The Valuation Implications of Enterprise Risk Management Maturity

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Background

- Farrell & Gallagher (Journal of Risk & Insurance, 2015)

- ERM is an expensive discipline/process

- Study objective

- Lack of empirical evidence
  - Hofmann (2012)
  - Hoyt & Liebenberg (2011)
  - McShane et al (2011)

Agenda

- What is ERM and why should it create value?

- ERM maturity data: The Risk and Insurance Management Society Inc. (RIMS) & Logic Manager Inc.

- Results: ERM maturity and firm value implications

What is ERM?

"ERM is the discipline by which an organization in any industry assesses, controls, exploits, finances and monitors risks from all sources for the purpose of increasing the organization's short and long-term value to its stakeholders"
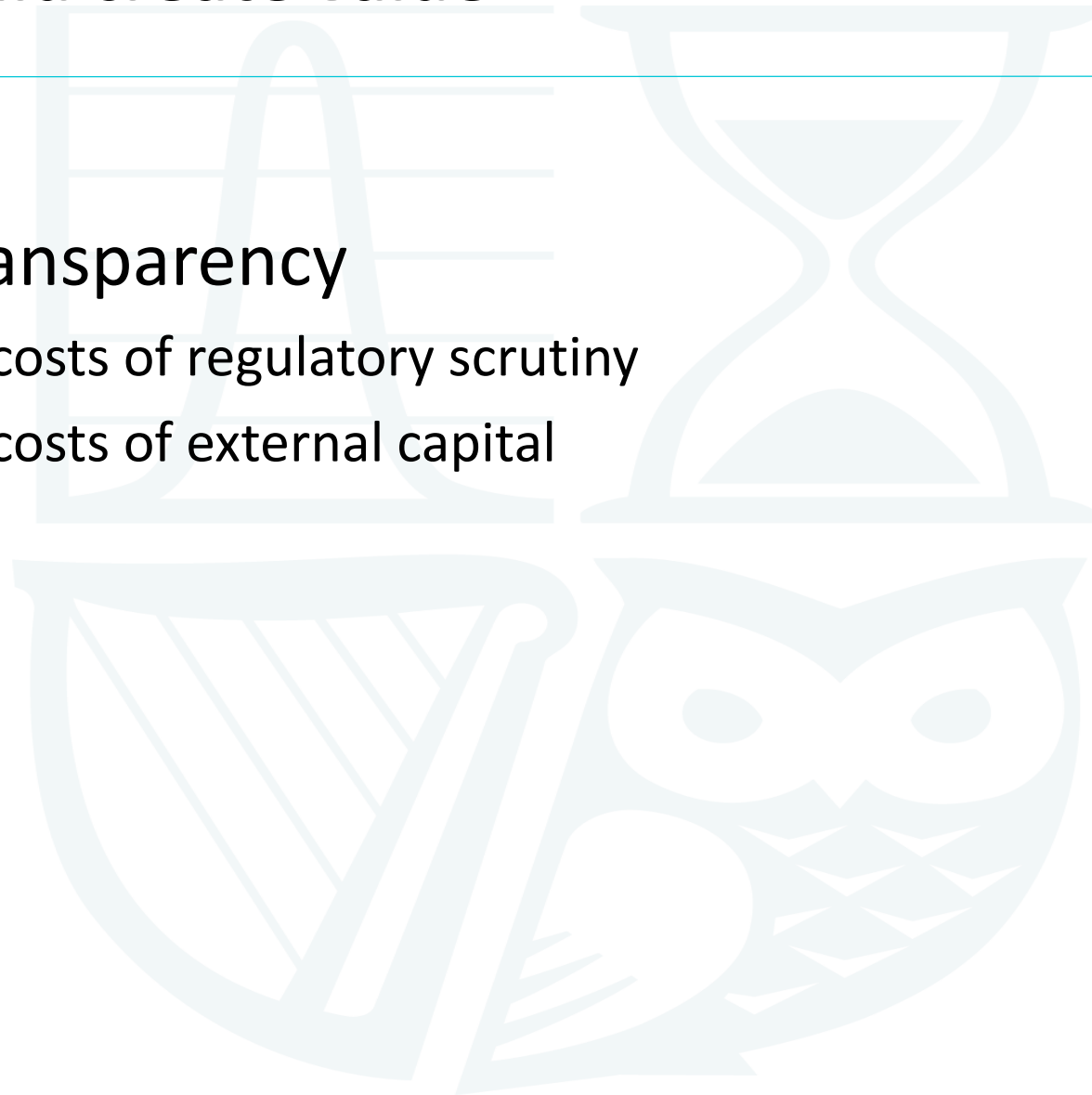
What is ERM?

