# Cross-listing in the U.S. and domestic investor protection

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**Abstract**
Using the change in ordinary dividend payout as a proxy for improved governance, I show that cross-listing in the U.S. is associated with enhanced protection for the minority ordinary shareholders of exchange listed non-U.S. firms. These firms substitute dividends for enhanced governance. I find no such effect for Rule 144a firms. Interestingly, I document evidence inconsistent with the legal bonding hypothesis for Level 1 firms. I believe that their ability to pay lower dividends post-listing is primarily due to their ability to credibly commit to fair treatment of their minority investors, given their record for equitable treatment of their ordinary shareholders. They achieve this reputation by consistently paying out a sizable proportion of their earnings as dividends. I find that the firm-level governance of Level 1 firms, as measured by the number of closely held shares improves in the post-listing period. I find no such effect for Rule 144a traded firms. My results also have important implications for the agency models of dividends.

JEL Classification: G15, G34, G35, C34.

Key Words: Cross-listing, legal bonding, dividend policy.

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## 1. Introduction

The ability of firms to finance investment opportunities, over and above retained earnings is largely contingent on the effectiveness of their domestic legal system to sufficiently protect minority shareholders. The extant literature suggests that where the providers of capital are sufficiently protected, their required return is lower resulting in a lower cost of both debt and equity capital for firms (e.g., Hail and Leuz (2003)). Consequently, high-growth firms domiciled in countries characterised by poor legal institutional frameworks, and thus poor investor protection, are very often constrained in their attempts to finance their growth opportunities externally (e.g., Demerguc-Kunt and Maksimovic (1998)). Absent effective legal reform, many firms engage in substitute strategies designed to fund their investment opportunity set. For example, the extant literature suggests that such firms can engage in cross-border strategic alliances (e.g., Siegel (2006)), seek political favour (e.g. Leuz and Oberholzer-Gee (2003)), or commit themselves to greater protection of their minority shareholders by improving their internal firm-level governance (e.g., Klapper and Love (2004), Durnev and Kim (2005, DK Hereafter)). Furthermore, a firm can substitute their domestic level governance for the superior disclosure and regulatory regime of the United States by cross listing on a U.S. exchange or NASDAQ (e.g., Coffee (1999, 2002), Stulz (1999), Reese and Weisbach (2002, RW Hereafter), Doidge (2004), Doidge, Karolyi, and Stulz (2004)). Consequently, the ability of firms to finance their growth opportunities through domestic financing, post-listing in the U.S., suggests a commitment on the part of firms to better protect their investors[1]

By 'opting-in' to the U.S. governance regime, these firms endeavour to encourage investment in their firm by committing to adopt the reporting obligations of U.S. firms. As such, the legal bonding hypothesis suggests that at least in terms of investor protection, investors should be indifferent between investing in U.S. firms or non-U.S. American depositary receipts. However, this line of reasoning has been questioned within the literature. For example, its most vocal critics (e.g., Siegel (2004), Licht (2003, 2004)) consistently argue that the number of SEC actions against ill-behaved foreign firms has been few, and Licht (2003) goes so far as to suggest that the enforcement laws put in place by the SEC remain largely 'illusionary' for non-U.S. firms, as non-U.S. firms are subjected to a less stringent regime than that laid out for U.S. firms. In connection, Siegel (2004) outlines that over the period from 1995 to 2001 the SEC took legal action against just five foreign firms[2]. So while it appears that the holders of ADRs are not as well protected as are the holders of domestically listed U.S. firms, they do enjoy the benefits of 'Reputational Bonding' from listing in the U.S. (e.g., King and Segal (2004, KS Hereafter), Siegel (2004)) i.e. enhanced monitoring from 'Reputational Intermediaries' (i.e. financial analysts, underwriters, auditors). In support Stulz (2005, p. 1632) concludes that "Although this monitoring [from listing in the U.S.] may at times seem weak and tentative, it is monitoring that otherwise would not have taken place".

[1] Ribstein (2005) outlines other alternatives to cross listing. These include certification, a sale without listing and local incorporation. In addition, a related literature outlines how domestic exchanges have in response to sizable migrations of firms to U.S. capital markets improved their governance requirements. Dewenter, Kim, Lim, and Novaes (2005) and Carvalho and Pennacchi (2005) examine the impact of enhanced stock exchange governance regulations on firm value using Korean and Brazilian exchanges, respectively. They show that improved exchange governance enhances firm value. In a similar vein, Krishnamurti, Sequeira, and Fangjian (2003) using the two major Indian stock exchanges demonstrate how demutualized exchanges are superior to mutualized exchanges in terms of governance.

[2] Joos (2003, p. 396) concludes that "At the very least, empirical work suggests that the effectiveness of the bonding role of the SEC regulation presents an empirical question rather than an established fact".

Doidge, Karolyi, Lins, Miller, and Stulz (2005, DKLMS Hereafter) conclude that such monitoring acts as a sizable deterrent preventing many firms from cross listing.

I examine whether cross-listing in the U.S. affords additional protection to those investors who have already made the investment decision and invested in the firm i.e. the ordinary shareholders, as opposed to those investors that invest post-listing i.e. ADR holders. The majority of non-U.S. firms that 'opt-in' to the U.S. governance regime do not 'opt-out' of their domestic regime. So while it is clear that the ADR holders are protected, although not to the same extent as those investors that hold U.S. firms, it is not clear whether the holders of the firms' ordinary shares enjoy the same level of additional investor protection. In fact, Aggarwal, Dahiya, and Klapper (2005, p.3) suggest, "ADR holders have better legal standing compared to holders of the underlying security as the ADRs are purchased in the U.S". I examine whether the ordinary shareholders i.e. the holders of the underlying security enjoy any incremental protection under the U.S. governance regime.

In order to examine whether cross listing in the U.S. provides incremental protection for minority/ordinary shareholders, I follow the approach advocated by Benos and Weisbach (2004, p. 229). They argue that, given that regulatory bonding in the U.S. is unobservable to the researcher, "the issue of economic importance is whether managers and investors perceive cross-listings to have incremental protection or not. To examine this proposition, the appropriate approach is not to count SEC actions and debate whether they are important or not. Rather it is to examine the data for empirical implications of the hypothesis that cross-listings provide incremental protection, and therefore serve as a device enabling managers of non-U.S. firms to commit to protect the interests of their minority shareholders".

I examine the ordinary dividend payout of cross-listed firms around a cross-listing in the U.S. Our choice of variable is motivated by the fact that dividend payout is increasing in the level of investor protection (e.g., LaPorta, Lopez-de-Silanes, Shleifler, and Vishny (2000, LLSV Hereafter)) and, consequently changes in external investor protection are associated with changes in firm dividend payout (e.g., Liu (2002)), controlling for firm, industry and country level determinants of dividend payout. In addition, the choice of dependent variable is motivated by my desire to isolate the impact of cross listing on the domestic/ordinary shareholders (as against the ADR shareholders) of cross-listed firms. I employ the ordinary dividend payout of firms to achieve this goal. The agency models of dividends do not rely on specific rights per se, but rest on the premise that country laws and/or governance practices allow minority shareholders greater rights in general. I argue that firms may only pay lower dividends if they perceive that their minority investors will accept lower dividends for improvements in investor protection, as dividend cuts are costly. Minority/ordinary shareholders are more likely to accept lower dividends post-listing if they are compensated for reduced dividends with enhanced protection from listing in the U.S. Easterbrook (1984) outlined how governance practices and dividends are substitutes for one another. I argue that the additional protection afforded to minority investors from listing in the U.S. derive not only from additional general rights per se, but also from a reduced ability of controlling insiders to consume private benefits (e.g., Barzuza (2005), Doidge (2004), DKLMS (2005)).

Using a sample of 496 cross-listed firms from forty countries, I find that exchange-listed firms pay significantly lower dividends, post-listing, and this finding is robust to the inclusion of firm, industry and country

controls. This result is consistent with the notion that these investors are better protected under the U.S. regime, and suggests that both managers and investors "perceive cross-listings to have incremental protection". In line with my expectations, I find no evidence to suggest that the ordinary shareholders of Rule 144a firms benefit from incremental protection, post-listing. Interestingly, my results suggest that the minority investors of Level 1 firms are better protected. Although inconsistent with the legal bonding hypothesis, I show that these firms consistently establish a reputation for better protection of their investors by paying out a greater proportion of their earnings as dividends. Consequently, their ability to pay lower dividends post-listing may well result from a voluntary commitment on the part of these firms to protect their investors that is credible given their reputation for fair treatment. In support of this argument I find that the firm-level governance of Level 1 firms, as measured by the number of closely held shares improves in the post-listing period. I find no such effect for Rule 144a-traded firms.

My results have also important implications for the agency models of dividends. I find support for both the outcome and substitution models of dividends. More specifically, I find that in all cross-sectional periods, and over the full sample period, dividend payouts are significantly higher in countries where minority investors enjoy greater legal protection. In addition, and in line with Liu (2002), Zhang (2005), and Hwang, Park, and Park (2004, HPP Hereafter), I document support in favour of the substitute model of dividends: governance improvements substitute for dividends as a mechanism of controlling the agency costs associated with free cash flow. This finding is also consistent with the evidence that inter alia, improved governance helps explain why dividend payouts have been falling over time (e.g., Fama and French (2001), and DeAngelo, DeAngelo, and Skinner (2003))[3]. This of course suggests that the relation between dividend payouts and governance is non-constant and as such purely cross-sectional tests are biased towards acceptance of the outcome model of dividends. My results suggest that both models are not directly competing against one another.

## 2. Cross-listing in the United States and the legal bonding hypothesis

Non-U.S. firms can cross-list in the U.S., either directly as ordinary shares or as American Depositary Receipts (ADR). Absent Canadian and Israeli firms, the majority of non-U.S. firms list as ADRs. A sponsored, public Level 1 OTC depositary receipt program is the simplest way for non-US firms to access U.S. and non-U.S. capital markets. They trade 'over-the-counter' and also on some exchanges outside of the U.S., with prices published on the "Pink Sheets". A Rule 144A depositary receipt program, established by the SEC in 1990 facilitates access to U.S. and non-U.S. markets through a private placement of sponsored depositary receipts to Qualified Institutional Buyers. Trades are executed under the Portal system, and cleared through the Depositary Receipt Trust. Like Level 1 issues, they do not require compliance with U.S. G.A.A.P. or SEC registration. Under Regulation S, a company can offer a depositary receipt program to non-US investors on Designated Offshore Securities Markets 'DOSM'. Unlike Level 1 or Rule144a ADRs, cross-listing in the U.S. via a Level 2/3 exchange-listed ADR (or a direct listing on a U.S. exchange or NASDAQ) obligates these firms to provide fuller

[3] Interestingly, Ikenberry and Julio (2004) document a rebound in this trend. They show that since 2000 the proportion of U.S. firms paying cash dividends has increased and relate much of this shift to the maturity hypothesis.

disclosures under U.S. G.A.A.P., and operate under the mantra of the Securities and Exchange Commission (SEC), thus becoming subject to their enforcement powers. Furthermore, cross-listing in the U.S. also affords minority investors the means to exercise effective and low-cost legal remedies, unavailable at home, and exposes the firms to what Coffee (2002) terms "Reputational Intermediaries": underwriters (in the case of Level 3 capital-raising firms), financial analysts, auditors and bond rating agencies. The extant literature has documented how each can play a vital role in monitoring firms, facilitating the production of firm-specific private information into public information (See Lang, Lins, and Miller (2002, LLM Hereafter)). The legal bonding hypothesis outlines how such additional disclosures and monitoring allows firms to effectively 'rent' the U.S. governance regime by listing on a U.S. exchange. Unlike exchange-level ADRs, Level 1 and Rule 144a firms are not required to become "reporting companies" under the U.S. disclosure and regulatory environment (e.g., Coffee (2002)). Accordingly, the incremental protection benefits that accrue to the shareholders of cross-listing firms, if they do exist, apply only to exchange-listed ADRs.

