
The Impact of Firm Collateral on Knowledge Intensive Consulting Firms

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Main Objective of the study

- Explore the impact of collateralizable assets for less capital intensive firms
 - Gaining knowledge on how problems of information asymmetries and incomplete markets affect the growth of knowledge intensive business services firms
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Main result

- Knowledge intensive consulting firms need to possess collateralizable assets in order to access favorable debt which in turn enable them to invest in skilled employees to a greater extent than firms without collateralizable assets
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Data

- This is shown by estimating a dynamic panel data regression model based on a sample comprising 23,500 Swedish knowledge intensive consulting firms over 8 years. The firms have between 1-99 employees.
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Sample split based on a firm's possession of collateralizable assets

Variable	Mean	Q1	Median	Q3	Min	Max
Whole Sample (Obs.=101582)						
No Employees	6.51	1.00	2.00	6.00	0.00	190
Sales (1)	7151	933	1954	5729	1.00	830571
Variation of Sales (2)	0.02	-0.19	0.04	0.25	-8.96	11.91
Knowledge Int. (3)	0.47	0.00	0.44	1.00	0.00	1.00
With Collateral (Obs.=22280)						
No Employees	6.19	1.00	2.00	6.00	0.00	163
Sales (1)	6796	1100	2025	5917	1.00	830571
Variation of Sales (2)	0.01	-0.18	0.03	0.22	-7.67	8.51
Knowledge Int. (3)	0.47	0.00	0.47	1.00	0.00	1.00
Without Collateral (Obs.=79302)						
No Employees	6.59	1.00	2.00	6.00	0.00	190
Sales (1)	7251	888	1927	5685	1.00	716100
Variation of Sales (2)	0.02	-0.19	0.04	0.26	-8.96	11.91
Knowledge Int. (3)	0.47	0.00	0.44	1.00	0.00	1.00

Equation leading to the main result

$$\ln(E)_{i,t} = \alpha + \phi \cdot \ln(E)_{i,t-1} + \beta \cdot \ln(\text{Sales}_{i,t}) + \gamma \cdot \ln(\text{Sales}_{i,t}) * \text{Collateral}_{i,t} + \mu_t + v_i + \varepsilon_{i,t}$$

- Firms with collateral have 60 percent higher sales-employment sensitivity than firms without collateral



Robustness

- Basic theory on incomplete markets is applied
 - I draw advantage of the analysis which Kaplan & Zingales (1997) conducted on US manufacturing firms' cash flow-investment sensitivities
 - OLS, within, and GMM-estimation is performed
 - Numerous sample divisions corroborating with theory
 - **Debt structure comparison**
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Dep: ln(Emp)			One-step	Two-step	One-step	Two-step
	OLS	Within	Diff GMM	Diff GMM	Sys GMM	Sys GMM
lnE(t-1)	0,732***	0,210***	0,220***	0,216***	0,461***	0,485***
	(-0,003)	(-0,006)	(-0,012)	(-0,012)	(-0,008)	(-0,008)
ln (Sales)	0,203***	0,288***	0,180***	0,085***	0,372***	0,377***
	(-0,003)	(-0,005)	(-0,031)	(-0,025)	(-0,007)	(-0,006)
ln (Sales)*F_C	0,017***	0,001	0,269***	0,192***	0,238***	0,134***
	(-0,003)	(-0,006)	(-0,019)	(-0,019)	(-0,025)	(-0,019)
Observations	96697	96697	84694	84694	96697	96697
Firms		23341	20974	20974	23391	23391
Av Obs. per firm		4,1	4	4	4,1	4,1
Sargan				0		0
AR(1)			0	0	0	0
AR(2)			0,624	0,697	0,01	0
St Error	Robust	Robust	Robust		Robust	