INTRODUCTION

Over 30 years of management research has produced rich theoretical and empirical bases to explain motives for and performance implications of firm internationalization. A common assumption underlying this research stream is that internationalization follows from the extent of foreign operational presence. However, as Oxelheim & Randøy (2005) and Birkenshaw, Braunerhjelm, Holm & Terjesen (2006) recently remind us, internationalization has not only operational but also legal dimensions that management researchers have largely overlooked. Indeed, an emerging “bonding hypothesis” in finance and economics research holds that firms from emerging-market countries with weaker corporate governance regimes can internationalize their legal (but not necessarily operational) presence by cross-listing their securities on overseas financial markets. They can “bond” with legal systems and enforcement policies in foreign corporate governance regimes providing stronger investor protection. Cross-listing to bond increases firm value by decreasing corporate misconduct, broadening the investor base, and lowering the cost of capital. We provide the first broad-sample evidence of cross-listing to bond with stronger legal systems and rule of law by more than 700 firms from 23 emerging-market countries cross-listing their securities on US financial markets from 1996-2002.

THEORY, MODEL AND HYPOTHESES

Our cross-listing framework appears in Figure 1. To build our framework, we make two assumptions derived from research in law and finance (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1997) and emerging-market management (Hoskisson, Eden, Lau & Wright, 2000) streams. The first assumption is that firms domiciled in countries with legal systems based on Common Law (Civil Law) provide stronger (weaker) investor protection and thus weaker (stronger) incentives to internationalize presence legally through US cross-listing. Compared to Civil Law systems, Common Law systems generally give the judiciary more independence from partisan political branches of government, permit judges to exercise discretion in interpreting and applying legal principles equitably, provide private individuals greater access to courts for the adjudication of contract and property rights disputes, and thereby promote the development of case
law precedents to guide economic behavior with less uncertainty and lower transaction costs. With this assumption, our framework suggests that firms from countries with a Common Law (Civil Law) legal system will weaker (stronger) incentives to cross-list their shares in the US to internationalize their legal presence and bond with US corporate governance.

The second assumption of our framework is that countries with stronger rule of law, no matter their Common Law or Civil Law substance, also provide greater investor protection and lower incentives to cross-list on US financial markets for bonding purposes. For our study, rule of law is a gauge of confidence in, and adherence to, legal rules and their fairness and predictability for economic and social interactions. With this assumption, our framework suggests that firms from countries with stronger (weaker) rule of law will have weaker (stronger) incentives to cross-list their shares in the US to internationalize their legal presence and bond with US corporate governance.

With these two assumptions about legal systems and rule of law, we use our 2-dimensional framework in Figure 1 to predict incentives by firms from emerging-market countries to cross-list on US financial markets for bonding purposes. Figure 1 includes two rows depicting home-country legal system incentives to cross-list for bonding purposes, Civil Law in Row A and Common Law in Row B. Two columns depict home-country rule of law incentives to cross-list for bonding purposes, Weak Rule of Law in Column 1 and Strong Rule of Law in Column 2. These dimensions yield four scenarios, 1A, 1B, 2A and 2B. In each scenario, we denote in parentheses legal system and rule of law incentives to cross-list for bonding purposes by home-country firms. A positive (negative) sign indicates that home country legal system or rule of law provides weaker (stronger) investor protection, thus prompting more (less) US cross-listing to bond by home-country firms. Scenario 1A exhibits positive incentives to cross-list based on both legal system and rule of law considerations (+, +). Civil Law countries provide weaker investor protection prompting more cross-listing. Similarly, weak rule of law imperils investors and prompts cross-listing to bond. Firms from emerging-market countries like Indonesia fall into Scenario 1A. We see the opposite set of incentives in Scenario 2B where substantive Common Law and strong rule of law provide stronger investor protections and prompt less cross-listing (-,-). Firms domiciled in countries like Israel fit Scenario 2B. Scenarios 2A (+, -) and 1B (-, +) exhibit mixed effects reflecting the contradictory incentives of Civil Law but strong rule of law (Scenario 2A) as in the case of Chilean firms or Common Law but weak rule of law (Scenario 1B) as in the case of Nigerian firms.