## 3. Data

I begin by obtaining a complete list of depositary receipts from the Bank of New York (www.adrbny.com) and cross-reference this list with data sourced from Deutsche Bank (www.adr.db.com), JP Morgan (www.adr.com) and Citibank (wwss.citissb.com/adr). From each I am able to obtain the names, listing dates, the firms' country of origin, and the type of depositary receipt, as of July 2003. I also source a list of direct listings, for which the legal requirements of cross listing are essentially the same as those for exchange-listed depositary receipts from the official website of the NYSE and NASDAQ. For firms with joint and simultaneous depositary receipt listings (Level 1/Portal Programs) I classify these firms as Level 1 programs. If a firm has multiple depositary receipt programs, with different start dates, I classify this firm according to its earliest depositary receipt program, and ignore any subsequent programs. Finally, I include on sponsored depositary receipt programs.

To be included in the final sample, I only include those firms for which data relating to both variants of our dependent variable is available, and exclude firms with either, missing (entirely) pre or post listing dividend payout data. This 'Narrow' sample approach is necessary to ensure that any conclusions that I make are not due to a significant change in our sample makeup around the cross-listing date. I obtain the non-cross listed sample from the country lists provided by Datastream. From each, I exclude all firms with a U.S. listing, and include only those firms in our sample with data available on all our control variables. Like Liu (2002), but unlike LLSV (2000), I include firms from countries with mandatory dividend requirements (Brazil, Chile, Colombia, and Greece). Finally, I exclude all financial firms.

Finally, I exclude certain observations due to probable data errors; negative net sales or revenues, negative market-to-book assets, and negative dividends paid. In common with LLSV (2000), and Liu (2002), I eliminate possible outliers in our dependent variable(s) by removing the top 1% of outliers. Due to possible errors in scaling the data with net sale or revenues, I also eliminate outliers from each of our covariates by eliminating the top and bottom 1% of observations.

After imposing these requirements, my final sample, outlined in detail in Table 1 is comprised of 3,418 firms from 40 countries: 496 trade in the U.S., either as depositary receipts or directly on U.S. Exchanges. The remaining 2,922 firms are non-cross-listed. I provide, the percentage that each country (i.e. number of firms) contributes to the total number of firms in each depositary receipt level, and in each non-cross-listed sample. For example, my non-cross-listed sample is dominated firms from Brazil (7.60%), Japan (23.41%) and the United Kingdom (11.02%). In contrast, 18 countries contribute less than 1% each of our non-cross-listed sample. The majority of Level 1 issues are from Hong Kong (13.25%), the United Kingdom (11.54%), Australia (5.98%), Brazil (5.56%), India (5.56%) and South Africa (5.13%). Firms from the U.K. (20.69%), France (6.90%) and Japan (6.90%) dominate the exchange-traded sample. Non-surprisingly, the vast majority of direct listings in the U.S. are Canadian firms (97.37%). Finally, India (26.00%) and Taiwan (20.00%) make up the majority of firms that trade on the Portal under Rule 144a.

I begin by reporting some summary payout measures for both cross-listed and non-cross-listed firms. The results are presented in Table 2. For both variants of our dependent variable (Dividends-to-earnings and Dividends-to-cashflow), I calculate mean and median payout ratios over the full sample period. I outline summary measures for all cross-listed and non-cross-listed firms, and then further sub-divide the representative categories into firms originating from both high and low investor protection countries. Firms are characterised as either high or low investor protection firms according to their countries anti-directors right index (See LLSV (1998)).

At this point it is important that I make the distinction between payout ratios in calendar as opposed to event time. In Figures 1-12, I plot the time series behaviour of all firms in calendar time (which are averaged over the sample period and presented in Table 2). Consequently, any interpretations made subsequently concern the level of the divided payout, and not changes in dividend payout that results from changes in domestic investor protection. In the next section, I examine the change in dividend payout, resulting from a hypothesised change in domestic investor protection. The relationship around the event date may be very different to the relationship that holds in calendar time. Consequently, I may find support in favour of both the outcome and substitution models of dividends: the outcome model in calendar time, and the substitution model in event time. Liu (2002) provides similar arguments in her paper.

First, Level 1 firm's payout a higher percentage of their earnings as dividends than both exchange-listed and Rule 144a firms in calendar time (as opposed to event time). Second, non-cross-listed firms also pay out more dividends than both exchange-listed firms and Rule 144a firms, but pay slightly less (in terms of median payout) than Level 1 firms. These results are replicated when dividends-to-cashflow is employed as our dependent variable. Interestingly, the earlier relations are largely replicated for Level 1, Level 2/3, and Rule 144a firms from both high and low investor protection countries. The results for low investor countries are especially interesting. They show that Level 1 firms pay higher dividends than both exchange-listed and Rule 144a firms. This result may be driven by anti-directors rights measure differences within the low investor protection class or it may point to a relation between firm-level governance and dividend payout. To examine this issue further, I plot the time series behaviour of dividend-payout for cross-listed and non-cross-listed firms over the full sample

period. The results are reported in Figures 1-12. In Figures 1 and 2, I outline the time-series behaviour of dividend-payout by depositary receipt level. In the remaining figures, I classify cross-listed firms in accordance with their depositary receipt level, and their host countries level of investor protection. The Figures suggest that the findings from Table 2 are largely replicated in each cross-section. For example, in almost every year, dividend payouts are greater in those countries where investors are better protected. When I separate firms by depositary receipt level, I show that this relationship is unaffected. Finally, the earlier findings for Level 1 firms are replicated in Figures 4, 5, 6, 7, and 10. As before, Level 1 firms from high and low investor protection countries pay significantly higher dividends than their exchange-listed and Portal counterparts. Consistent with LLSV (2000), dividend payout is increasing in the level of investor protection. In addition to their findings, I show that this relationship has persisted over time.

Next I examine the change in median dividend payouts around the time of listing for each depositary receipt level by country in Tables 3 and 4. For each variant of our dependent variable, I outline the median payout differential between cross-listed and non-cross-listed firms, pre and post-listing. I repeat the analysis for Level 1 firms, Level 2/3 exchange-listed firms and for firms that trade under Rule144a on the Portal. The significance of the median differential is calculated using the Mann-Whitney test statistic. In addition, I present for each depositary receipt level, before-after estimates of the change in dividend payout. This is outlined in the third sub-column for each depositary receipt level.

I begin by discussing the results using dividend-to-earnings as our dependent variable. The aggregated payout ratios suggest that Level 1 firms pay slightly higher dividends, Level 2/3 firms pay lower dividends, and Rule 144a firms pay higher dividends, post-listing. I find that of the 30 countries with Level 1 listings, exactly half pay lower dividends, post-listing (15/30), 40% pay higher dividends (12/30), and 10% remain unchanged (3/30). I find that of the 28 countries with Level 2/3 issues, 57% (16/28) pay lower dividends post-listing, 11 of the 28 pay higher dividends and 1 remains unaltered. Finally, for Rule 144a firms, 10 of 19 pay higher dividends, while 9/19 pay lower dividends, post-listing. The results using dividend-to-cashflow (Table 4) mirrors those of dividend-to-earnings. For example, 14 of 28 pay lower dividends, while 13/28 pays higher dividends. The conclusions for the whole sample are the same as those outlined when I employ dividend-to-earnings as our dependent variable.

In the next section I test the agency models of dividends in a dynamic setting by, allowing investor protection to change for at least a subset of our sample i.e. for Level 2/3 cross-listed firms. I hypothesise that if cross listing in the U.S. is associated with enhanced protection for the domestic investors of Level 2/3 listed firms; I should observe a change in ordinary dividend payout.

## 4. Econometric Specification

In this section I outline the empirical methodology. I compare the change in ordinary dividend payout for cross-listed firms relative to non-cross-listed firms around the cross-listing date. This is motivated by the fact that regulatory bonding in the U.S. is unobservable to the researcher. By examining the changes in ordinary dividend payout, I seek to isolate the impact of cross listing by controlling for firm, industry and country level

determinants of ordinary dividend payout. Next, I allow this effect to vary across the different listing types using a simple dummy variable specification, and use this change in dividend payments made to ordinary shareholders to make inferences about how domestic investor protection has changed, post-listing.

To estimate the effect of cross listing on the ordinary dividend payout of firms, the following regression specification is followed:

$$\text{div}_{it} = \beta_0 + X_{it}\beta_1 + \delta_1 \text{OTC}_{it} + \delta_2 \text{EXCH}_{it} + \delta_3 \text{PORTAL}_{it} + \gamma_t + \alpha_i + \upsilon_{it} \quad (1)$$

$$\text{div}_{it} = \beta_0 + X_{it}\beta_1 + \delta_1 \text{OTC} * \text{AD}_{it} + \delta_2 \text{EXCH} * \text{AD}_{it} + \delta_3 \text{PORTAL} * \text{AD}_{it} + \gamma_t + \alpha_i + \upsilon_{it} \quad (2)$$

Where $\text{div}_{it}$ is the ordinary dividend payout of firm *i* in year *t*. I employ two different measures of ordinary dividend payout. First, I employ the traditional measure of dividend payout, dividends-to-earnings. $(\text{Div}/\text{Earn})_{it}$ is defined as $((\text{Dividends per Share}/\text{Earnings per Share}) * 100)$. The second measure, dividends-to-cashflow $(\text{Div}/\text{CF})_{it}$ is defined similarly. $\text{OTC}_{it}$, $\text{EXCH}_{it}$ and $\text{PORTAL}_{it}$ are dummy variables that identify whether an individual firm *i* is cross-listed in the United States at time t either as a Level 1, Level 2/3 depositary receipt, or under SEC Rule 144a on Portal. $\delta_1, \delta_2, \delta_3$ are parameters to be estimated. In the two-way fixed effects specification, these parameters estimate the 'causal' effect of cross listing on ordinary dividend payout within firms that change from not listing to listing i.e. the within estimates. $X_{it}$ is a vector of time-varying firm and time-invariant country level variables (rather than include country fixed effects). $\gamma_t$ are time fixed effects, and $\upsilon_{it}$ is a standard idiosyncratic disturbance term. In Equation 2, I interact each depositary receipt dummy variable with the anti-director rights measure provided by LLSV (1998). In this specification, AD is 1 if the firm originates in a country where investors are poorly protected (i.e. Anti Directors Rights <3). This specification allows me to measure the governance effects of cross listing for firms from countries where the protection afforded to investors is poor. The sign of the coefficients $\delta_1, \delta_2, \delta_3$ and the significance of such are ambiguous. The coefficients on $\text{OTC}, \text{Portal}$ should be insignificant in line with the predictions of the legal bonding hypothesis. However, the sign of the coefficient for exchange-listed firms is less clear. The reasoning is as follows: given the considerable underdevelopment of legal institutions in some countries (See LLSV (1998)), the prevailing wisdom suggests that the incremental investor protections from listing in the U.S. should thus on theoretical grounds be greater for these firms. On the other hand, Doidge, Karolyi, and Stulz (2004a) conclude that country and firm governance are actually complementary to one another. As such, voluntary firm governance improvements are more effective in countries where country governance is already effective. Mitton (2004) using a sample of emerging market firms finds additional support in favour of this proposition. Thus, the incremental governance benefits of listing in the U.S. for 'emerging market' firms may not be as effective due to poor governance at home[4]. $\alpha_i$ is unobserved firm level heterogeneity. I test whether these effects should be

[4] In a similar vein, Kristian-Hope, Kang, and Zang (2005) document that firms domiciled in a low disclosure regime experience a smaller net benefit to listing on an organized exchange (relative to firms domiciled in high disclosure regimes). The authors do not explore empirically the

treated as fixed or random by employing the standard Hausman (1978) test. The results (along with the Mundlak (1978) test) suggest that both the $X_{it}$ and $\alpha_i$ are correlated i.e. $Cov(X_{it}\alpha_i) \neq 0$. Consequently, I estimate a two-way fixed effects model outlined in Equations 1 and 2. Tests adopted from Baum (2001), Drukker (2003) and Wiggins (2003) suggest that the idiosyncratic errors are not independent and identically distributed. Consequently in all specifications, the standard errors are robust to both heteroscedasticity and arbitrary within-group correlation using Rogers (1993) standard errors clustered by firm. In addition to the tests outlined I also test for the presence of 'Firm' and 'Time' effects in the residuals by using the intuitive approach outlined in Petersen (2005). These results suggest that in line with our prior expectations, the error term contains a large firm effect, but a smaller time effect, which is common in corporate finance panel data sets. In the presence of such Petersen (2005) outlines the superiority of using Rogers (1993) standard errors clustered by firm, given the inclusion of fixed time effects ($\gamma_t$)[5] to control for contemporaneous correlation.