*"ERM is the **discipline** by which an organization in **any industry** assesses, controls, exploits, finances and monitors risks from **all sources** for the purpose of increasing the organization's short and **long-term value** to its **stakeholders**"*

Why ERM should create value

- Avoids duplication of risk management expenditures by exploiting natural hedges (Hoyt & Liebenberg, 2011)

- Better understanding of the aggregate risks inherent in different business activities (Nocco & Stulz, 2006)
  - Provides a more objective basis for resource allocation
  - Better understanding of the risk return relationship at board level or decision-making is based on clear risk-return tradeoffs

Why ERM should create value

- Better risk transparency
    - Reduces the costs of regulatory scrutiny
    - Reduces the costs of external capital

What is ERM?

"ERM benefits firms by decreasing earnings and stock-price volatility, increasing capital efficiency and creating synergies between different risk management activities"

(Miccolis & Shah, 2000; Lam, 2001)

Data: The Risk and Insurance Management Society (RIMS) & Logic Manager Inc.

RIMS Risk Maturity Model

Developed in 2006 to accompany ERM/RM frameworks

RIMS Risk Maturity Model

✓ ISO 31000: 2009
Risk Management - Practices and Guidelines

✓ OCEG "Red Book" 2.0: 2009
GRC Capability Model

✓ BS 31100: 2008
Code of Practice for Risk Management

✓ COSO: 2004
Enterprise Risk Management - Integrated Framework

✓ FERMA: 2002
A Risk Management Standard

✓ SOLVEN CY II: 2012
Risk Management for the Insurance Industry

RIMS Risk Maturity Model

Data Assessment Collection

- Method of contact:
  - Open online assessment tool

- Job Titles:
  - Chief Risk Officer
  - Director Risk Management/ERM
  - Director Internal Audit
  - Chief Actuary

