

# Corporate Financial Structure and export quality: Evidence from France

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- Link with the "French" competitiveness debate
  - Loss of competitiveness and market shares of French firms
  - Insufficient or low quality is often judged to be the culprit

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### Thanks to tax shield, leverage could be an efficient strategy.

# Trade literature

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Indicator of FC and unit values – FC is negatively correlated with quality.
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Credit rationing at the regional-industry level; ambiguous results ; quality estimator but no IV and parameters are not at the HS6 level.

# Our contribution

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- Coherent with trade empirical literature results.
- Coherent with both trade-off theory and pecking order theory.

We combine information from three different databases:

- *Fichier complet de Système Unifié de Statistique d'Entreprises* (FICUS)
- French Customs data
- BACI data (CEPII)

**We end up with a panel over 2 million of observations – Focus on 6 product categories 120,000 observations**

## Estimating quality at the level of individual export flows

We estimate the quality of each exported variety by following the methodology of Khandelwal (2010), based on the discrete choice model of demand developed by Berry (1994).

$$\ln(s_{fpdt}) - \ln(s_{odt}) = \alpha UV_{fpdt} + \sigma \ln(ns_{fpdt}) + \delta_t + \delta_d + Q_{fpdt}$$

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- $s_{odt}$  : computed from BACI
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We estimate the demand model by IV-FE. And we use as instruments for  $UV_{fpdt}$ , the **average price** of French exporters of the same CN8 product in that market, the **physical productivity of labor** of firm  $f$  at time  $t$ , and as an instrument for  $ns_{fpdt}$  we use the **number of different CN8 products** exported by the same exporter to the same destination at time  $t$ .



# Estimating quality at the level of individual export flows

We retain 6 HS6 product categories: consumer goods, large share and number of firms, statistical coherence.

	(1) Chocolate and confectionery	(2) Wine (still)	(3) Wine (sparkling)	(4) Perfume and toilet waters	(5) Wooden furniture	(6) Lamps
$\alpha$	-0.088*** (0.01)	-0.008** (0.00)	-0.039*** (0.01)	-0.016*** (0.01)	-0.024*** (0.01)	-0.004** (0.00)
$\sigma$	0.852*** (0.08)	0.913*** (0.22)	0.977*** (0.06)	0.548*** (0.10)	0.967*** (0.04)	0.747*** (0.07)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Hansen j-test (p-value)	0.24	0.24	0.46	0.40	0.67	0.23
$R^2$	0.68	0.88	0.90	0.73	0.89	0.82
Obs.	8,971	10,809	13,079	28,187	14,833	4,984

- $\alpha$  is negative,  $\sigma$  is in the expected range [0,1].
- We do not reject the hypothesis that instruments are valid.
- From these regressions, we collect the quality estimate by fpd for each of the 6 product categories .

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- $Lev_{ft}$  is the book value of firm's  $f$  debt over total assets at time  $t$
- Three estimators: **OLS**, **FE**, **IV-FE**
- $Liq_{ft}$  is obtained as the difference between firms' current resources and the costs of current operations over total assets. If  $Liq_{ft} > 0$  the firm is able to finance internally current expenses (or at least substitute some debt financing for internal financing).

# Estimating the impact of leverage on export quality

	Pooled Sample		
	OLS	FE	IV-FE
$Lev_{ft}$	-0.131***	-0.066**	-0.188*
$\log(Intang)_{ft}$	0.011***	0.004	0.058***
$\log(lprod)_{ft}$	0.173***	0.050***	0.045***
$\log(empl)_{ft}$	0.064***	0.111***	0.086***
$Group_{ft}$	-0.037***	0.024***	0.019
$Foreign_{ft}$	0.057***	-0.019	-0.030
$\log(age)_{ft}$	-0.000	-0.160*	-0.198**
<i>pd</i> FE	y	n	n
<i>hs6-t</i> FE	y	y	y
<i>fpd</i> FE	n	y	y
Hansen (p)	-	-	0.818
$R^2$	0.597	0.005	0.003
Groups		15,654	6,956
Obs.	85,335	72,227	32,292



# Estimating the impact of leverage on export quality

	Pooled Sample			Liquidity>0			Liquidity<0		
	OLS	FE	IV-FE	OLS	FE	IV-FE	OLS	FE	IV-FE
$Lev_{it}$	-0.131***	-0.066**	-0.188*	-0.029	-0.044	0.309*	-0.242***	-0.129***	-0.828***
$\log(Intang)_{it}$	0.011***	0.004	0.058***	0.020***	0.013**	0.077***	-0.011***	-0.014*	0.011
$\log(Iprod)_{it}$	0.173***	0.050***	0.045***	0.174***	0.050***	0.026*	0.155***	0.026**	0.040***
$\log(empl)_{it}$	0.064***	0.111***	0.086***	0.061***	0.104***	0.057**	0.073***	0.097***	0.130***
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$Foreign_{it}$	0.057***	-0.019	-0.030	0.030	-0.043*	-0.078**	0.109***	0.042**	0.104***
$\log(age)_{it}$	-0.000	-0.160*	-0.198**	0.000	-0.172**	-0.230***	-0.000	-0.156	-0.206
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Hansen (p)	-	-	0.818	-	-	0.024	-	-	0.706
$R^2$	0.597	0.005	0.003	0.577	0.004	0.002	0.647	0.003	-0.012
Groups		15,654	6,956		10,146	4,581		7,354	3,255
Obs.	85,335	72,227	32,292	52,001	41,274	19,154	33,334	25,821	10,945