In my second empirical specification, I use a Tobit model to control for data censoring given that dividend payout is left censored at zero. The results of the Hausman (1978) test suggest that the individual specific effects are correlated with the regressors. Unlike the fixed effects model, it is impossible within the Tobit specification to eliminate the $\alpha_i$ by differencing them out. Furthermore, the unobserved effects cannot be conditioned out of maximum likelihood. Consequently, there exists no fixed effects Tobit model. In order to overcome this I adopt the approach of Wooldridge (2002). He shows that one can use a general Chamberlain (1984) style model by specifying the unobserved heterogeneity as a function of firm level means of included regressors, as specified by Mundlak (1978) so: $\alpha_i = \overline{X_i}\zeta + a_i$, where $\overline{X_i} = \frac{1}{T}\sum_{s=1}^{T} X_{it}$. The means of time-invariant regressors are excluded. The firm level means are substituted into Equations 1 and 2 yielding the following:

$$div_{it} = \beta_0 + X_{it}\beta_1 + \delta_1 OTC_{it} + \delta_2 EXCH_{it} + \delta_3 PORTAL_{it} + \overline{X_i}\zeta + \upsilon_{it} \quad (3)$$

$$div_{it} = \beta_0 + X_{it}\beta_1 + \delta_1 OTC * AD_{it} + \delta_2 EXCH * AD_{it} + \delta_3 PORTAL * AD_{it} + \overline{X_i}\zeta + \upsilon_{it} \quad (4)$$

Equations 3 and 4 are estimated using Pooled Tobit (e.g., Wooldridge (2002)). In all specifications the regression standard errors are robust to non-normality, heteroscedasticity and arbitrary within-group correlation (e.g., Hardin (2005)). I present results for the pooled Tobit model in Tables 5-6 and use the fixed effects estimates (unreported) to validate the results I report for the pooled Tobit model.

The vector of firm level controls, $X_{it}$ includes the following: (1) firms investment opportunity set (market to book of assets) (e.g., Rozeff (1982)) (2) profitability of assets in place (ROE). Return on Equity is

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reasons for such, but they do suggest a number of possible explanations. In connection, Khurana, Pereira, and Xiumin (2004) outline that developed market firms exhibit greater external financed firm growth, relative to emerging market firms, post-listing.

[5] Absent appropriate adjustment of the standard errors, we show that the standard errors are consistently underestimated by as much as 200% for some of the regressors.

calculated as earnings per share divided by book growth per share (3) firm size (Total Assets (Log)) (4) free cash flow (FCF), (e.g., Jensen (1986)) (5) operating and financial leverage (Cost of Goods Sold (COGS) and Debt), (e.g., Fazarri, Hubbard, and Petersen (1988)) and (6) earnings volatility (EPS) (e.g., Fama and French (2002a)) is calculated as the variance of the previous three years earnings per share. To conserve space, in Tables 3.10-3.12 I present results using only MBA, size and profitability as firm-level controls. The results are not affected when I include the remaining firm-level control variables[6].

In Appendix 1, I outline correlation coefficients and deal explicitly with concerns relating to multicollinearity by computing variance inflation factors. The correlation coefficients are by and large of the correct sign. For example, $(\mathrm{Div}/\mathrm{Earn})_{it}$ is positively related to profitability (ROE) and size, and negatively related to both volatility of earnings and growth opportunities (MBA). Surprisingly, both $(\mathrm{Div}/\mathrm{Earn})_{it}$ and $(\mathrm{Div}/\mathrm{CF})_{it}$ are negatively related to free cash flow, although neither is significant. The small variance inflation factors suggest that multicollinearity is not a significant problem in our data set.

I employ two country dummies to control for variations in dividend payout across legal regimes: a simple 0/1 dummy for legal origin: 1 if the country employs common law, and 0 otherwise (civil law). I also account for cross-country differences in investor protection; I classify those firms as firms from high investor protection countries if their anti-director score is equal to or greater than the median value of 3 (See LLSV (1998)). I control for payout differences across industries by classifying each firm according to their primary standard industry classification code. Hence, I form seven industry dummies; (1) agriculture, fishing, and forestry (2) mining and construction (3) manufacturing (4) transportation, communications, electric, gas and sanitary services (5) wholesale and retail trade (6) services and (7) public administration. I exclude all finance, insurance, and real estate firms (SIC beginning with 6).

I repeat the analysis by including American depositary receipt dividends as a covariate in each specification. ADR dividends are ordinary share dividends paid to the holders of ADRs, converted to U.S. Dollars at the prevailing spot exchange rate. I have no prior beliefs on the sign of the coefficient. For example, cross-listed firms with a history of paying dividends may also be those to pay a dividend to their ADR shareholders. Furthermore, I find that the inclusion of ADR dividends does not alter my main conclusions. All ADR dividend data is sourced from The Bank of New York (www.adrbny.com). All variables employed in our empirical analysis are defined in Table 3.15.

## 5. Results

In Tables 5-8, I present the results estimating the effect of cross listing on the ordinary dividend payout of cross-listed firms. In Tables 5 and 6, I present the pooled Tobit results corresponding to Equation 3 for Dividends-to-Earnings and Dividends-to-Cashflow, respectively. In Tables 7 and 8, I employ interaction variables to assess the impact of cross listing on the dividend payout of firms originating from countries where minority

[6] In unreported results, I calculate summary statistics for the dependent and independent variables by listing type. The results are available from the author upon request.

investors are poorly protected. In both tables, I outline regression results with the cross-listing dummies only (Column 1), the cross-listing dummies with firm level controls (2), and in (3) and (4) I include the ADR dummies and the firm level controls with country level governance variables. In column (3), I employ the LLSV (1998) anti-director rights measure, and in column (4) I include a dummy variable to signal if a firm is domiciled in a common law jurisdiction. Both variables are expected to impact positively on dividend payout (e.g., LLSV (2000)). These findings are robust to the inclusion of dividends to cashflow as our dependent variable. In addition to reporting the coefficient estimates, I also report the marginal effects at the means of each variable. For the dummy variables the marginal effects are calculated as the discrete change in F(x) as the dummy variable x changes from 0 to 1.

The first major result from Table 5 is that exchange-listed firms pay significantly lower dividends, post-listing. This finding is robust to the inclusion of firm and country controls (and industry controls in the case of the pooled Tobit model). This finding is important given that those firms that cross-list are very often those with sizable growth opportunities, proxied here by market to book of assets. I show that even after including this control, exchange-listed firms pay significantly lower dividends, post-listing. Thus this result is not driven by the sizable investment opportunity set of cross-listed firms. This result is in line with the results reported by Mitton (2004) for a sample of emerging market cross-listed firms and suggests that firms substitute dividends for improved firm-level governance. This result is also consistent with the findings of Liu (2002), who outline how functional convergence measures initiated are associated with lower dividend payouts. This finding for Level 2/3 listed firms suggests that rather than compete with one another, the outcome and substitute models of dividends are not mutually exclusive. Rather, this result suggests a role for both in explaining the relationship between investor protection and firm dividend payout. Like Liu (2002), my results suggest that cross-sectional tests are biased towards an acceptance of the outcome model of dividends. I find that the outcome model dominates in calendar time. In contrast, I find that in event time firms substitute dividends for enhanced governance.

In all specifications, the country and firm level controls are highly significant and have the expected sign. For example, larger and profitable firms pay higher dividends, while firms with sizable growth opportunities retain a sizable amount of earnings, rather than pay dividends. In line with my expectations, firms from common law countries with efficient legal and institutional frameworks pay significantly higher dividends (See LLSV (2000)). Finally, I also document that firms that pay an ADR dividend also pay larger dividends suggesting a possible clientele effect.

In Table 6, I examine the impact of cross listing on dividend policy for firms from countries with a poor record for protecting minority investors. Comparing Tables 5 and 6 the results suggest that although the magnitudes of the Tobit estimates are broadly similar, their significance is not as strong when compared to the results in Table 5. This suggests that the benefits to listing may not be as great for firms from poor-investor protection countries, consistent with the notion that firm and country governance improvements are in fact complementary to one another.

The results for Rule 144a firms are consistent with theory. The results from Tables 5-6 suggest that cross listing in the U.S. confers no additional protection benefits for the ordinary shareholders of these firms. In almost all specifications Rule 144a firms do not significantly change the amount that they pay to their ordinary

shareholders. The results for Level 1 firms are very interesting. In all regression specifications these firms pay significantly lower dividends, post-listing, a result consistent with the notion that like exchange-listed firms, these firms substitute dividends for enhanced governance. However, this result warrants further discussion. Level 1 firms are exempt from becoming 'reporting' companies under the terms of their depositary receipt agreement. Consequently, our finding that these firms pay sizable and significantly lower dividends post-listing is inconsistent with any of the predictions of the legal bonding hypothesis. In the next sub-section I attempt to shed more light on this finding.

I report in Tables 7 and 8 our regression results using Dividends-to-Cashflow as our dependent variable. The results are largely in line with those outlined when I employ Dividends-to-Earnings.

## 6. Firm-Level Governance

The findings for Level 1 firms may be consistent with the notion of reputational bonding: both KS (2004) and Siegel (2004) document that even absent effective legal bonding, a firm can still voluntarily bond themselves to fair treatment of their minority investors[7]. In addition, the evidence from Section 3 suggests that Level 1 firms, from both strong and weak investor protection countries, establish a strong reputation for the protection of investors by paying a greater proportion of their earnings as dividends, relative to both exchange-listed and Portal firms, and this relation holds in the pre and post-listing periods. Consequently, the ability of Level 1 issues to pay lower dividends post-listing may result from voluntary measures initiated by them post-listing e.g. firm level governance improvements (e.g., DK (2005)) and/or as a direct result of their reputation for fair treatment of minority shareholders. In fact Pinegar and Ravichandran (2004, p.8) in their study of Rule 144a/Reg S firms suggest as much when they conclude, "the reputation of the issuer may be as important as ownership concentration or the legal environment in protecting minority shareholders rights". The valuation premiums that Level 1 firms generate post-listing are also consistent with the notion that some of these firms benefit from reputational bonding, post-listing (e.g., Durand, Tan, and Tarca (2005)). Consistent with this argument, Aggarwal, Klapper, and Wysocki (2005, p. 2942) conclude in their study of U.S. Institutional Investor foreign portfolio allocations "U.S. funds allocate a larger proportion of their assets to firms with listed ADRs and unlisted ADRs that have better accounting and disclosure policies. Unlisted ADR firms have higher allocations only when they also adopt high quality accounting disclosures".