Maturity Assessment Data

Results: Summary Statistics

Industry
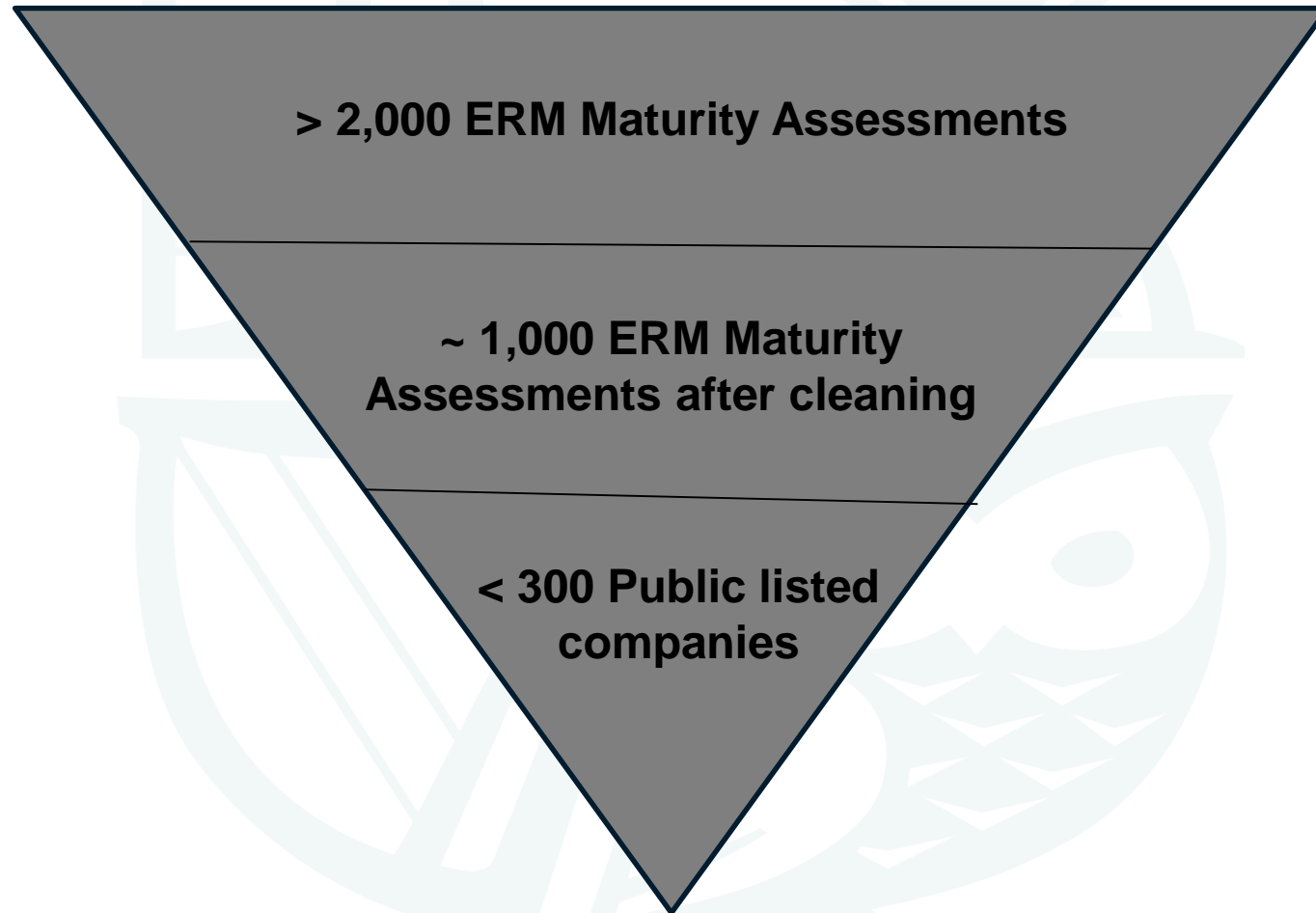
- Agriculture, forestry & fishing
- Mining
- Construction
- Manufacturing
- Transportation & communications
- Wholesale trade
- Retail trade
- Finance & ins
- Services
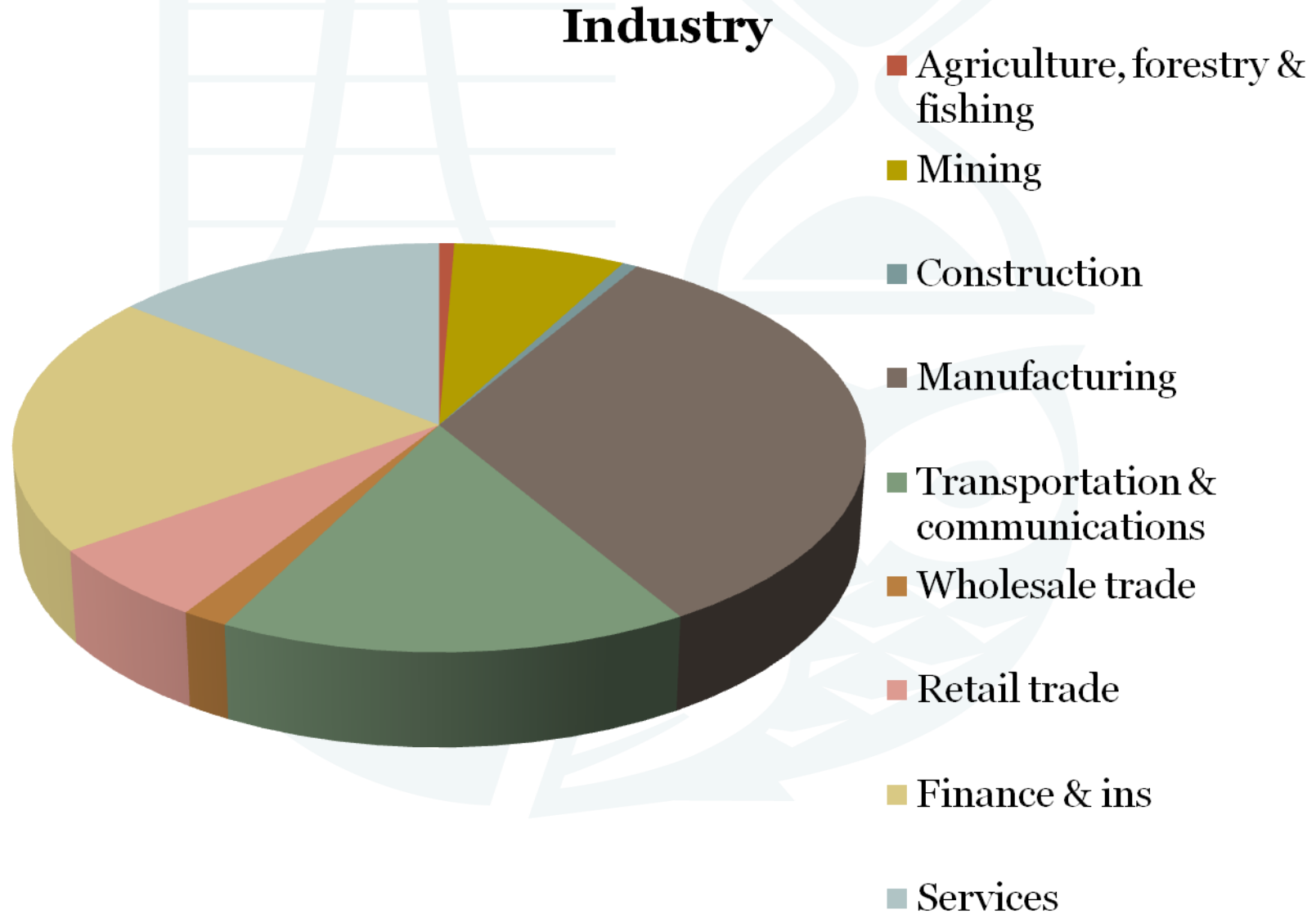
Results: Summary Statistics

