

# Supply chain finance and SMEs: Evidence from International Factoring Data

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# Executive summary

## Objective:

- Show that factoring has a strong positive effect in allowing SMEs to access international trade, in countries in which it is available.
- Use an econometric approach linking factoring and trade credit, on the one hand, and trade flows, through an entire economic cycle (downswing and upswing)

## Results:

- Factoring is a true determinant of world trade. We find that a **10% increase in factoring availability, globally, leads to a 1 % increase in real trade flows** (mostly exports). This strong effect remains stable over crisis and non-crisis periods.
- We also find that the correlation between factoring volumes and GVC trade (trade in parts and components) is positive and large, almost in 50% of cases.

## Data

- FCI data , available from 2007 to 2014, in 91 countries (complete observation exists for 50 to 70 countries). Annual data for overall analysis, monthly data in the case of country pairs (based on two-factor data)

# How important is factoring for international trade?

## Advantages of FCI Data:

- **Most extensive dataset** on factoring, cover one full cycle (2007- 2014)
- **Covers a wide number of countries.** For this study, FCI provided a dataset (no transaction or company level data) of 70 countries, with complete observation available for 49 of them. Among the 49 countries (35 high income, 9 upper-middle income countries, 5 lower-middle income)
- Allows macro analysis: altogether **49 countries account for a share of 93% of global trade.** It includes the US, China, main Members of EU, other BRICs, Turkey, main Members of ASEAN. But only a few countries in Africa and other countries with strong trade potential
- One important limitation for empirical work is that data on total international factoring is only available annually, which limits the total number of observation for data analysis. However, directional data for one important component, two-factor transactions is available monthly and quarterly. The profiles of two factor and total factoring is similar.
- In total, international factoring transactions grow quickly until 2014, reaching over euros 500 billions

# Other trade finance data

- Berne Union data used as a proxy for over trade credit because it includes consistent data of insured trade credit flows, both bank and non-bank intermediated. 70 countries, \$2 trillion annually
- SME trade data is used – based on WTO database
  - Hints at causal impact of factoring on trade volumes of SMEs (share of SME trade by country)
  - Average factor transaction, which generally contains several receivables, is about \$ 50,000, which suggests that SMEs are large users of factoring.
- Look at causal links between these variables.

# Empirics

- $$\ln(SME\ Trade)_{it} = \beta_0 + \beta_1 \ln(Factoring)_{it} + \beta_2 \ln(Credit)_{it} + \mu_i + \epsilon_{it}$$

- $\ln(SME\ Trade)_{it}$  is the natural logarithm of trade (sum of exports and imports) attributable to the SMEs of country  $i$  in year  $t$ ;
- $\ln(Factoring)_{it}$  is the value of total factoring in country  $i$  in year  $t$ ;
- $\ln(Credit)_{it}$  is the value of trade credit in country  $i$  in year  $t$ ;  $\mu_i$  are the country-specific fixed effects; and  $\epsilon_{it}$  is the error term. The betas are the regression coefficients where  $\beta_1$  is the elasticity of SME trade with respect to the volume of factoring and  $\beta_2$  is the elasticity of SME trade with respect to the amount of trade credit. We expect  $\beta_1$  and  $\beta_2$  to both be positive, i.e. factoring and trade credit enable SMEs to engage in more trade and they are complementary rather than substitutes, and statistically significant.

# Regression Results

Equation 1		
	(A)	(B)
Variables	Random Effects	Fixed Effects
Ln(Factoring) <sub>it</sub>	0.1115*** (0.02886)	0.1071*** (0.02881)
Ln(Credit) <sub>it</sub>	0.3833** (0.1531)	0.3209** (0.1454)
Constant	13.475*** (3.1246)	14.973*** (2.9602)
No. of observations	286	286
R-squared	0.7349	0.7309
Number of Countries	49	49
Wald $\chi^2$	65.22	
F-Statistic		156.44

  

Equation 2		
	(A)	(B)
Explanatory Variables	Random Effects	Fixed Effects
Ln(Factoring) <sub>it</sub>	0.1068*** (0.02801)	0.1016*** (0.02786)
Ln(Credit) <sub>it</sub>	0.3725** (0.1502)	0.3104** (0.1414)
Ln(Delay) <sub>it</sub>	-0.001776*** (5.421e-04)	-0.001868*** (6.053e-04)
Constant	13.865*** (3.1139)	15.385*** (2.9300)
Number of observations	283	283
R-squared	0.7389	0.7356
Number of Countries	49	49
Wald $\chi^2$	106.69	
F		27.279

Robust standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

# Regression Results

## *Trade Credit Effect:*

- Independently of the equation/specification, the growth of factoring has a positive significant impact on global trade of SMEs. Relatively conservative estimates indicate that a 10% increase in factoring would result in 1% in additional SME trade.
- At global level this means that [an increase of 2014 FCI flows of \\$440bn by 10% to 484bn, would create SME trade of \\$50bn – almost 1 to 1 in \\$.](#)
- Both factoring and trade credit growth a positively correlated to the growth of SME trade confirming that factoring and trade credit are complements and not substitutes.

# Conclusion

- Strong causal link between factoring and SMEs trade on a macro level
- The significant positive effect does not vary between crisis and non-crisis periods
- The results hold with a large number of observations (monthly for two-factor transactions)
- Important role of factoring in supply chains

**Trade finance, in particular factoring matters!**

Policy implications

- Market incentives for supplying factoring trade credit must be advertised. Proper legal framework should be adopted