To examine whether non-exchange listed firms (Level 1 and Rule 144a) voluntarily commit to bond themselves to fair treatment of their minority shareholders through improved firm-level governance, I proxy for firm-level governance using the number of closely held shares and examine its behaviour around a cross-listing. A fall in the number of closely held shares implies an improvement in firm-level governance. Numerous papers have employed closely held shares to proxy for firm-level governance (e.g. Holland and Warnock (2003)). From my original sample of 496 cross-listed firms, I am able to source data on Closely Held Shares for 214 Level 1

[7] Reputational bonding refers to bonding as a result of increased monitoring from reputational intermediaries e.g. analysts, underwriters, and auditors. A large literature suggests that it is only exchange-traded firms that benefit from reputational bonding after listing in the U.S. (e.g. LLM (2003)). Consequently, firm level improvements for non-exchange traded firms are more likely to be driven by voluntary initiatives on the part of the firm.

firms, 137 Level 2/3 (including ordinary lists) and 49 Rule 144a firms from Worldscope. The results are outlined in Table 9.

Here I outline for each depositary receipt level, the median value of closely held shares in the two years prior to listing, and on the list year. In the subsequent rows, I calculate the change in closely held shares between the five year post-listing **(1, 2, 3, 4, 5)** period and the two years pre-listing **(-2, -1)**. For example, **Δ (3, -1)** refers to the change in closely held shares one year prior to listing to three years post-listing. In the case of Level 1 firms this change is negative, implying an improvement in firm-level governance. In the remaining rows, I outline the median value of closely held shares in the pre and post-listing period. The difference is outlined in the final row.

I begin by discussing the results for Level 1 firms. My findings suggest that non-exchange listed Level 1 firms improve their firm level governance in the post-listing period. The number of shares closely held is lower in almost every period post-listing, relative to the two years pre-listing. For example, the number of shares closely held by Level 1 firms is almost 33% lower three years post-listing relative to the year prior to listing. I find the opposite for Rule 144a firms; in every period post-listing, I find that the level of closely held shares is greater than in the pre-listing period (column 4). Interestingly, the results for both Level 1 and Rule 144a firms are consistent with our findings reported in Section 3: Level 1 firms consistently pay higher dividends relative to both Level 2/3 exchange-listed firms, and Rule 144a firms. As such these firms establish a reputation for fair treatment of their investors by paying out a sizable proportion of their earnings as dividends. Interestingly, the results for Level 2/3 exchange listed firms are mixed.

## 7. Concluding Remarks

The ability of firms to finance their investment opportunity set externally is largely contingent on the effectiveness of their domestic legal system to protect the interests of their minority shareholders. In a country characterised by poor legal protection of investors, firms are very often constrained in their attempts to fund their growth opportunities. To rectify this, a number of firms have over the last decade sought to substitute their home level governance for the superior governance of the U.S. by listing on an organised U.S. exchange. RW (2002) document that post-listing, exchange-listed ADRs, capitally constrained at home pre-listing, were no longer post-listing. This suggests that the domestic investors of these investors are better protected post-listing. I test this proposition.

In order to do so I employ the agency models of dividends introduced by LLSV (2000). I examine the ordinary dividend payout of cross-listed firms around a cross listing in the U.S. The choice of variable is motivated by the fact that (1) dividend payout is increasing in the level of investor protection and, consequently (2) changes in external investor protection are associated with changes in firm dividend payout, controlling for firm, industry and country level determinants of dividend payout. I hypothesis that if the investors of exchange-listed firms are better protected, they are more likely to accept lower dividends. I argue that ordinary shareholders are compensated for this reduced dividend payment with enhanced protection.

Using a sample of 496 cross-listed firms from forty countries, I show that exchange-listed firms pay significantly lower dividends post-listing, and this finding is robust to the inclusion of firm, industry and country controls. This result is consistent with the notion that these investors are better protected under the U.S. regime. In line with my expectations I find no evidence that the ordinary shareholders of Rule 144a firms benefit from incremental protection, post-listing. Interestingly, my results suggest that the minority investors of Level 1 firms are better protected. Although inconsistent with the legal bonding hypothesis, I show that these firms consistently establish a reputation for better protection of their investors by paying out a greater proportion of their earnings as dividends. Consequently, their ability to pay lower dividends post-list may well result from a voluntary commitment on the part of these firm to protect their investors that is credible given their reputation for fair treatment. I present evidence to suggest that these firms improve their firm level governance post-listing. The payment of substantially higher dividends by these firms suggests a commitment on their part to bond to fair treatment of their ordinary shareholders.

Finally, my findings outline the importance of testing the agency models of dividends both cross-sectionally, and across time. Like Liu (2002), I find empirical support for both models; dividend payouts are larger in countries where investors are better protected. In addition I show that this relationship has persisted over time. Second, and consistent with the findings of Liu (2002), I show that governance reforms are associated with lower firm dividend payouts. Liu's (2002) findings suggest that country functional convergence reforms (as opposed to legal reforms) substitute for dividends in controlling the agency costs associated with free cash flow. My findings suggest that governance reforms initiated at the level of the firm, and not the country, are effective reforms. This suggests that cross listing in the U.S. does enhance the protection of the domestic investors of those firms that list.

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Table 1: Sample Description

| Country | NCL | % | Level 1 | % | Level 2/3 | % | Rule 144a | % | Ordinary | % | Total CL | Sample |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Argentina | 17 | 0.58 | 0 | 0.00 | 5 | 2.87 | 0 | 0.00 | 0 | 0.00 | 5 | 22 |
| Australia | 86 | 2.94 | 14 | 5.98 | 8 | 4.60 | 1 | 2.00 | 0 | 0.00 | 23 | 109 |
| Austria | 23 | 0.79 | 9 | 3.85 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 9 | 32 |
| Belgium | 22 | 0.75 | 2 | 0.85 | 1 | 0.57 | 0 | 0.00 | 0 | 0.00 | 3 | 25 |
| Brazil | 222 | 7.60 | 13 | 5.56 | 7 | 4.02 | 1 | 2.00 | 0 | 0.00 | 21 | 243 |
| Canada | 112 | 3.83 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 37 | 97.37 | 37 | 149 |
| Chile | 25 | 0.86 | 0 | 0.00 | 4 | 2.30 | 0 | 0.00 | 0 | 0.00 | 4 | 29 |
| China | 22 | 0.75 | 3 | 1.28 | 5 | 2.87 | 0 | 0.00 | 0 | 0.00 | 8 | 30 |
| Colombia | 25 | 0.86 | 0 | 0.00 | 0 | 0.00 | 1 | 2.00 | 0 | 0.00 | 1 | 26 |
| Denmark | 33 | 1.13 | 0 | 0.00 | 1 | 0.57 | 0 | 0.00 | 0 | 0.00 | 1 | 34 |
| Finland | 31 | 1.06 | 4 | 1.71 | 3 | 1.72 | 1 | 2.00 | 0 | 0.00 | 8 | 39 |
| France | 134 | 4.59 | 12 | 5.13 | 12 | 6.90 | 0 | 0.00 | 0 | 0.00 | 24 | 158 |
| Germany | 129 | 4.41 | 8 | 3.42 | 7 | 4.02 | 2 | 4.00 | 0 | 0.00 | 17 | 146 |
| Greece | 17 | 0.58 | 1 | 0.43 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 1 | 18 |
| Hong Kong | 65 | 2.22 | 31 | 13.25 | 3 | 1.72 | 2 | 4.00 | 0 | 0.00 | 36 | 101 |
| India | 46 | 1.57 | 13 | 5.56 | 6 | 3.45 | 13 | 26.00 | 0 | 0.00 | 32 | 78 |
| Ireland | 20 | 0.68 | 2 | 0.85 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 2 | 22 |
| Israel | 66 | 2.26 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 66 |
| Italy | 51 | 1.75 | 6 | 2.56 | 8 | 4.60 | 1 | 2.00 | 0 | 0.00 | 15 | 66 |
| Japan | 684 | 23.41 | 15 | 6.41 | 12 | 6.90 | 1 | 2.00 | 0 | 0.00 | 28 | 712 |
| Malaysia | 66 | 2.26 | 4 | 1.71 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 4 | 70 |
| Mexico | 33 | 1.13 | 4 | 1.71 | 11 | 6.32 | 1 | 2.00 | 0 | 0.00 | 16 | 49 |
| Netherlands | 19 | 0.65 | 5 | 2.14 | 8 | 4.60 | 0 | 0.00 | 0 | 0.00 | 13 | 32 |
| Norway | 22 | 0.75 | 4 | 1.71 | 3 | 1.72 | 1 | 2.00 | 0 | 0.00 | 8 | 30 |
| New Zealand | 34 | 1.16 | 1 | 0.43 | 1 | 0.57 | 0 | 0.00 | 0 | 0.00 | 2 | 36 |
| Peru | 56 | 1.92 | 0 | 0.00 | 1 | 0.57 | 2 | 4.00 | 0 | 0.00 | 3 | 59 |
| Phillipines | 22 | 0.75 | 4 | 1.71 | 0 | 0.00 | 1 | 2.00 | 0 | 0.00 | 5 | 27 |
| Poland | 63 | 2.16 | 3 | 1.28 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 3 | 66 |
| Portugal | 29 | 0.99 | 1 | 0.43 | 2 | 1.15 | 1 | 2.00 | 0 | 0.00 | 4 | 33 |
| Russia | 0 | 0.00 | 0 | 0.00 | 1 | 0.57 | 0 | 0.00 | 0 | 0.00 | 1 | 1 |
| South Africa | 23 | 0.79 | 12 | 5.13 | 5 | 2.87 | 2 | 4.00 | 0 | 0.00 | 19 | 42 |
| Singapore | 66 | 2.26 | 10 | 4.27 | 0 | 0.00 | 1 | 2.00 | 0 | 0.00 | 11 | 77 |
| South Korea | 44 | 1.51 | 5 | 2.14 | 5 | 2.87 | 4 | 8.00 | 0 | 0.00 | 14 | 58 |
| Spain | 83 | 2.84 | 1 | 0.43 | 3 | 1.72 | 1 | 2.00 | 0 | 0.00 | 5 | 88 |
| Sweden | 28 | 0.96 | 2 | 0.85 | 7 | 4.02 | 1 | 2.00 | 0 | 0.00 | 10 | 38 |
| Switzerland | 7 | 0.24 | 2 | 0.85 | 4 | 2.30 | 2 | 4.00 | 0 | 0.00 | 8 | 15 |

| Country | NCL | % | Level 1 | % | Level 2/3 | % | Rule 144a | % | Ordinary | % | Total CL | Sample |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Taiwan | 27 | 0.92 | 8 | 3.42 | 5 | 2.87 | 10 | 20.00 | 0 | 0.00 | 23 | 50 |
| Thailand | 28 | 0.96 | 8 | 3.42 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 8 | 36 |
| Turkey | 120 | 4.11 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 120 |
| UK | 322 | 11.02 | 27 | 11.54 | 36 | 20.69 | 0 | 0.00 | 1 | 2.63 | 64 | 386 |
| **TOTAL** | **2,922** | **100%** | **234** | **100%** | **174** | **100%** | **50** | **100%** | **38** | **100%** | **496** | **3,418** |

In this table I outline the final sample by country and cross-listing level. N (NCL) is the number of firms by country not cross-listed in the United States. All information on firms cross-listed in the U.S. are obtained from the Bank of New York, and cross-referenced with data provided by Deutsche-Bank, JP Morgan and Citibank. Rule 144a ADRs trade on PORTAL; Level 1 ADRs trade over-the-counter as pink sheet issues, and Level 2/3 trade on the NYSE or NASDAQ. Ordinary Shares are shares that list directly in the United States.