Our framework yields several testable hypotheses. In countries with weak rule of law, legal system differences suggest that:

**Hypothesis 1:** Firms from Common Law countries with weak rule of law cross-list less on US financial markets than firms from Civil Law countries with weak rule of law (US cross-listing in Scenario 1B < US cross-listing in Scenario 1A).

Similarly, in countries with strong rule of law legal system differences suggest that:

**Hypothesis 2:** Firms from Common Law countries with strong rule of law cross-list less on US financial markets than firms from Civil Law countries with strong rule of law (US cross-listing in Scenario 2B < US cross-listing in Scenario 2A).

Strengthening rule of law at home should decrease incentives to cross-list by firms from Civil Law countries, thus:
Hypothesis 3: Firms from Civil Law countries with strong rule of law cross-list less on US financial markets than firms from Civil Law countries with weak rule of law (US cross-listing in Scenario 2A < US cross-listing in Scenario 1A).

Similarly, strengthening rule of law in Common Law countries suggest that:

Hypothesis 4: Firms from Common Law countries with strong rule of law cross-list less on US financial markets than firms from Common Law countries with weak rule of law (US cross-listing in Scenario 2B < US cross-listing in Scenario 1B).

**EMPIRICAL METHODOLOGY**

To test these four hypotheses, we define the following empirical model for estimation:

\[
US\text{Listing}_{kt} = \beta_0 + \sum_{j=1}^{t} \beta_j \text{Controls}_{kt} + \beta_5 \text{Common Law}_{kt} + \beta_6 \text{Rule of Law}_{kt} \\
+ \beta_5 \text{Common Law}_{kt} \times \text{Rule of Law}_{kt} + \sum_{k=1}^{22} \phi_k \text{Country}_k + \sum_{i=1}^{3} \eta_i \text{Year}_i + \epsilon_{kt}
\]  

(1)

The dependent variable, US\text{Listing}, is the level of US cross-listing by firms in country \( k \) in year \( t \). The \( k \) is an index running from 1-22 for 22 of the 23 emerging-market countries in our sample while \( t \) is an index running from 1-3 for three of the four years of observation in our sample (1996, 1998, 2000 and 2002). US\text{Listing} is a ratio. For each country \( k \) in year \( t \), we divide the number of firms cross-listed in the US, either as American Depository Receipt (“ADR”) listings or as direct listings, by the number of firms listed in country \( k \)’s home share markets. To explain US\text{Listing} we first include controls for unobserved effects related to individual countries (Country) and years (Year). Next, we include four country control variables (Controls), which previous researchers have used to explain broader incentives to cross-list in the US. These Controls (and coefficient beta) (and predicted effects on US\text{Listing}) include: Log Market Presence (\( \beta_1 \)) (+), which is the natural log of the per capita dollar value of goods and services exported to the US from country \( k \) in year \( t \); Market Segmentation (\( \beta_2 \)) (-), which is the availability of capital for entrepreneurs from country \( k \) in year \( t \) measured on a scale of 1 (low availability) to 6 (high availability); Log Liquidity (\( \beta_3 \)) (+), which is the natural log of the following: the 2-year average of the dollar value of shares traded in year \( t \) and \( t-1 \) on country \( k \)’s share markets divided by average share market capitalization; and GDP Growth (\( \beta_4 \)) (-), which is the 2-year average GDP growth for country \( k \) in years \( t \) and \( t-1 \).

Model terms of central interest include: Common Law (\( \beta_5 \)), which is a 0-1 dummy denoting country \( k \)’s legal system in year \( t \) and takes the value of 1 when it is a Common Law system; Rule of Law (\( \beta_6 \)), which is a standardized measure running from approximately -2 (weak rule of law relative to US) to 2 (strong rule of law) with mean 0 denoting country \( k \)’s rule of law in year \( t \); and an interaction term, Rule of Law*Common Law (\( \beta_7 \)). Hypothesis 1 is supported if \( \beta_5 + \beta_7 < 0 \) at lower levels of Rule of Law. Hypothesis 2 is supported if \( \beta_5 + \beta_7 < 0 \) at higher levels of Rule of Law. Hypothesis 3 is supported if \( \beta_6 < 0 \). Hypothesis 4 is supported if this linear combination of coefficients is negative and significant: \( \beta_6 + \beta_7 < 0 \).