Country

- US
- Europe
- Australia
- Canada
- Other
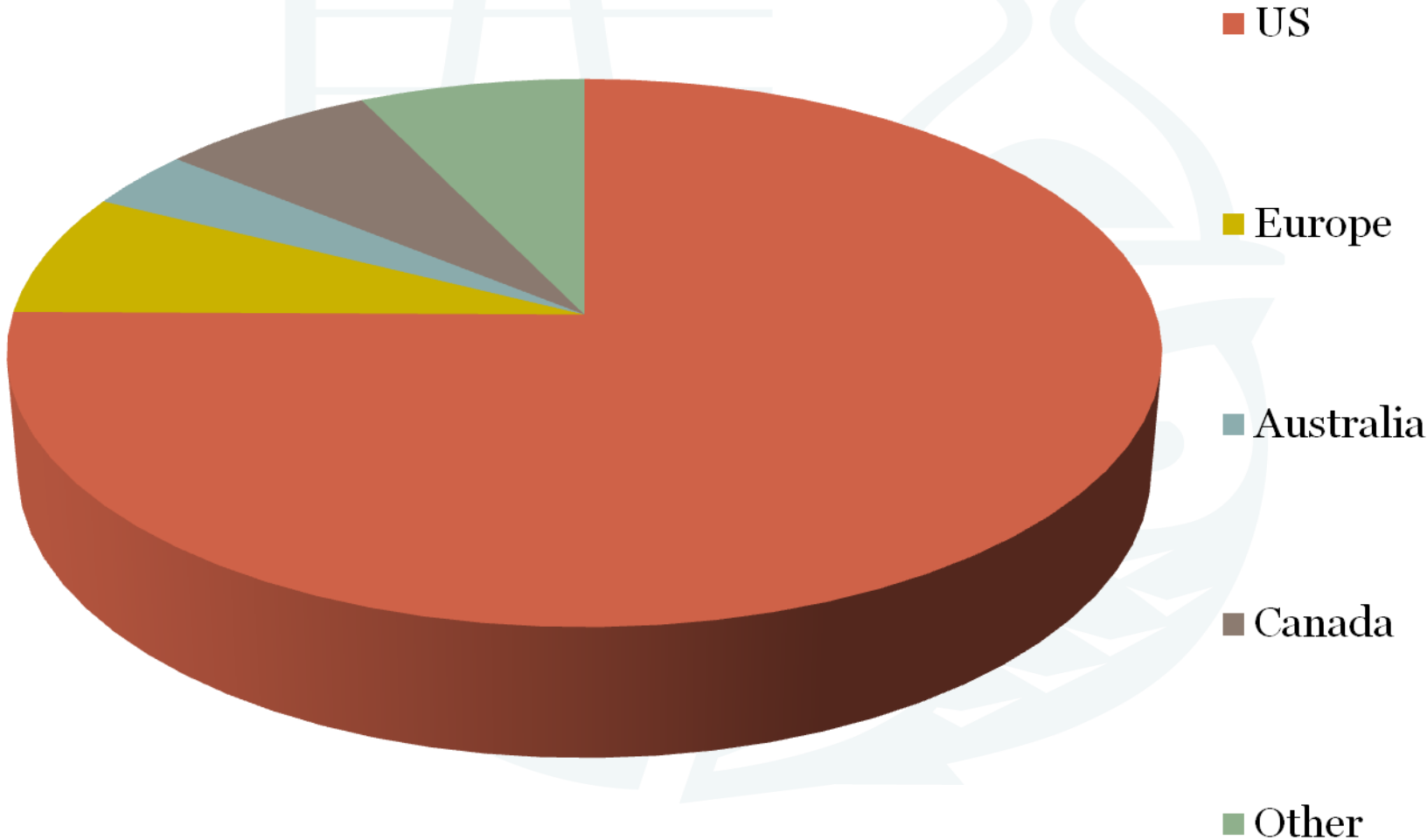
Results: Econometric Specification