Table 2: Dividend Payout Levels by ADR Classification (Mean [Median])

| | Domestic | Level 1 | Level 2/3 | Rule 144a |
|---|---|---|---|---|
| | | Dividends-to-Earnings | | |
| Full Sample | 38.00 | 35.92 | 32.20 | 34.64 |
| | [30.29] | [32.98] | [25.31] | [27.56] |
| Low Anti-Director | 35.55 | 31.73 | 32.89 | 33.48 |
| | [29.84] | [30.94] | [31.35] | [18.25] |
| High Anti-Director | 39.05 | 35.92 | 31.61 | 32.17 |
| | [30.53] | [32.85] | [22.56] | [23.62] |
| | | Dividends-to-Cashflow | | |
| Full Sample | 20.42 | 20.22 | 16.14 | 17.69 |
| | [14.21] | [18.34] | [11.89] | [13.00] |
| Low Anti-Director | 16.46 | 14.95 | 13.88 | 8.28 |
| | [11.69] | [13.13] | [12.22] | [5.46] |
| High Anti-Director | 21.66 | 20.84 | 16.42 | 18.54 |
| | [14.93] | [18.23] | [11.31] | [13.90] |
| | | Significance Tests [High vs. Low] | | |
| | | Dividends-to-Earnings | | |
| Mean | -3.23*** | -2.54** | 0.42 | 0.0215 |
| Median | -6.93*** | -2.22** | 2.73*** | -0.554 |
| | | Dividends-to-Cashflow | | |
| Mean | -15.88*** | -8.89*** | -4.61*** | -3.87*** |
| Median | -16.26*** | -6.94*** | -0.765 | -4.43*** |

In this table I report mean and median dividend payout levels for non-cross-listed firms and cross-listed firms over the full sample period. Dividends-to-cashflow and dividends-to-earnings are employed as our payout proxies. Both are defined in the appendix. Dividend payouts for all cross-listed firms are calculated over the full sample period for each firm, which includes both the pre and post-listing period. For both cross-listed and non-cross-listed firms I report both t and Z statistics for the mean and median difference between high and low investor protection countries, respectively. *, **, *** represents significance at the 10, 5, and 1% level, respectively.

Table 3: Median Dividends-to-Earnings payout differentials.

| Country | Cross-List | Cross-List | | Level 1 OTC | | | Level 2/3 | | | Rule 144a | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL-NCL | Pre-NCL | Post-NCL | Pre-NCL | Post-NCL | Post-Pre | Pre-NCL | Post-NCL | Post-Pre | Pre-NCL | Post-NCL | Post-Pre |
| Argentina | **71.48*** ** | **83.19*** ** | **69.53*** ** | - | - | - | **83.19*** ** | **69.53*** ** | (13.66) | - | - | - |
| Australia | **(12.79)*** ** | **(19.7)*** ** | **(7.68)*** ** | **(12.83)*** ** | **(5.42)*** ** | 7.41 | **(26.76)*** ** | **(13.18)*** ** | 13.58 | **(60.24)*** ** | (9.37) | 50.87 |
| Austria | (5.15) | (5.12) | (6.35) | (5.12) | (6.35) | (1.23) | - | - | - | - | - | - |
| Belgium | **7.62** ** | 3.30 | **14.55** ** | 2.41 | **13.70** ** | 11.29 | 6.72 | 29.74 | 23.02 | - | - | - |
| Brazil | **8.58*** ** | **6.14* ** | **9.88*** ** | 7.17 | **8.73*** ** | 1.56 | 4.72 | **16.41** ** | 11.69 | - | (18.18) | - |
| Canada | **(9.48)*** ** | (3.93) | **(18.46)*** ** | - | - | - | (3.93) | **(18.46)*** ** | (14.53) | - | - | - |
| Chile | 6.73 | **17.31* ** | 3.23 | - | - | - | **17.31* ** | 3.23 | (14.08) | - | - | - |
| China | **(19.08)** ** | **(38.1)*** ** | (9.51) | (15.20) | (38.08) | (22.88) | **(38.08)*** ** | (5.39) | 32.69 | - | - | - |
| Colombia | 30.07 | (38.46) | 33.10 | - | - | - | - | - | - | (38.46) | 33.10 | 71.56 |
| Denmark | (3.01) | 2.64 | (3.09) | - | - | - | 2.64 | (3.09) | (5.73) | - | - | - |
| Finland | (1.74) | **(5.96)* ** | **5.12* ** | (3.85) | **8.38* ** | 12.23 | **(7.28)* ** | (2.14) | 5.14 | (12.31) | 4.22 | 16.53 |
| France | **0.79*** ** | **(0.48)** ** | 3.78 | 1.76 | **7.64** ** | 5.88 | **(3.78)*** ** | **(14.56)*** ** | (10.78) | - | - | - |
| Germany | **(7.06)*** ** | **(5.84)*** ** | **(11.92)*** ** | **(6.60)* ** | **(11.45)** ** | (4.85) | (3.70) | **(12.82)** ** | (9.12) | **(44.08)*** ** | **(10.65)* ** | 33.43 |
| Greece | **(19.88)*** ** | **(19.9)*** ** | **(49.11)*** ** | **(19.88)*** ** | **(49.11)*** ** | (29.23) | - | - | - | - | - | - |
| Hong Kong | 0.89 | **6.10** ** | (5.46) | **7.76*** ** | (3.86) | (11.62) | (18.27) | (22.63) | (4.36) | **(40.24)*** ** | **(40.24)*** ** | - |
| India | **(3.52)*** ** | **(4.95)*** ** | **(2.99)** ** | 0.54 | (0.89) | (1.43) | **(12.72)*** ** | **(17.31)*** ** | (4.59) | 4.11 | (3.52) | (7.63) |
| Ireland | **(26.32)*** ** | **(26.3)*** ** | **(26.32)*** ** | **(26.32)*** ** | **(26.32)*** ** | - | - | - | - | - | - | - |
| Israel | - | - | - | - | - | - | - | - | - | - | - | - |
| Italy | (1.53) | **(6.96)** ** | (0.95) | **(34.84)*** ** | (2.45) | 32.39 | 10.28 | 1.33 | (8.95) | **(20.89)*** ** | **(24.60)*** ** | (3.71) |
| Japan | **(2.60)*** ** | (0.65) | **(4.88)*** ** | (1.25) | 0.93 | 2.18 | 0.19 | **(10.93)*** ** | (11.12) | 11.74 | **(12.95)** ** | (24.69) |
| Malaysia | (3.56) | (2.10) | (7.80) | (2.10) | (7.80) | (5.70) | - | - | - | - | - | - |
| Mexico | **6.43*** ** | **6.43** ** | **6.22** ** | **14.54*** ** | **35.77*** ** | 21.23 | 0.55 | 4.27 | 3.72 | 13.21 | **9.65** ** | (3.56) |
| Netherlands | **(2.26)*** ** | **(2.87)*** ** | **(1.69)** ** | (0.53) | (2.50) | (1.97) | **(3.35)*** ** | **(1.48)** ** | 1.87 | - | - | - |
| Norway | **31.52*** ** | **21.76*** ** | **36.58*** ** | **33.22*** ** | **35.48*** ** | 2.26 | - | **50.93*** ** | - | **15.07*** ** | **32.86*** ** | 17.79 |
| New Zealand | 28.36 | **36.41* ** | (48.00) | **(48.00)*** ** | **(48.00)*** ** | 0.00 | **45.68*** ** | 30.92 | (14.76) | - | - | - |
| Peru | **44.75*** ** | 32.14 | **45.07*** ** | - | - | - | 38.53 | **44.75** ** | 6.22 | 22.21 | **58.42*** ** | 36.21 |
| Phillipines | 3.46 | 0.00 | 6.61 | 0.00 | 0.00 | 0.00 | - | - | - | 5.95 | **7.89** ** | 1.94 |
| Poland | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | - | - | - | 0.00 | - |
| Portugal | 14.59 | (6.00) | **17.23** ** | **(14.65)* ** | (19.05) | (4.40) | 16.04 | **14.88* ** | (1.16) | 9.79 | **23.00*** ** | 13.21 |
| Russia | - | - | - | - | - | - | 0.00 | 13.16 | 13.16 | - | 0.00 | - |
| South Africa | **(1.62)*** ** | 0.31 | **(4.23)*** ** | **(3.26)*** ** | **(5.99)*** ** | (2.73) | **8.32*** ** | (3.73) | (12.05) | **(17.56)*** ** | (1.05) | 16.51 |
| Singapore | **(6.86)** ** | (1.21) | **(7.75)*** ** | (0.94) | **(6.98)*** ** | (6.04) | - | - | - | (11.73) | **(15.12)** ** | (3.39) |
| South Korea | (1.42) | **12.49*** ** | **(11.04)*** ** | **9.65*** ** | **(13.78)*** ** | (23.43) | 6.88 | (7.76) | (14.64) | 18.27 | (0.56) | (18.83) |
| Spain | **9.69** ** | **15.98*** ** | 8.27 | (18.62) | **(33.58)** ** | (14.96) | **18.99*** ** | 9.66 | (9.33) | 3.58 | (10.14) | (13.72) |
| Sweden | (0.36) | **6.67* ** | **(3.26)*** ** | 12.86 | 1.64 | (11.22) | **5.70** ** | **(4.95)*** ** | (10.65) | **(33.87)** ** | 1.18 | 35.05 |

| Country | Cross-List | Cross-List | | Level 1 OTC | | | Level 2/3 | | | Rule 144a | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL-NCL | Pre-NCL | Post-NCL | Pre-NCL | Post-NCL | Post-Pre | Pre-NCL | Post-NCL | Post-Pre | Pre-NCL | Post-NCL | Post-Pre |
| Switzerland | **17.88*** ** | **17.30*** ** | **18.52*** ** | **21.15*** ** | **21.37*** ** | 0.22 | **5.12** ** | **16.50*** ** | 11.38 | **7.54*** ** | 2.85 | (4.69) |
| Taiwan | **(22.00)** ** | **(22.00)** ** | **(22.00)** ** | (22.00) | 0.56 | 22.56 | **(22.00)*** ** | **(22.00)*** ** | 0.00 | **19.08*** ** | (13.16) | (32.24) |
| Thailand | **(14.53)*** ** | **(5.38)** ** | **(17.68)*** ** | **(5.38)** ** | **(17.68)*** ** | (12.30) | - | - | - | - | - | - |
| Turkey | - | - | - | - | - | - | - | - | - | - | - | - |
| UK | **1.64*** ** | **(0.93)*** ** | 6.36 | **(0.43)*** ** | 7.75 | 8.18 | **(1.16)*** ** | **3.97** ** | 5.13 | - | - | - |
| TOTAL | **0.65*** ** | **1.23** | **(0.02)*** ** | **3.23*** ** | **3.67** ** | **0.44** | **(0.17)*** ** | **(5.03)*** ** | **(4.86)** | **(6.71)*** ** | **(3.14)*** ** | **3.57** |

In this table, I calculate for each ADR Level the **Median** dividend payout difference between cross-listed and non cross-listed firms, in both the pre and post-listing period. Dividend-to-Earnings is employed as our payout proxy, and is defined in the appendix. Furthermore, I outline for each ADR Level the difference in dividend payouts, pre and post-listing. I test the equality of medians between cross-listed and non cross-listed firms using the Mann-Whitney test (Z-Statistic). *, **, *** represents significance at the 10, 5, and 1% level, respectively. All firm level data is sourced from Worldscope and Datastream. All information on firms cross-listed in the U.S. are obtained from the Bank of New York, and cross-referenced with data provided by Deutsche-Bank, JP Morgan and Citibank. Rule 144a issues trade as private placements on PORTAL; Level 1 firms trade over-the-counter as pink sheet issues, and Level 2/3 trade on U.S. exchanges.