Data for empirical model terms come primarily from: Bank of New York’s ADR Department (BONY, 2003); The World Bank’s World Development Indicators (WDI, 2003); the US International Trade Commission (USITC, 2003); and the Milken Institute’s Capital Studies Group (Milken, 2003); and Reynolds and Flores (2003). We sample only from countries listed in at least two of three prominent emerging-market country investment indices: J.P. Morgan’s Emerging Markets Bond Index Global; Standard & Poor’s Emerging Markets Index; and or...
Vanguard Group’s Emerging Markets Stock Index Fund. Our final sample of 92 USListing observations covers US cross-listings by firms from 23 emerging-market countries in 1996 (353 firms), 1998 (479 firms), 2000 (613 firms) and 2002 (737 firms). We have cross-sectional (country $i$), time-series (year $t$) and use a panel feasible generalized least squares (“FGLS”) estimator available in Stata Version 9.2.

**EMPIRICAL RESULTS**

The mean value of the dependent variable, USListing, is 0.06 with a standard deviation of 0.05, a minimum value of 0, and maximum value of 0.25. On average, 6% of the firms listed on domestic exchanges in emerging-market countries cross-list their shares in the US. Panel FGLS results reported in Table 1 yield Controls estimates with expected signs and significance at the 5% level or better in three of four instances.

<table>
<thead>
<tr>
<th>Place Table 1 approximately here</th>
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The coefficient estimate on the Common Law dummy ($\beta_5$) is negative and significant at the 10% level (-0.053, $p < 0.10$). US cross-listing by firms from Common Law countries is about 5.3% lower than US cross-listing by firms domiciled in Civil Law countries, other things being equal. But this interpretation is contingent on rule of law strength in these same countries. The Common Law*Rule of Law ($\beta_7$) is positive and significant at the 5% level (0.042, $p < 0.05$) indicating that the significantly negative US cross-listing impact of Common Law protections weakens as rule of law strengthens. If Rule of Law score is set to zero the impact of Common Law is fully captured by the Common Law dummy coefficient estimate. As Rule of Law scores sink below zero, the linear combination of Common Law and Rule of Law*Common Law ($\beta_5 + \beta_7$) becomes increasingly negative. Consistent with Hypothesis 1, we find that in countries with weak rule of law Common Law investor protections are associated with less US cross-listing by domestic firms than by firms in similarly-situated Civil Law countries. As Rule of Law scores exceed 0 the same linear combination turns positive and becomes insignificant. For example, when we set Rule of Law equal to 1, well above the Rule of Law variable mean of 0.07 and approaching the variable maximum of 1.73, the linear combination yields a coefficient with a positive sign but no significance at commonly accepted levels. These results yield no support for Hypothesis 2 and the prediction of less US cross-listing by firms from Common Law countries with strong rule of law compared to firms from similarly-situated Civil Law countries.

Hypothesis 3 predicts less cross-listing as rule of law strengthens in Civil Law countries, while Hypothesis 4 predicts the same for Common Law countries. The coefficient estimate of Rule of Law ($\beta_6$) represents the US cross-listing impact of increasing rule of law for firms from Civil Law countries. The linear combination of coefficient estimates for Rule of Law and Common Law*Rule of Law ($\beta_6 + \beta_7$) represents the US cross-listing impact of increasing rule of law for firms from Common Law. Consistent with Hypothesis 3, we find that the coefficient on Rule of Law ($\beta_6$) is negative and significant at the 10% level (-0.026, $p < 0.10$). After controlling for other incentives, a decrease in our Rule of Law score from 0 to -1 will lead on average to a 2.6% increase in US cross-listing by firms domiciled in Civil Law countries. These effects do not extend to Common Law countries. The linear combination of coefficient estimates for Rule of Law and Common Law*Rule of Law ($\beta_6 + \beta_7$) is positive (0.011) rather than negative as predicted by Hypothesis 4, but is not significant at commonly accepted levels.
CONCLUSION

