Global Equity Markets: Corporate Governance

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Market may limit capital available for firm due to:

- information asymmetry
  - management knows more about potential cash flows than public

- agency costs
  - management objectives may differ from investors

- monitoring is costly
Monitoring Mechanisms

- board of directors
- capital markets
- legal system
- active shareholders
- market for corporate control
- disclosure
Globalization can lower trading costs and increase liquidity

- increased disclosure
- more efficient exchanges
- less monitoring of management needed
Model of Corporate Control & Valuation

Assume firm controlled by single entity (entrepreneur)
  • owns $\alpha$ of cash flow or equity

firm invests $I$ and earns gross rate of return $R$
  • profit $= RI$

owner diverts $s$ of profits
  • “tunneling”
  • salary, transfer pricing to subsidiaries, loans,.....

profit diversion also wastes profits for shareholders

entrepreneur receives: $sRI - c(k,s)RI$
  • $c$ is “cost of theft” function borne by entrepreneur
  • $k$ is quality of shareholder protection
  • $c_k > 0$ better laws, more costly to steal
  • $c_s > 0$ mc of stealing is positive
  • $c_{ss} > 0$ mc rises as more is stolen
  • $c_{ks} > 0$ mc rises with better investor protection

entrepreneur maximizes: $\alpha(1-s)RI + sRI - c(k,s)RI$
Solution for optimal $s$ independent of $RI$ (firm scale) so max:

- $U = \alpha (1 - s) + s - c(k,s)$
- foc: $U_s = -\alpha + 1 - c_s(k,s) = 0$ or $c(k,s) = 1 - \alpha$
  - higher cash flow ownership, less stealing in distortionary way for any $k$

Define $s^*$ as optimal $s$

Differentiate foc w/r to $k$: $\frac{ds^*}{dk} = \frac{-c_{ks}(k,s)}{c_{ss}(k,s)} < 0$

RESULT Countries with better shareholder protection have less expropriation of minority shareholders

Differentiate foc w/r to $\alpha$: $\frac{ds^*}{d\alpha} = \frac{-1}{c_{ss}(k,s^*)} < 0$

RESULT Higher entrepreneur cash flow ownership, less expropriation of minority shareholders
Firm valuation measured by Tobin’s Q: \( q = (1 - s^*)R \)

- value to minority shareholder with no private benefits of control

\[
\frac{dq}{dk} = -\frac{ds^*}{dk} R > 0; \\
\frac{dq}{d\alpha} = -\frac{ds^*}{d\alpha} R > 0;
\]

H1: firm in regions with better investor protection have higher \( q \)

H2: firm where entrepreneur has higher cash flow ownership has higher \( q \)

H3: firm with better investment opportunities has higher \( q \)
Empirical Evidence: Data

539 firms from 27 countries
- largest 20 by market cap
- 1 shareholder controls > 10% of votes
- rich countries with active stock markets
- exclude banks & financial firms

\[ \alpha \text{ measured as fraction of cash flow owned by controlling shareholder} \]

\[ k \text{ measured as dummy=1 if common law origin and index of anti-director rights} \]

\[ q = \frac{\text{asset book value} - \text{book value of common equity} + \text{deferred taxes} + \text{market value of common equity}}{\text{asset book value}} \]

\[ R \text{ measured as annual sales growth for recent 3 years (value of growth opportunities)} \]
Empirical Evidence: estimation results

\[ q = f(R, k, \alpha, k\alpha) \]

estimate with country random effects
- fixed effects infeasible since legal variables don’t vary within countries

Panel data estimation: \[ y_{it} = a_i + b'x_{it} + e_{it} \]

- fixed effects is individual effect and is constant over time of cross-section unit \( i \) so would capture within country shifts across firms
- random effects allows individual constant terms to be randomly dist. across cross-sectional units:
  \[ y_{it} = a + b'x_{it} + u_i + e_{it} \], where \( u_i \) is random disturbance for \( ith \) obs., constant over time but specific to \( i \)

Think of countries as cross-sectional unit and firms are like time-series obs. on each cross-section

Basic results:
- poorer shareholder protection, lower valuations
- increased controlling shareholder cash-flow ownership, higher valuations
- also, cash flow rights bigger in civil-law countries; control rights also bigger in civil-law countries
DOES CORPORATE GOVERNANCE MATTER IN THE MARKET RESPONSE TO MERGER ANNOUNCEMENTS?
Evidence from the U.S. and Germany

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Question: Does the market response to a merger announcement depend upon the regulations applying to corporate disclosure?

U.S. law requires no misleading statements
  • “no comment” frequent response

German law allows statements that investors may view as misleading

Examine the market response to merger announcements in the U.S. & Germany
  • institutional differences suggest U.S. takeover announcements more likely news than in Germany
    o more closely-held firms and greater likelihood of insider trading gives more opportunity for trading ahead of news

Several German cases in U.S. courts:
  • Deutsche Bank & Bankers Trust (übernahmegespräche)
  • E.On (Veba) & Viag
  • Deutsche Telekom & VoiceStream
DIFFERENCES BETWEEN GERMAN & US REGULATIONS AND PRACTICES

Insider trading

- 1994 German prohibition
  - major banks have key role in oversight
- US case law defines inappropriate action
  - insiders must report trades to SEC
- civil suits for injured parties in both countries
- Bhattacharya & Daouk ratings of shareholder rights
  - top rankings include US, Hong Kong, ...
  - lowest rankings include Germany, Switzerland, Colombia, Venezuela, ...