Table 4: Median Dividends-to-Cashflow payout differentials.

| | Cross-List | Cross-List | | Level 1 OTC | | | Level 2/3 | | | Rule 144a | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL-NCL | Pre-NCL | Post-NCL | Pre-NCL | Post-NCL | Post-Pre | Pre-NCL | Post-NCL | Post-Pre | Pre-NCL | Post-NCL | Post-Pre |
| Argentina | **19.35*** ** | **25.40*** | **18.29*** ** | - | - | - | **25.40*** | **18.29*** ** | (7.11) | - | - | - |
| Australia | **(14.78)*** ** | **(20.1)*** ** | **(12.57)*** ** | **(17.65)*** ** | **(11.82)*** ** | 5.83 | **(18.92)*** ** | **(12.85)*** ** | 6.07 | **(36.31)*** ** | **(20.34)** ** | 15.97 |
| Austria | **2.94*** ** | (0.30) | **6.45*** ** | (0.30) | **6.45*** ** | 6.75 | - | - | - | - | - | - |
| Belgium | **0.98*** | (0.02) | **6.35** ** | 1.46 | **7.36*** ** | 5.90 | (0.41) | (5.78) | (5.37) | - | - | - |
| Brazil | **6.02*** ** | 4.05 | **6.45*** ** | 4.62 | **6.37*** ** | 1.75 | 3.48 | **8.79** ** | 5.31 | - | (4.21) | - |
| Canada | **(4.22)*** ** | (1.87) | **(7.57)*** ** | - | - | | (1.87) | **(7.57)*** ** | (5.70) | - | - | - |
| Chile | (0.32) | **26.43** ** | (6.42) | - | - | | **26.43** ** | (6.42) | (32.85) | - | - | - |
| China | **(10.95)** ** | **(15.9)*** ** | (1.09) | 0.00 | (15.9) | (15.9) | **(15.9)*** ** | 0.44 | 16.33 | - | - | - |
| Colombia | 3.69 | (29.04) | 4.68 | - | - | - | - | - | - | (29.04) | 4.68 | |
| Denmark | 2.21 | 5.99 | 1.95 | - | (9.95) | - | 5.99 | 1.95 | (4.04) | - | - | - |
| Finland | (0.65) | **(4.00)*** ** | 2.34 | **(7.90)** ** | 0.22 | 8.12 | **(4.65)*** | **7.46** ** | 12.11 | (0.98) | (0.06) | 0.92 |
| France | **(1.65)*** ** | **(2.50)*** ** | 0.39 | (0.53) | 2.87 | 3.40 | **(4.31)*** ** | **(10.10)*** ** | (5.79) | - | - | - |
| Germany | **(3.00)*** ** | **(3.02)*** ** | **(2.40)*** | **(5.87)*** ** | **(5.39)*** ** | 0.48 | (0.77) | 5.48* | 6.25 | **(13.04)*** ** | (5.55) | 7.49 |
| Greece | **(14.23)*** | - | **(14.23)*** | - | **(14.23)*** | - | - | - | - | - | - | - |
| Hong Kong | **(3.24)*** | 1.48 | **(5.93)*** ** | 3.23 | **(4.98)** ** | (8.21) | **(23.16)*** ** | **(30.22)*** ** | (7.06) | **(27.38)*** ** | **(21.83)*** | 5.55 |
| India | **(3.07)*** ** | **(5.17)*** ** | **(2.28)*** ** | **(5.12)*** ** | (0.61) | 4.51 | **(7.42)*** ** | **(9.54)*** ** | (2.12) | (1.16) | **(2.79)*** ** | (1.63) |
| Ireland | **(19.42)*** ** | **(19.4)*** ** | **(19.42)*** ** | **(19.42)*** ** | **(19.42)*** ** | 0.00 | - | - | - | - | - | - |
| Israel | - | - | - | - | - | - | - | - | - | - | - | - |
| Italy | (0.52) | **(5.81)*** ** | 2.08 | **(6.47)*** ** | **4.27*** | 10.74 | **(3.92)*** ** | **1.92*** | 5.84 | **(7.41)*** ** | **(9.52)*** ** | (2.11) |
| Japan | **(0.46)*** | **0.81** ** | **(3.29)*** ** | **0.93*** ** | (0.46) | (1.39) | 0.82 | **(4.84)*** ** | (5.66) | (0.13) | (0.67) | (0.54) |
| Malaysia | **(1.98)*** | (0.69) | **(2.93)*** | (0.69) | **(2.93)*** | (2.24) | - | - | - | - | - | - |
| Mexico | **10.08*** ** | **9.78*** ** | **10.23*** ** | **20.14*** ** | **20.44*** ** | 0.30 | **8.22*** | **7.53*** | (0.69) | 12.48 | **9.38*** | (3.10) |
| Netherlands | **(4.06)*** ** | **(4.06)*** ** | **(4.08)*** ** | **(2.87)*** ** | 3.23 | 6.10 | **(5.43)*** ** | **(7.02)*** ** | (1.59) | - | - | - |
| Norway | **22.73*** ** | **16.01*** ** | **24.19*** ** | **20.07*** ** | **26.36*** ** | 6.29 | 7.78 | **15.52*** ** | 7.74 | - | (9.35) | - |
| New Zealand | 2.20 | 25.38 | **(16.69)*** | **(27.17)*** ** | **(27.17)*** ** | 0.00 | **29.03*** ** | (3.48) | (32.51) | - | - | - |
| Peru | **11.82*** ** | 4.07 | **16.27*** ** | - | - | - | 2.75 | **14.72*** | 11.97 | 5.38 | **32.23*** ** | 26.85 |
| Philippines | 2.43 | 0.00 | 4.18 | 0.00 | 0.00 | 0.00 | - | - | - | 5.68 | **6.94** ** | 1.26 |
| Poland | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | - | - | - | - | - | - |
| Portugal | **5.60*** | (0.80) | **7.90** ** | (5.77) | (13.17) | (7.40) | (3.26) | **5.86** ** | 9.12 | 12.66 | **13.23** ** | 0.57 |
| Russia | - | - | - | - | - | - | - | - | - | - | - | - |
| South Africa | **(5.46)*** ** | **(3.37)** ** | **(7.21)*** ** | **(6.70)*** ** | **(7.18)*** ** | (0.48) | **12.67*** ** | **(7.07)*** | (19.74) | **(22.36)*** ** | **(11.88)*** ** | 10.48 |
| Singapore | **(9.96)*** ** | **(8.30)** ** | **(10.00)*** ** | **(5.75)*** | **(9.85)*** ** | (4.10) | - | - | - | **(12.83)*** | **(14.75)*** ** | (1.92) |
| South Korea | (1.63) | **4.25*** ** | **(2.72)*** ** | **0.89*** | **(4.08)*** ** | (4.97) | 2.05 | (1.49) | (3.54) | **6.37** ** | **(4.20)*** ** | (10.57) |
| Spain | (2.34) | (1.89) | **(4.65)** ** | (7.89) | **(17.69)*** ** | (9.80) | (1.99) | (0.12) | 1.87 | 13.30 | (7.52) | (20.82) |

| | Cross-List | Cross-List | | Level 1 OTC | | | Level 2/3 | | | Rule 144a | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CL-NCL | Pre-NCL | Post-NCL | Pre-NCL | Post-NCL | Post-Pre | Pre-NCL | Post-NCL | Post-Pre | Pre-NCL | Post-NCL | Post-Pre |
| Sweden | **(2.32)*** ** | **(1.80)*** | **(2.32)*** ** | 1.90 | (2.35) | (4.25) | (3.86) | **(3.36)*** ** | 0.50 | (19.84)** | 5.95 | 25.79 |
| Switzerland | **11.30*** ** | **8.83*** ** | **12.78*** ** | **14.60*** ** | **14.21*** ** | (0.39) | **6.18*** ** | **12.10**** | 5.92 | 2.65 | **12.95*** ** | 10.30 |
| Taiwan | **(17.06)*** ** | **(17.06)**** | **(17.06)**** | **(17.06)**** | (5.29) | 11.77 | **(17.06)**** | **(17.06)**** | 0.00 | **19.93*** ** | (4.71) | (24.64) |
| Thailand | (5.66) | (3.64) | (8.85) | (3.64) | (8.85) | (5.21) | - | - | - | - | - | - |
| Turkey | - | - | - | - | - | - | - | - | - | - | - | - |
| UK | **(1.68)*** ** | **(5.16)*** ** | 1.89 | **(4.85)*** ** | 3.38 | 8.23 | **(5.51)*** ** | **0.41**** | 5.92 | - | - | - |
| TOTAL | **0.57*** ** | **(0.01)**** | **1.31*** | **1.63*** ** | **4.46*** ** | **2.83** | **(1.36)*** ** | **(1.80)*** ** | **(0.44)** | **(3.72)*** ** | **(1.41)**** | **2.31** |

In this table, I calculate for each ADR Level the **Median** dividend payout difference between cross-listed and non cross-listed firms, in both the pre and post-listing period. Dividend-to-Cashflow is employed as our payout proxy, and is defined in the appendix. Furthermore, I outline for each ADR Level the difference in dividend payouts, pre and post-listing. I test the equality of medians between cross-listed and non cross-listed firms using the Mann-Whitney test (Z-Statistic). *, **, *** represents significance at the 10, 5, and 1% level, respectively. All firm level data is sourced from Worldscope and Datastream. All information on firms cross-listed in the U.S. are obtained from the Bank of New York, and cross-referenced with data provided by Deutsche-Bank, JP Morgan and Citibank. Rule 144a issues trade as private placements on PORTAL; Level 1 firms trade over-the-counter as pink sheet issues, and Level 2/3 trade on U.S. exchanges.