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- The negative impact of leverage on quality holds only for firms with insufficient liquidity to cover current expenses
- **We conclude that higher levels of debt are detrimental to quality only for those firms for which debt is a remedy for insufficient liquidity (Pecking Order Theory). Firms for which higher debt is a choice are not affected (Trade-off Theory).**

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# Estimating the impact of leverage on export quality

HS6	Obs.	Firms	Employees	Leverage	Liquidity	lprod	Intangibles	UV	Flows	Dest.
Choc. & conf	7893	456	203.24	0.20	0.05	3.83	0.12	13.35	5.33	3.67
Sparkling w.	14042	553	87.33	0.28	-0.01	4.27	0.06	10.15	11.68	8.10
Still w.	16921	674	169.79	0.23	0.02	4.02	0.07	7.83	5.70	3.43
Perf.	48376	1114	234.74	0.18	0.02	4.04	0.18	33.41	13.54	10.89
Lamps	31562	3256	156.07	0.17	0.05	3.66	0.12	20.04	3.53	2.98
Wooden Furn.	7174	706	242.69	0.14	0.06	3.78	0.16	78.08	3.01	2.67



## Appendix: Leverage and export price

(lr)2-4(lr)5-7(lr)8-10	Pooled Sample			Liquidity>0			Liquidity<0		
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	
<i>Lev<sub>it</sub></i>	0.018 (0.031)	-0.070*** (0.022)	-0.247*** (0.087)	0.188*** (0.037)	-0.063* (0.038)	-0.152 (0.119)	-0.167*** (0.041)	-0.053 (0.034)	-0.499** (0.243)
<i>log(Intang)<sub>it</sub></i>	0.055*** (0.002)	0.019*** (0.003)	0.049*** (0.011)	0.062*** (0.003)	0.027*** (0.004)	0.089*** (0.014)	0.043*** (0.003)	0.008 (0.006)	-0.026 (0.024)
<i>log(lprod)<sub>it</sub></i>	-0.010 (0.008)	0.011** (0.005)	0.005 (0.007)	-0.003 (0.010)	0.030*** (0.007)	0.014 (0.010)	-0.024*** (0.009)	-0.026*** (0.008)	-0.016* (0.009)
<i>log(empl)<sub>it</sub></i>	-0.025** (0.011)	0.004 (0.008)	-0.032** (0.013)	-0.025** (0.012)	0.052*** (0.011)	0.001 (0.020)	-0.023** (0.009)	-0.065*** (0.014)	-0.087*** (0.025)
<i>Group<sub>it</sub></i>	-0.051*** (0.018)	0.001 (0.008)	-0.007 (0.012)	-0.087*** (0.021)	0.007 (0.010)	0.010 (0.016)	-0.002 (0.021)	-0.010 (0.013)	0.002 (0.023)
<i>Foreign<sub>it</sub></i>	0.024 (0.023)	-0.004 (0.012)	-0.022 (0.018)	-0.069*** (0.026)	-0.014 (0.016)	-0.066** (0.028)	0.194*** (0.027)	-0.018 (0.018)	0.024 (0.034)
<i>log(age)<sub>it</sub></i>	0.004*** (0.000)	-0.026 (0.040)	-0.068 (0.052)	0.006*** (0.000)	-0.060 (0.048)	-0.053 (0.081)	0.002*** (0.000)	0.032 (0.049)	-0.050 (0.053)
<i>Constant</i>	2.362*** (0.076)			2.321*** (0.085)			2.425*** (0.078)		
<i>pd FE</i>	y	n	n	y	n	n	y	n	n
<i>HS6-Year FE</i>	y	y	y	y	y	y	y	y	y
<i>fpd FE</i>	n	y	y	n	y	y	n	y	y
Hansen (p)			0.640			0.189			0.872
<i>R</i> <sup>2</sup>	0.468	0.001	0.001	0.464	0.004	0.005	0.498	0.002	-0.008
Groups		16,482	7,254		10,733	4,805		7,777	3,406
Obs.	90,717	77,021	34,111	55,427	44,187	20,286	35,290	27,495	11,547

## Appendix: Leverage and export price

	Constant (1)	Q2 (2)	Q3 (3)	Q4 (4)	Obs.
Age	25.98***	2.600***	3.005***	3.364***	2,341,228
Employee	319.4***	81.34***	103.9***	173.1***	2,511,199
Assets	83184.5***	31714.6***	40966.7***	71770.9***	2,513,179
Cash Flow	0.108***	0,000343	0.00101***	0.00147***	2,263,998
Profit	0.0941***	0.00124***	0.00216***	0.00389***	2,267,352
Wage	27.78***	0.348***	0.991***	2.248***	2,485,756
Labor prod.	58.37***	1.657***	3.223***	6.212***	2,485,823
Invest. rate intangible	0.00607***	-0.000577***	-0.000224***	0.0000912**	2,275,653
Invest. rate tangible	0.0379***	-0.00210***	-0.00287***	-0.00296***	2,283,284
Leverage	0.166***	-0.00232***	-0.00266***	-0.00379***	2,290,526
Collateral	0.411***	-0.0136***	-0.0199***	-0.0286***	2,592,876
Intangible Assets	0.0571***	-0.000611***	0.000914***	0.00334***	2,290,468
Liquidity	0.0714***	-0.00310***	-0.00381***	-0.00433***	2,187,555

# Estimating the impact of leverage on export quality