Role of Banks in Germany

- lenders, underwriters, major equity holders, market makers, on corp. boards, exercise proxies for small shareholders
- Boehmer: takeover value enhanced if bank holds 2nd or 3rd largest stake in acquirer
- most value-reducing takeovers associated with bank holding largest stake in acquirer
Role of Labor in Germany
- “Mitbestimmung” law of codetermination requires corp. with 500 employees must offer 50% of board seats for employee representatives
- US law gives control to those bearing risk via equity
  - actual separation of management & ownership debatable
- German institutionalized separation via worker influence on board
- broader representation on German board may permit greater leakage of info prior to public announcement

Accounting regulations
- US GAAP and German differ in terms of pension costs, goodwill, asset reserves, asset revaluation, foreign currency translation, and tax issues
- Daimler-Benz listing on NYSE in 1993

Public disclosure of takeovers
- since Jan. 1995 German firms listed on German stock market have public notification requirement
  - liberal interpretation
Empirical Model

Event window: 5 days before and after merger news
Normal return pre-event window of 150 business days

market model: $R_{it} = a_i + b_i R_{mt} + e_{it}$

abnormal return: $AR_{it} = R_{it} - \hat{a}_i - \hat{b}_i R_{mt}$

cumulative abnormal return over period $t2-t1$:

$$CAR_{i,t2-t1} = \sum_{t=t1}^{t2} AR_{it}$$

- hypothesis testing with $Z$ score:

$$Z = \frac{CAR}{\left( \sigma_i^2 (t2-t1) \right)^{1/2}} \sim N(0,1), \text{ where } \sigma_i^2 = (t2-t1+1)\sigma_{e_i}^2$$
Data

German & US firms announcing acquisition plans over 1995-1999

US acquirers
- NYSE listing
- SCD Worldwide Mergers & Acquisitions
- top 50 market capitalization

German acquirers
- Public companies
- Bundeskartellamt
- top 50 trading volume

Daily closing prices from Datastream
- US market return S&P 500
- German market return DAX 100
Empirical Results

Average CARs in Figure 1a & ab
- market anticipates news
  - negative impact for US
  - positive impact for Germany
- positive follow-on effect after news for US
- US pre-news trading incorrectly pricing effect of news?

Estimate country fixed effects model
- interact country dummy with large size dummy
- Table 3 results
  - similar results for large firms in both countries: positive CARs before, on, and after news day
  - large firms have bigger CAR effects than small firms
  - small German firms have negative CARs after news
  - small US firms have positive CARs after news
Implications of Results

Do institutional differences in corporate governance create differences in market response to merger news in Germany and US?
- greater likelihood of insider trading in Germany?
- German investors more likely to be misled?

Share prices around merger news indicate no difference across countries for larger firms

Smaller firms have systematic differences
- pre-news: trading based on better info in Germany
  - German price correctly anticipates news effect
  - US firms trade with price moving in opposite direction from news day effect
- post-news larger permanent effect for US than German
  - negative CARs in Germany so negative ARs offset earlier positive
  - positive CARs in US so positive ARs offset earlier negatives

23 German acquirers also listed in US
- both small and large firms
- no independent effect of US listing dummy
- size still significant so size not proxy for US listing
Table 3
Country and Size Effects on Abnormal Returns for German and U.S. Acquirer Firms
The tables report cross-section regressions where the dependent variables are firm-level abnormal returns. Independent variables include dummy variables for whether the firm is German or U.S. Interactive terms with dummy variables for big firms having a market capitalization of over $25 billion in Germany or $75 billion in the U.S. are included to test whether the abnormal returns are different for big firms versus smaller firms.

a) Cumulative Abnormal Returns Before Merger News Day (day –5 to –1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
<td>German</td>
<td>0.132</td>
<td>0.00</td>
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<tr>
<td>German*Big</td>
<td>0.158</td>
<td>0.00</td>
</tr>
<tr>
<td>US</td>
<td>-0.050</td>
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<tr>
<td>US*Big</td>
<td>0.197</td>
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<td>R-squared</td>
<td>0.687</td>
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</table>

b) Abnormal Returns on Merger News Day

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
<td>German</td>
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<tr>
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<tr>
<td>US</td>
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<td>R-squared</td>
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c) Cumulative Abnormal Returns After Merger News Day (day +1 to +5)

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<thead>
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<th>Variable</th>
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<tr>
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<td>R-squared</td>
<td>0.623</td>
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Table 4
Country, Size, and U.S.-Listing Effects on Abnormal Returns for German and U.S. Acquirer Firms

The tables report cross-section regressions where the dependent variables are firm-level abnormal returns. Independent variables include dummy variables for whether the firm is German or U.S. Interactive terms with dummy variables for big firms and dummy variables for German firms that report financial statements conforming to U.S. GAAP are included to test whether the abnormal returns are different for big firms versus smaller firms or for German firms that must meet U.S. disclosure standards to be traded on a U.S. exchange.

a) Cumulative Abnormal Returns Before Merger News Day (day –5 to –1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>R-squared</td>
<td>0.690</td>
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b) Abnormal Returns on Merger News Day

<table>
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<th>Variable</th>
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<td>R-squared</td>
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c) Cumulative Abnormal Returns After Merger News Day (day +1 to +5)

<table>
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<th>Coefficient</th>
<th>P-value</th>
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<tr>
<td>German*USlist</td>
<td>0.101</td>
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<tr>
<td>German*Big</td>
<td>0.166</td>
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<tr>
<td>US</td>
<td>0.135</td>
<td>0.00</td>
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<tr>
<td>US*Big</td>
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<tr>
<td>R-squared</td>
<td>0.755</td>
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</tbody>
</table>
Figure 1a  Cumulative Abnormal Returns for German Acquiring Firms
Figure 1b  Cumulative Abnormal Returns for U.S. Acquiring Firms
References:

http://www.afajof.org/asp/article1.asp?aid=457&iid=3&vid=57&id=5964616665646568939910975

http://www.public.asu.edu/~mmelvin/