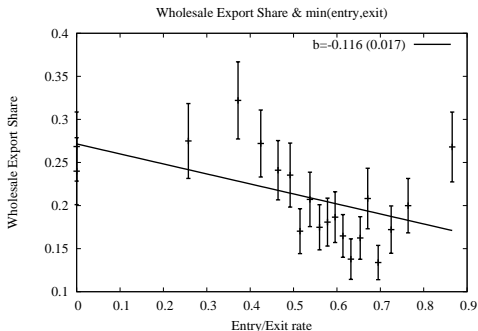


- Wholesalers have higher export shares in homogeneous products → low coefficient of variation

Intermediary Export Share and entry/exit

- Min(entry, exit) to measure product sunk costs of entry

Figure 7 (bottom left)



- Wholesalers export share increases with the sunk costs of entry → low rates of entry/exit

Product-Country Exports

- The effects of country and product characteristics on the level of exports of M and W:

$$\ln X_{cp}^i = c + \delta D^W + \beta_1 C_c + \gamma_1 C_c * D^W + \beta_2 P_p + \gamma_2 P_p * D^W + \beta_3 \tau_{pc} + \gamma_3 \tau_{pc} * D^W + d_j + \varepsilon_{cp}$$

- C_c : GDP, Distance, Market Costs, Governance
- P_p : Min(entry, exit), Price dispersion, Relationship Specificity
- τ_{pc} : Tariff
- Full set of interactions with wholesale dummy
- d_j : Product or Country Fixed effects

Country Characteristics

Table 9 column 1

| | $\ln X_{pc}^i$ |
|-----------------------------------|----------------|
| D^W | 3.208*** |
| $\ln GDP_c$ | 0.487*** |
| * D^W | -0.189*** |
| $\ln Distance_c$ | -0.503*** |
| * D^W | -0.012 |
| Market Costs _c | -0.117 |
| * D^W | 0.111* |
| Governance Indicator _c | 0.264*** |
| * D^W | -0.181*** |

Regression includes Product FE

Wholesaler exports:

- rise less with market size
- increase with higher country fixed costs
- rise less with improved country governance

Product Characteristics

Table 9 column 2

| | $\ln X_{pc}^i$ |
|-------------------------------------|----------------|
| D^W | -0.869*** |
| $\min(\text{entry}, \text{exit})_p$ | -0.710*** |
| $*D^W$ | -0.305** |
| Coefficient of Variation $_p$ | 0.101*** |
| $*D^W$ | -0.028*** |
| Relation. Specificity $_p$ | 1.212*** |
| $*D^W$ | -0.798*** |

Regression includes Country FE

Wholesaler export less in products with lower sunk entry costs, i.e.

- greater $\min(\text{entry}, \text{exit})$
- higher price dispersion
- higher relation specificity

Product and Country Characteristics

Table 9 column 3

| | $\ln X_{cp}^j$ | Cont' | |
|---------------------------|----------------|-------------------------------------|-----------|
| D^W | 4.432*** | | |
| $\ln \text{GDP}_c$ | 0.370*** | $\min(\text{entry}, \text{exit})_p$ | -0.660*** |
| $*D^W$ | -0.194*** | $*D^W$ | -0.309** |
| $\ln \text{Distance}_c$ | -0.276*** | Coefficient of Variation $_p$ | 0.103*** |
| $*D^W$ | 0.003 | $*D^W$ | -0.040*** |
| Market Costs $_c$ | -0.100 | Relation Specificity $_p$ | 1.223*** |
| $*D^W$ | 0.103* | $*D^W$ | -0.929*** |
| Governance Indicator $_c$ | 0.134** | | |
| $*D^W$ | -0.189*** | | |
| Tariff $_{cp}$ | -0.165** | | |
| $*D^W$ | 0.058 | | |

Results hold including all the available country/product characteristics

Intermediaries and exogenous shocks

- Do W s and M s respond differently to exogenous shock? Along which margins W s and M s adjust?
- Fluctuations in real exchange rates as measures of exogenous changes

$$RER_{ct} = ER_{ct} \frac{CPI_t}{CPI_{ct}}$$

- Extensive and intensive margins of firm's exports to a destination:

$$\ln X_{fc} = \ln Prod_{fc} + \ln avgX_{fc}$$

- The estimation equation:

$$\Delta \ln Y_{fct}^i = c_1 + \delta_1 D_{ft}^W + \beta_1 \Delta \ln RER_{ct} + \gamma_1 \Delta \ln RER_{ct} * D_f^W + d_j + \varepsilon_{ct}^1$$

Intermediaries and exogenous shocks

Table 10

| Annual Differences | | | | | | |
|--------------------|----------------------|----------------------|--------------------------------|--------------------------------|----------------------------------|----------------------------------|
| | $\ln X'_{fc}$ (1) | $\ln X'_{fc}$ (2) | $\ln \text{Prod}'_{fc}$ (3) | $\ln \text{Prod}'_{fc}$ (4) | $\ln \text{Avg } X'_{fc}$ (5) | $\ln \text{Avg } X'_{fc}$ (6) |
| D_i^W | -0.015*** | | -0.001 | | -0.014*** | |
| In Real Ex Rate | -0.519*** | -0.461*** | -0.186*** | -0.086** | -0.333*** | -0.375*** |
| $*D_i^W$ | 0.042* | 0.017* | -0.046** | -0.046* | 0.087** | 0.064* |