Firm Value = *F(Overall ERM Maturity, Firm Size, Firm Leverage, Return On Equity, Firm Sales Growth, Firm Beta, Industrial Diversification, International Diversification, % Of Shares Owned By Insiders, Dividend Payment Status)*

Regression Results

VARIABLES	LogTobinsQ
ERM_Engagement_Dummy	**0.22544*****
Size	-0.00755
Leverage	-0.20968***
Return On Equity	-0.01453
Sales Growth	0.57587***
Beta	0.00104
Industrial Diversification	-0.10308
International Diversification	0.18088
Insiders	-0.84017
Insiders Sq	0.97445
Dividend Payment Status	0.18926**
Inverse Mills	0.16108
Constant	-0.14528
	(0.86713)
Observations	225
R-squared	0.57820
Adj R-squared	0.47216

RIMS Risk Maturity Model

Attributes	Maturity Levels					
	Level 5 Leadership	Level 4 Managed	Level 3 Repeatable	Level 2 Initial	Level 1 Ad hoc	

1 Adoption of ERM-based approach

Competency Drivers: Degree of
- Executive support for ERM
- Business process definition and risk ownership
- Far-sighted risk management vision
- Front line and support process owner participation

2 ERM process management

Competency Drivers: Degree of
- Repeatability and scalability
- ERM process oversight
- ERM process steps
- Risk culture, accountability and communication
- Risk management reporting

3 Risk appetite management

Competency Drivers: Degree of
- Risk portfolio view
- Risk-reward tradeoffs

4 Root cause discipline

Competency Drivers: Degree of
- Dependencies and consequences
- Indicator classifications
- Risk and opportunity information collection
- Root cause consideration

RIMS Risk Maturity Model

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5 Uncovering risks

Competency Drivers: Degree of
- Formalized risk indicators and measures
- Adverse events as opportunities
- Follow-up reporting
- Risk ownership by business areas

6 Performance management

Competency Drivers: Degree of
- ERM information and planning
- Communicating goals
- ERM process goals and activities

7 Business resiliency and sustainability

Competency Drivers: Degree of
- Analysis-based planning
- Resiliency and operational planning
- Understanding consequences