Table 5: Tobit analysis of dividend policy of cross-listed firms – Dividend-to-Earnings

| Variable | Sign | Pooled Tobit | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | [1] | *dy / dx* | [2] | *dy / dx* | [3] | *dy / dx* | [4] | *dy / dx* |
| OTC | +/- | -1.22 | -0.6742 | -9.28 | -5.12 | -9.25 | -5.10 | -10.57 | -5.79 |
| | | [-0.59] | | [-4.2]*** | | [-4.2]*** | | [-4.8]*** | |
| EXCH | +/- | -7.38 | -3.93 | -19.96 | -10.32 | -19.84 | -10.27 | -20.07 | -10.38 |
| | | [-2.4]** | | [-5.4]*** | | [-5.3]*** | | [-5.5]*** | |
| PORTAL | +/- | -0.78 | -0.43 | -8.16 | -4.51 | -8.61 | -4.74 | -9.15 | -5.03 |
| | | [-0.15] | | [-1.56] | | [-1.60] | | [-1.71]* | |
| Intercept | | 24.56 | - | -41.37 | - | -44.17 | - | -45.86 | - |
| | | [5.44]*** | | [-10]*** | | [-5.3]*** | | [-5.6]*** | |
| MBA | - | - | - | -0.67 | -0.39 | -0.67 | -0.38 | -0.69 | -0.40 |
| | | | | [-4.3]*** | | [-4.3]*** | | [-4.4]*** | |
| ROE | + | - | - | 0.06 | 0.036 | 0.06 | 0.037 | 0.06 | 0.032 |
| | | | | [2.1]** | | [2.1]** | | [2.2]** | |
| Log(Total Asset) | + | - | - | 6.32 | 3.66 | 6.29 | 3.65 | 6.12 | 3.58 |
| | | | | [4.55]*** | | [6.46]*** | | [6.38]*** | |
| ADR Dividend | +/- | - | - | 16.71 | 10.65 | 16.59 | 10.56 | 16.85 | 10.75 |
| | | | | [5.4]*** | | [5.26]*** | | [5.38]*** | |
| Anti-Director | + | - | - | - | - | 5.63 | 3.19 | - | - |
| | | | | | | [3.77]*** | | | |
| Common Law | + | - | - | - | - | - | - | 5.65 | 3.32 |
| | | | | | | | | [4.28]*** | |
| Industry Effects | | Yes | - | Yes | - | Yes | - | Yes | - |
| Time Effects | | No | - | No | - | No | - | No | - |
| Observations | | 29691 | - | 21116 | - | 21116 | - | 21116 | - |
| Censored Obs | | 5541 | - | 3312 | - | 3312 | - | 3312 | - |
| Log Likelihood | | -131195 | - | -94759 | - | -94734 | - | -94724 | - |

In this table I report pooled Tobit coefficient and marginal effects estimates of the effect of cross listing on the ordinary dividend payouts of cross-listed firms around the cross-listing date. Dividends-to-Earnings is employed as the dependent variable. The final sample is comprised of 496 cross-listed firms and 2,922 non-cross-listed firms from 40 countries over the period from 1990-2002. Firm-level controls are sourced from both Worldscope and Datastream and are defined in the Appendix. Country controls are also defined in the appendix. In each specification I report results for firms trading in the U.S. either Over-the-Counter **[OTC]** as a Level 1 ADR, a Level 2/3 Exchange Listed ADR **[EXCH],** or on the Portal under Rule 144a **[PORTAL]**. *, **, *** Indicate significance at the 10, 5, and 1% level, respectively. The pooled Tobit standard errors are robust to non-normality and heteroscedasticity in the errors and are also clustered by firm to account for arbitrary within-group correlations. Z-stats reported for the Pooled Tobit. In columns 1-4 I include but do not report the estimates of the firm level means. In all but one specification, an F-Test suggests that they are jointly significant at the 1% level. The marginal effects are calculated at the mean of the independent variables. For the dummy variables the marginal effects is calculated as the discrete change in F[x] as the dummy variable x changes from 0 to 1.

Table 6: Tobit Analysis of dividend policy of cross-listed firms by legal origin – Dividend-to-Earnings.

| Variable | Sign | Pooled Tobit | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | [1] | *dy / dx* | [2] | *dy / dx* | [3] | *dy / dx* | [4] | *dy / dx* |
| OTC*AD | +/- | -5.60 | -3.01 | -11.11 | -6.03 | -7.11 | -3.95 | -10.37 | -5.66 |
| | | [-1.31] | | [-2.47]** | | [-1.53] | | [-2.2]** | |
| EXCH*AD | +/- | -6.45 | -3.44 | -22.42 | -11.34 | -18.41 | -9.54 | -21.09 | -10.76 |
| | | [-1.22] | | [-3.2]*** | | [-2.6]*** | | [-3.0]*** | |
| PORTAL*AD | +/- | 8.62 | 4.90 | 1.03 | 0.60 | 4.96 | 2.97 | 1.99 | 1.17 |
| | | [0.74] | | [0.16] | | [0.77] | | [0.342] | |
| Intercept | | 25.38 | - | -20.30 | - | -22.27 | - | -25.91 | - |
| | | [5.63]*** | | [-4.6]*** | | [-0.82] | | [-0.95] | |
| MBA | - | - | - | -0.66 | -0.39 | -0.66 | -0.39 | -0.68 | -0.39 |
| | | | | [-4.3]*** | | [-4.2]*** | | [-4.3]*** | |
| ROE | + | - | - | 0.06 | 0.035 | 0.06 | 0.035 | 0.06 | 0.032 |
| | | | | [2.04]** | | [2.3]** | | [2.3]** | |
| Log(Total Asset) | + | - | - | 5.65 | 3.28 | 5.63 | 3.27 | 5.51 | 3.19 |
| | | | | [5.84]*** | | [5.81]*** | | [5.71]*** | |
| ADR Dividend | +/- | - | - | 8.48 | 5.16 | 7.85 | 4.76 | 7.76 | 4.71 |
| | | | | [2.85]*** | | [2.63]*** | | [2.63]** | |
| Anti-Director | + | - | - | - | - | 4.71 | 2.68 | - | - |
| | | | | | | [3.02]*** | | | |
| Common Law | + | - | - | - | - | - | - | 4.85 | 2.84 |
| | | | | | | | | [3.69]*** | |
| Industry Effects | | Yes | - | Yes | - | Yes | - | Yes | |
| Time Effects | | No | - | No | - | No | - | No | |
| Observations | | 29691 | - | 21116 | - | 21116 | - | 21116 | |
| Censored Obs | | 5541 | - | 3312 | - | 3312 | - | 3312 | |
| Log Likelihood | | -131210 | - | -94820 | - | -94804 | - | -94794 | |

In this table I report pooled Tobit coefficient and marginal effects estimates of the effect of cross listing on the ordinary dividend payouts of cross-listed firms around the cross-listing date. Dividends-to-Earnings are employed as the dependent variable. The final sample is comprised of 496 cross-listed firms and 2,922 non-cross-listed firms from 40 countries over the period from 1990-2002. Firm-level controls are sourced from both Worldscope and Datastream and are defined in the Appendix. Country controls are also defined in the appendix. In each specification I report results for firms trading in the U.S. either Over-the-Counter **[OTC]** as a Level 1 ADR, a Level 2/3 Exchange Listed ADR **[EXCH],** or on the Portal under Rule 144a **[PORTAL]**. In this specification I interact the ADR Dummies with an investor rights measure developed by LLSV [1998]. The ADR measure is 1 if the firm is domiciled in a country where investors are poorly protected [AD<3]. *, **, *** Indicate significance at the 10, 5, and 1% level, respectively. The pooled Tobit standard errors are robust to non-normality and heteroscedasticity in the errors and are also clustered by firm to account for arbitrary within-group correlations. Z-stats reported for the Pooled Tobit. In columns 1-4 I include but do not report the estimates of the firm level means. In all but one specification, an F-Test suggests that they are jointly significant at the 1% level. . For the dummy variables the marginal effects is calculated as the discrete change in F[x] as the dummy variable x changes from 0 to 1.

Table 7: Tobit Analysis of dividend policy of cross-listed firms – Dividend-to-Cashflow.

| Variable | Sign | Pooled Tobit | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | [1] | *dy / dx* | [2] | *dy / dx* | [3] | *dy / dx* | [4] | *dy / dx* |
| OTC | +/- | 1.91 | 1.08 | -0.18 | -0.1065 | -0.21 | -0.1254 | -2.21 | -1.28 |
| | | [1.63] | | [-0.15] | | [-0.18] | | [-1.96]** | |
| EXCH | +/- | -3.33 | -1.79 | -7.22 | -3.93 | -7.12 | -3.88 | -7.05 | -3.88 |
| | | [-2.11]** | | [-3.6]*** | | [-3.5]*** | | [-3.7]*** | |
| PORTAL | +/- | -0.51 | -0.28 | -1.84 | -1.06 | -2.38 | -1.36 | -3.34 | -1.91 |
| | | [-0.17] | | [-0.66] | | [-0.86] | | [-1.15] | |
| Intercept | | 17.90 | - | 2.09 | - | -0.92 | - | -5.27 | - |
| | | [5.29]*** | | [0.43] | | [-0.19] | | [-1.12] | |
| MBA | - | - | - | 0.0952 | 0.0559 | 0.1066 | 0.0628 | 0.0410 | 0.0243 |
| | | | | [1.36] | | [1.54] | | [0.61] | |
| ROE | + | - | - | 0.0850 | 0.0499 | 0.0864 | 0.5087 | 0.0784 | 0.0466 |
| | | | | [5.72]*** | | [5.85]*** | | [5.42]*** | |
| Log (Total Asset) | + | - | - | 1.37 | 0.8085 | 1.40 | 0.8255 | 1.03 | 0.6131 |
| | | | | [4.66]*** | | [4.42]*** | | [4.21]*** | |
| ADR Dividend | +/- | - | - | 6.71 | 4.23 | 6.62 | 4.18 | 6.87 | 4.39 |
| | | | | [4.30]*** | | [4.26]*** | | [4.55]*** | |
| Anti-Director | + | - | - | - | - | 6.37 | 3.58 | - | - |
| | | | | | | [7.98]*** | | | |
| Common Law | + | - | - | - | - | - | - | 9.66 | 5.90 |
| | | | | | | | | [11.69]*** | |
| Industry Effects | | Yes | - | Yes | - | Yes | - | Yes | - |
| Time Effects | | No | - | No | - | No | - | No | - |
| Observations | | 27829 | - | 19769 | - | 19769 | - | 19769 | - |
| Censored Obs | | 4486 | - | 2581 | - | 2581 | - | 2581 | - |
| Log Likelihood | | -111761 | - | -79922 | - | -79810 | - | -79546 | - |

In this table I report pooled Tobit coefficient and marginal effects estimates of the effect of cross listing on the ordinary dividend payouts of cross-listed firms around the cross-listing date. Dividends-to-Cashflow is employed as the dependent variable. The final sample is comprised of 496 cross-listed firms and 2,922 non-cross-listed firms from 40 countries over the period from 1990-2002. Firm-level controls are sourced from both Worldscope and Datastream and are defined in the Appendix. Country controls are also defined in the appendix. In each specification I report results for firms trading in the U.S. either Over-the-Counter **[OTC]** as a Level 1 ADR, a Level 2/3 Exchange Listed ADR **[EXCH],** or on the Portal under Rule 144a **[PORTAL]**. *, **, *** Indicate significance at the 10, 5, and 1% level, respectively. The pooled Tobit standard errors are robust to non-normality and heteroscedasticity in the errors and are also clustered by firm to account for arbitrary within-group correlations. Z-stats reported for the Pooled Tobit. In columns 1-4 I include but do not report the estimates of the firm level means. In all but one specification, an F-Test suggests that they are jointly significant at the 1% level. The marginal effects are calculated at the mean of the independent variables. For the dummy variables the marginal effects is calculated as the discrete change in F[x] as the dummy variable x changes from 0 to 1.