- Exports fall less for Ws than for Ms (3.7-8.4%)

Intermediaries and exogenous shocks

Table 10

| Annual Differences | | | | | | |
|--------------------|-----------------------|-----------------------|---------------------------------|---------------------------------|-----------------------------------|-----------------------------------|
| | $\ln X_{fc}^i$ (1) | $\ln X_{fc}^i$ (2) | $\ln \text{Prod}_{fc}^i$ (3) | $\ln \text{Prod}_{fc}^i$ (4) | $\ln \text{Avg } X_{fc}^i$ (5) | $\ln \text{Avg } X_{fc}^i$ (6) |
| D_f^W | -0.015*** | | -0.001 | | -0.014*** | |
| In Real Ex Rate | -0.519*** | -0.461*** | -0.186*** | -0.086** | -0.333*** | -0.375*** |
| $*D_f^W$ | 0.042* | 0.017* | -0.046** | -0.046* | 0.087** | 0.064* |

- For W_s the adjustment on the extensive margin of the number of products is greater → W_s face lower fixed costs

Intermediaries and exogenous shocks

Table 10

| Annual Differences | | | | | | |
|--------------------|----------------------|----------------------|--------------------------------|--------------------------------|----------------------------------|----------------------------------|
| | $\ln X'_{fc}$ (1) | $\ln X'_{fc}$ (2) | $\ln \text{Prod}'_{fc}$ (3) | $\ln \text{Prod}'_{fc}$ (4) | $\ln \text{Avg } X'_{fc}$ (5) | $\ln \text{Avg } X'_{fc}$ (6) |
| D_f^W | -0.015*** | | -0.001 | | -0.014*** | |
| In Real Ex Rate | -0.519*** | -0.461*** | -0.186*** | -0.086** | -0.333*** | -0.375*** |
| $*D_f^W$ | 0.042* | 0.017* | -0.046** | -0.046* | 0.087** | 0.064* |

- For Wholesalers the response of average exports is more muted

Intermediaries and exogenous shocks

- What is the sensitivity of the firm's response within a country-product pair to annual exchange rate movements?
- Export value, quantity (Q) and unit value (UV)
- The estimation equation is:

$$\Delta \ln Y_{fpc,t}^i = c_1 + \delta D_{ft}^W + \beta_1 \Delta \ln RER_{ct} + \gamma \Delta \ln RER_{ct} * D_f^W + d_j + \varepsilon_{fct}$$

Intermediaries and exogenous shocks

Table 11

| | Annual Differences | | | | | |
|--------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|
| | $\ln X_{fcpt}^I$ (1) | $\ln X_{fcpt}^I$ (2) | $\ln Q_{fcpt}^I$ (3) | $\ln Q_{fcpt}^I$ (4) | $\ln UV_{fcpt}^I$ (5) | $\ln UV_{fcpt}^I$ (6) |
| D_{ft}^W | -0.020*** | | -0.018*** | | -0.002*** | |
| $\ln \text{Real Ex Rate}_{ct}$ | -0.321*** | -0.385*** | -0.287*** | -0.353*** | -0.035*** | -0.032*** |
| $*D_{ft}^W$ | 0.072* | 0.065* | 0.092** | 0.090** | -0.020* | -0.025* |

- Exports within a country-product pair fall less for Ws than for Ms (15-30%)

Intermediaries and exogenous shocks

Table 11

| | Annual Differences | | | | | |
|-------------------------------|--------------------|------------------|------------------|------------------|-------------------|-------------------|
| | $\ln X_{fcpt}^i$ | $\ln X_{fcpt}^i$ | $\ln Q_{fcpt}^i$ | $\ln Q_{fcpt}^i$ | $\ln UV_{fcpt}^i$ | $\ln UV_{fcpt}^i$ |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| D_{ft}^W | -0.020*** | | -0.018*** | | -0.002*** | |
| In Real Ex Rate _{ct} | -0.321*** | -0.385*** | -0.287*** | -0.353*** | -0.035*** | -0.032*** |
| $*D_{ft}^W$ | 0.072* | 0.065* | 0.092** | 0.090** | -0.020* | -0.025* |

- We drop their quantities less and their unit values more than Ms

Conclusion

- The work on intermediaries points out that there are multiple ways to access foreign markets
- The results highlight the importance of the joint determination of firm-type, product mix and destination country
- The evidence indicate that intermediary exporters face lower sunk costs of participation in the export market
 - Wholesalers are less responsive to common external shocks to profitability because they are better able to adjust along the extensive margin
- If we want to understand the short and long run responses of trade flows to aggregate shocks and policy, we must understand who is trading