Attribute Specific Regression Results

VARIABLES	LogTobinsQ						
	Attribute 1	Attribute 2	Attribute 3	Attribute 4	Attribute 5	Attribute 6	Attribute 7
ERMAttributei_Engagement_Dummy	0.15662**	0.18256***	0.11123	0.14860**	0.14225**	0.20590***	0.06547
Size	-0.01769	-0.14970	-0.09578	-0.04885	-0.03824	-0.13214	-0.03674
Leverage	-0.21295***	-0.19972***	-0.22015***	-0.21172***	-0.21081***	-0.19977***	-0.20896***
Return On Equity	-0.01516	-0.01496	-0.01185	-0.01209	-0.01395	-0.01534	-0.01283
Sales Growth	0.57681***	0.67607***	0.65677***	0.58189***	0.63763**	0.72932***	0.61714***
Beta	0.00472	-0.00834	-0.00431	-0.00260	0.00093	0.01182	-0.01048
Industrial Diversification	-0.08676	-0.05941	-0.09325	-0.09011	-0.09110	-0.04986	-0.06964
International Diversification	0.18666*	0.28942**	0.27078**	0.24263*	0.19976**	0.28842**	0.21958**
Insiders	-0.80109	-0.82657	-0.78597	-0.76118	-0.80223	-0.78211	-0.72852
Insiders Sq	1.01580	1.02894	0.85916	0.85910	0.86473	0.88456	0.81587
Dividend Payment Status	0.19024**	0.18989**	0.20115**	0.20056**	0.19430**	0.19279**	0.19945**
Inverse Mills	0.06851	-0.22011	-0.14053	-0.04288	0.02615	-0.17940	-0.11315
Constant	-0.15886	0.05238	0.19486	0.19493	-0.04823	0.57162	0.01232
Observations	225	225	225	225	225	225	225
R-squared	0.56606	0.57255	0.56142	0.56637	0.56436	0.57730	0.55752
Adj R-squared	0.45697	0.46509	0.45117	0.45735	0.45484	0.47104	0.44628

Attribute Specific Regression Results

Attributes	Maturity Levels					
	Level 5 Leadership	Level 4 Managed	Level 3 Repeatable	Level 2 Initial	Level 1 Ad hoc	

✓ 1 Adoption of ERM-based approach

Competency Drivers: Degree of
- Executive support for ERM
- Business process definition and risk ownership
- Far-sighted risk management vision
- Front line and support process owner participation

- Degree of executive support for an ERM-based approach
- Risk management activities go beyond regulatory compliance
- Activities cut across all processes, functions, business lines, roles and geographies

✓ ✓ 2 ERM process management

Competency Drivers: Degree of
- Repeatability and scalability
- ERM process oversight
- ERM process steps
- Risk culture, accountability and communication
- Risk management reporting

How well the ERM process is being integrated into everyday practices. The extent to which repeatable and scalable risk management processes have been incorporated into the various business units. Encouraging employees to take a more risk aware approach to their business activities and tasks

3 Risk appetite management

Competency Drivers: Degree of
- Risk portfolio view
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✓ 4 Root cause discipline

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Source: RIMS State of ERM Report (2008)

Attribute Specific Regression Results

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5 Uncovering risks ✓

Competency Drivers: Degree of
- Formalized risk indicators and measures
- Adverse events as opportunities
- Follow-up reporting
- Risk ownership by business areas

How well does the organisation: Document risks and opportunities in risk assessment activities? Collect knowledge from employee expertise & databases etc to uncover dependencies/correlations across the enterprise? Use adverse events to create opportunities? Establish risk ownership? Formalise risk indicators? Follow-up reporting on risk mgt activities from different perspectives?

6 Performance management ✓ ✓

Competency Drivers: Degree of
- ERM information and planning
- Communicating goals
- ERM process goals and activities

- The degree to which the organization is able to execute on vision and strategy alongside their risk management activities.
- The ERM process is viewed as an integral element in strategy and planning activities

7 Business resiliency and sustainability

Competency Drivers: Degree of
- Analysis-based planning
- Resiliency and operational planning
- Understanding consequences

Source: RIMS State of ERM Report (2008)

Conclusion

- Value relevance for ERM

- Decomposition of ERM

- Limitations
  - Lack of full maturation
  - Self reported assessments
    - One individual!

- Future Research
  - Independent measures of ERM maturity
    - Case study?

Further Information

Academic Paper:

http://onlinelibrary.wiley.com/doi/10.1111/jori.12035/abstract

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