These results suggest that emerging-market firms exhibit behavior consistent with bonding hypothesis considerations and cross-list as a commitment to more rigorous corporate governance regimes. However, the behavior is contingent on firms’ home country institutional background, and requires close examination of both legal system and rule of law factors shaping incentives to cross-list for bonding purposes individually and in interaction. In terms of our theoretical framework, we find US cross-listing behavior consistent with bonding considerations in three of four emerging-market country scenarios. The exception is Scenario 2B where more protective Common Law and stronger rule of law factors predict much lower cross-listing rates than we actually observe. This anomaly may follow from the relatively small sample size (92) or may prompt closer investigation of countries falling into Scenario 2B (e.g., Israel), and perhaps, the appropriateness of continuing to define some as “emerging-market” in institutional character. Even with this anomaly, our empirical results support a central proposition of the bonding hypothesis in law and finance research, as well as support for emerging research on legal internationalization in management. Firms are more likely to “rent” better regimes via cross-listing abroad as the quality of their home country regime worsens.

REFERENCES


FIGURE 1

Conceptual Framework for Predicting US Cross-Listing to Bond

<table>
<thead>
<tr>
<th>Home Country Scenario 1A</th>
<th>Home Country Scenario 2A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Law and Weak Rule of Law</td>
<td>Civil Law and Strong Rule of Law</td>
</tr>
<tr>
<td>Example: Indonesia</td>
<td>Example: Chile</td>
</tr>
<tr>
<td>Impact on US cross-listing: (+,+)</td>
<td>Impact on US cross-listing: (-,-)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Home Country Scenario 1B</th>
<th>Home Country Scenario 2B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Law and Weak Rule of Law</td>
<td>Common Law and Strong Rule of Law</td>
</tr>
<tr>
<td>Example: Nigeria</td>
<td>Example: Israel</td>
</tr>
</tbody>
</table>

Predicted impact on US cross-listing by firms from emerging market countries in parentheses: (Legal System Impact, Rule of Law Impact)

TABLE 1

USListing Panel FGLS Regression Results (Country and Year Dummy Results Omitted)

<table>
<thead>
<tr>
<th>Regression Model Terms</th>
<th>Est.</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Market Size ($β_1$) (+)</td>
<td>0.018** (0.006)</td>
<td></td>
</tr>
<tr>
<td>Market Segmentation ($β_2$) (-)</td>
<td>0.037* (0.018)</td>
<td></td>
</tr>
<tr>
<td>Log Liquidity ($β_3$) (-)</td>
<td>-0.007** (0.003)</td>
<td></td>
</tr>
<tr>
<td>Economic Growth ($β_4$) (-)</td>
<td>-0.001** (0.000)</td>
<td></td>
</tr>
<tr>
<td>Common Law($β_5$)</td>
<td>-0.053† (0.031)</td>
<td></td>
</tr>
<tr>
<td>Rule of Law($β_6$)</td>
<td>-0.026† (0.015)</td>
<td></td>
</tr>
<tr>
<td>Rule of Law*Common Law ($β_7$)</td>
<td>0.042* (0.019)</td>
<td></td>
</tr>
</tbody>
</table>

H1: Less US Cross-Listing in Common Law Countries With Weaker Rule of Law: ($β_3 + β_7 < 0$ Where Rule of Law = 0)

H2: Less US Cross-Listing in Common Law Countries With Stronger Rule of Law: ($β_3 + β_7 < 0$ Where Rule of Law = 1)

H3: Less US Cross-Listing in Civil Law Countries With Stronger Rule of Law ($β_6 < 0$)

H4: Less US Cross-Listing With Stronger Rule of Law in Common Law Countries ($β_6 + β_7 < 0$)

N | 92

Wald $χ^2$ | 1195.66**

† p < 0.10, * p < 0.05 , ** p < 0.