

Discussion of
Going Abroad in a Risky World:
Geographic Diversification,
Institutional Frictions, and
Corporate Leverage

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What is This Paper About?

$$y_{i,t} = \alpha_i + \beta_1 \text{Diversification}_{i,t} + \beta_2 \text{HHI}_{i,t} + \gamma X_{i,t} + \mu_t + \epsilon_{i,t}$$

Financial Leverage:

- Book leverage
- Market leverage

Geographic diversification

(GDP growth correlations weighted by sales)

Interactions:

1. Tax Rates
2. Political Risk

International diversification

- Greater resilience to regional shocks
- Stable cash flows
- Lower default probability
- Higher debt capacity and greater tax benefits

Firms borrow more.

Diversification Measure

$$Diversification_{i,t} = \sqrt{\sum_{p=1}^{N_{i,t}} \sum_{q=1}^{N_{i,t}} \omega_{p,t} \omega_{q,t} \sigma_{p,t} \sigma_{q,t}} - \sigma\left(\sum_{p=1}^{N_{i,t}} \omega_{p,t} r_{p,[t-9,t]}\right),$$

Alternative Measure:

$$Average Correlation Measure = \sum_{p=1}^{N_{i,t}} \sum_{q=1}^{N_{i,t}} \omega_{p,t} \omega_{q,t} Corr_{[t-9,t]}(p, q),$$

Assumption: Sales weights are correlated with cash flow weights.

- Strategic transfer pricing?
- Correlated with tax rates and political risk.

Diversification and leverage: Results

	Blev	Blev	Blev	Mlev	Mlev	Mlev
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Diversification</i>	1.98*	4.43***	4.47***	3.53***	3.84**	4.03**
	(1.19)	(1.58)	(1.63)	(1.13)	(1.61)	(1.64)
<i>HHI</i>		0.04***	0.03*		0.02	0.02
		(0.01)	(0.02)		(0.01)	(0.02)
<i>Ln(sales)</i>		0.02***	0.02***		0.03***	0.03***
		(0.00)	(0.00)		(0.00)	(0.00)
<i>Tangible</i>		0.14***	0.14***		0.19***	0.19***
		(0.03)	(0.03)		(0.03)	(0.03)
<i>CF</i>		-0.16***	-0.16***		-0.22***	-0.21***
		(0.02)	(0.02)		(0.01)	(0.01)
<i>Vol GDP Growth</i>		-0.19	0.13		-1.33	-1.42
		(0.85)	(0.96)		(0.96)	(1.14)
<i>Bus_HHI</i>		-0.04***	-0.04***		-0.06***	-0.06***
		(0.01)	(0.01)		(0.01)	(0.01)

We need a standard set of controls. Specification is missing other important leverage factors such as Market/Book ratio and Industry Median Leverage.

Diversification and Leverage

$$y_{i,t} = \alpha_i + \beta_1 \text{Diversification}_{i,t} + \beta_2 \text{HHI}_{i,t} + \gamma X_{i,t} + \mu_t + \epsilon_{i,t}$$

Omitted Variables:

- Firms determine both how much debt to issue and what countries to operate in.
- To show that geographic diversification increases debt capacity, we need exogenous variation in diversification.

How Much Do the Weights Matter?

Fixing sales exposure in year 1.

$$Diversification_{i,t} = \sqrt{\sum_{p=1}^{N_{i,1}} \sum_{q=1}^{N_{i,1}} \omega_{p,1} \omega_{q,1} \sigma_{p,t} \sigma_{q,t}} - \sigma\left(\sum_{p=1}^{N_{i,1}} \omega_{p,1} r_{p,[t-9,t]}\right)$$

Exogenous Variation in Weights

- Impute firm sales using its initial destination country sales.
- Impute firm sales using its initial destination country and industry sales in those countries.

Concern: Factors that drive growth of US sales in other countries (or for country-industry combinations) also drive leverage decisions.

How Much Do the Weights Matter?

If only the GDP growth correlations matter, then we should get similar results if we use:

- Random weights
- Equal weights
- Reverse weights

Effect of Taxes and Political Risk

- Tax rate differences and political risk consideration affect decisions about which countries to operate in.
- For example:
 - Highly profitable firms operate in low-tax countries. These countries are also more integrated.
 - And, empirically, we know that highly profitable firms have less leverage.
- Political risk differences could similarly affect diversification decision and also leverage.

Understanding what drives geographic diversification is important.

Comments: Table 8

$$Diversification_{i,t} = \sqrt{\sum_{p=1}^{N_{i,1}} \sum_{q=1}^{N_{i,1}} \omega_{p,1} \omega_{q,1} \sigma_{p,t} \sigma_{q,t}} - \sigma\left(\sum_{p=1}^{N_{i,1}} \omega_{p,1} r_{p,[t-9,t]}\right)$$

	Year 1	
	Blev	Mlev
	(1)	(2)
<i>Diversification</i>	6.38*** (2.36)	5.34** (2.37)
<i>HHI</i>		
<i>Ln(sales)</i>	0.03*** (0.00)	0.03*** (0.00)
<i>Tangible</i>	0.12*** (0.03)	0.16*** (0.03)
<i>CF</i>	-0.18*** (0.02)	-0.24*** (0.02)
<i>Vol GDP Growth</i>	0.24 (1.30)	-1.00 (1.43)
<i>Bus_HHI</i>	-0.04*** (0.01)	-0.07*** (0.01)

Fixing sales exposure in year 1.

But, HHI could still be time varying.

Exporters versus MNC

- Identifying exporters
 - Foreign sales in Factset but no foreign income and foreign assets in Compustat.
 - Compustat coverage?
- What determines the decision to be an exporter versus MNC?

Conclusion

- Addresses important questions
 - Benefits and costs of global diversification
 - How much do global sales exposures affect financing decisions of firms?
- Well designed tests. Strong empirical support.
- To understand the effect of diversification on leverage, it will be important to:
 - Understand diversification motives.
 - Understand how firms adjust their exposures to various countries depending on tax rates and political risk considerations.