Table 8: Tobit Analysis of Dividend Policy of cross-listed firms by legal origin – Dividend-to-Cashflow.

| Variable | Sign | Pooled Tobit | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | [1] | *dy / dx* | [2] | *dy / dx* | [3] | *dy / dx* | [4] | *dy / dx* |
| OTC*AD | +/- | -2.40 | -1.30 | -3.86 | -2.17 | 1.47 | 0.88 | -2.39 | -1.38 |
| | | [-0.97] | | [-1.41] | | [0.53] | | [-0.83] | |
| EXCH*AD | +/- | -4.87 | -2.57 | -10.72 | -5.57 | -5.38 | -2.98 | -7.99 | -4.32 |
| | | [-1.86]* | | [-3.4]*** | | [-1.69]* | | [-2.55]** | |
| PORTAL*AD | +/- | -6.14 | -3.19 | -3.43 | -1.94 | 1.73 | 1.04 | -1.33 | -0.78 |
| | | [-1.84]* | | [-1.38] | | [0.68] | | [-0.55] | |
| Intercept | | 15.78 | - | 17.29 | - | 14.59 | - | 5.85 | - |
| | | [4.69]*** | | [1.26] | | [1.06] | | [0.43] | |
| MBA | - | - | - | 0.0926 | 0.0544 | 0.0965 | 0.0568 | 0.0384 | 0.0228 |
| | | | | [1.31] | | [1.38] | | [0.56] | |
| ROE | + | - | - | 0.0832 | 0.0488 | 0.0842 | 0.0496 | 0.0774 | 0.0460 |
| | | | | [5.6]*** | | [5.7]*** | | [5.35]*** | |
| Log(Total Asset) | + | - | - | 1.20 | 0.7041 | 1.22 | 0.7151 | 0.8117 | 0.4820 |
| | | | | [4.11]*** | | [3.89]*** | | [3.99]*** | |
| ADR Dividend | +/- | - | - | 5.65 | 3.52 | 4.79 | 2.97 | 4.33 | 2.69 |
| | | | | [3.79]*** | | [3.22]*** | | [3.02]*** | |
| Anti-Director | + | - | - | - | - | 6.29 | 3.53 | - | - |
| | | | | | | [7.53]*** | | | |
| Common Law | + | - | - | - | - | - | - | 9.49 | 5.80 |
| | | | | | | | | [11.59]*** | |
| Industry Effects | | Yes | - | Yes | - | Yes | - | Yes | - |
| Time Effects | | No | - | No | - | No | - | No | - |
| Observations | | 27829 | - | 19769 | - | 19769 | - | 19769 | - |
| Censored Obs | | 4486 | - | 2581 | - | 2581 | - | 2581 | - |
| Log Likelihood | | -111770 | - | -79939 | - | -79839 | - | -79573 | - |

In this table I report pooled Tobit coefficient and marginal effects estimates of the effect of cross listing on the ordinary dividend payouts of cross-listed firms around the cross-listing date. Dividends-to-Cashflow is employed as the dependent variable. The final sample is comprised of 496 cross-listed firms and 2,922 non-cross-listed firms from 40 countries over the period from 1990-2002. Firm-level controls are sourced from both Worldscope and Datastream and are defined in the Appendix. Country controls are also defined in the appendix. In each specification I report results for firms trading in the U.S. either Over-the-Counter **[OTC]** as a Level 1 ADR, a Level 2/3 Exchange Listed ADR **[EXCH],** or on the Portal under Rule 144a **[PORTAL]**. In this specification I interact the ADR Dummies with an investor rights measure developed by LLSV [1998]. The ADR measure is 1 if the firm is domiciled in a country where investors are poorly protected [AD<3]. *, **, *** Indicate significance at the 10, 5, and 1% level, respectively. The pooled Tobit standard errors are robust to non-normality and heteroscedasticity in the errors and are also clustered by firm to account for arbitrary within-group correlations. Z-stats reported for the Pooled Tobit. In columns 1-4 we include but do not report the estimates of the firm level means. In all but one specification, an F-Test suggests that they are jointly significant at the 1% level. . For the dummy variables the marginal effects is calculated as the discrete change in F[x] as the dummy variable x changes from 0 to 1.

Table 9: 'After-Before' closely held shares for cross-listed firms.

| | Level 1 OTC | Level 2/3 Exchange | Rule 144a Portal |
|---|---|---|---|
| | Median CHS | Median CHS | Median CHS |
| -2 | 85,116 | 37,604 | 15,476 |
| -1 | 101,690 | 40,830 | 15,113 |
| List Year | 88,581 | 53,168 | 33,570 |
| Δ[1,-2] | 14,783 | 6,569 | 4,830 |
| Δ[1,-1] | [1,791] | 3,343 | 5,193 |
| Δ[2,-2] | 871 | [5,996] | 32,574 |
| Δ[2,-1] | [15,703] | [9,222] | 32,937 |
| Δ[3,-2] | [16,346] | 8,278 | 45,331 |
| Δ[3,-1] | [32,920] | 5,052 | 45,694 |
| Δ[4,-2] | [15,499] | 11,410 | 11,295 |
| Δ[4,-1] | [32,073] | 8,184 | 11,653 |
| Δ[5,-2] | 592 | [12,670] | 11,295 |
| Δ[5,-1] | [15,982] | [15,896] | 11,658 |
| Before | 73, 830 | 44,266 | 10,080 |
| After | 80,707 | 48,453 | 23,484 |
| Difference | 6,877 | 4,187 | 13,404 |

In this table I report 'before-after' estimates of Closely Held Shares [Firm Governance] for firms that cross-list in the United States. I report the median closely held share value for firms that list either as Level 1 ADRs [n = 214], Exchange-Listed Level 2/3 [n = 137] and Ordinary Lists, or that trade under Rule 144a on Portal [n = 49]. Closely Held Shares [CHS] are shares held by insiders and are provided by Worldscope. I calculate the change in CHS between the five year post-listing **[1, 2, 3, 4, 5]** period and the two years pre-listing **[-2, -1]** [**Δ[1,-2], Δ[1,-1], Δ[2,-2], Δ[2,-1], Δ[3,-2], Δ[3,-1], Δ[4,-2], Δ[4,-1], Δ[5,-2], Δ[5,-1]]**.

Appendix 1: Correlation Coefficients and Variance Inflation Factors.

| | DivEarn | DivCF | COGS | ROE | Earn Vol. | FCF | Debt | MBA | Log (TA) | VIF (DE) |
|---|---|---|---|---|---|---|---|---|---|---|
| DivEarn | **1** | | | | | | | | | - |
| DivCF | **0.5937*** ** | **1** | | | | | | | | - |
| COGS | **-0.0116** ** | **-0.0315*** ** | **1** | | | | | | | 1.01 |
| ROE | **0.0206*** ** | **0.1442*** ** | **-0.0446*** ** | **1** | | | | | | 1.08 |
| Earn Vol. | **-0.0310*** ** | **-0.0443*** ** | **0.0202*** ** | **-0.0233*** ** | **1** | | | | | 1.00 |
| FCF | -0.0029 | -0.0050 | -0.0008 | -0.0084 | 0.0006 | **1** | | | | 1.00 |
| Debt | -0.0070 | -0.0060 | -0.0005 | **-0.0116*** ** | 0.0012 | **0.5411*** ** | **1** | | | 1.01 |
| MBA | **-0.0303*** ** | **0.0159*** ** | **-0.0647*** ** | **0.1730*** ** | **-0.0206*** ** | -0.0065 | -0.0028 | **1** | | 1.06 |
| Log (TA) | **0.0984*** ** | **-0.0153*** ** | **-0.0288*** ** | **-0.1240*** ** | **0.0206*** ** | **-0.0361*** ** | **-0.0598*** ** | **-0.0540*** ** | **1** | 1.03 |

In this table I outline Pearson Correlation Coefficients for our dependent variables and all our independent variables. In addition, I outline employing both variants of our dependent variable, Variance-Inflation Factors (VIF's). The Variance-Inflation Factors are defined as $(1/(1-R^2))$ where $R^2$ is from a regression (pooled) of an explanatory variable on a constant and the remainder of the explanatory variables. ***, ** Represent significance at the 1 and 5% level of significance respectively.

# Appendix 2

Figure 1: Median Dividends-to-Earnings (%) for OTC, EXCH, PORTAL & NCL Firms

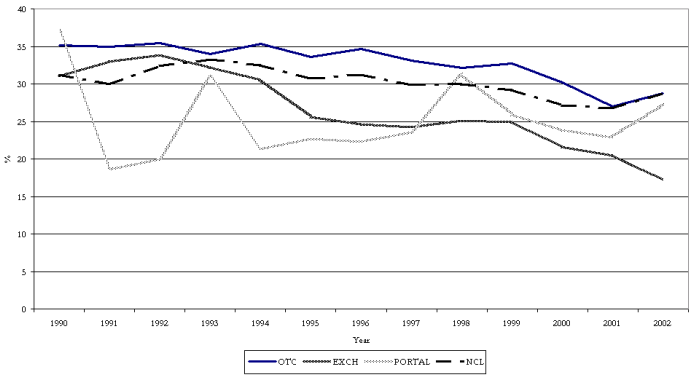



Figure 2: Median Dividends-to-Cashflow (%) for OTC, EXCH, PORTAL & NCL Firms

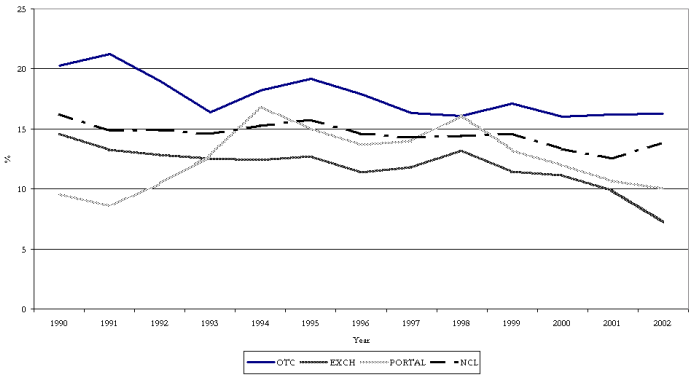



Figure 3: Median Dividends-to-Earnings (%) for Low IP OTC, EXCH, PORTAL & NCL

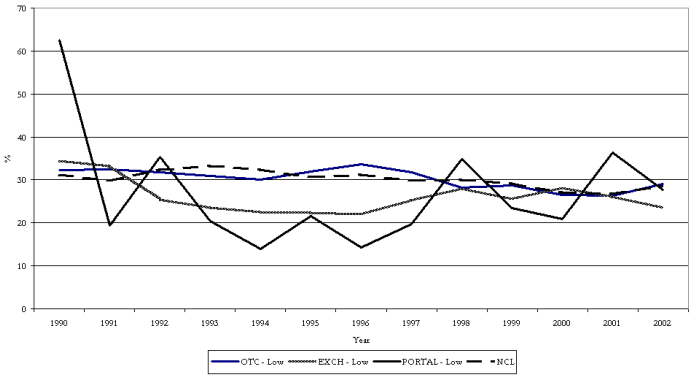
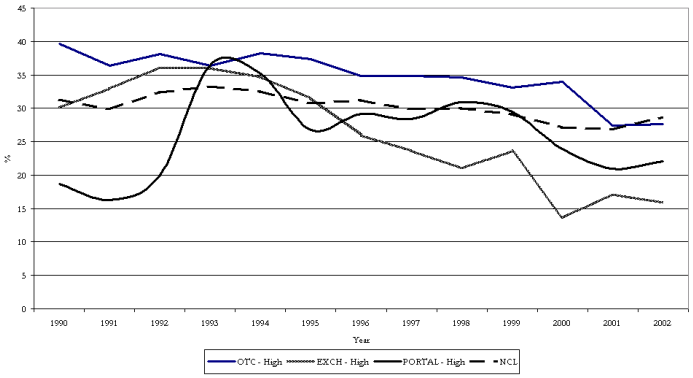



Figure 4: Median Dividends-to-Earnings (%) for High IP OTC, EXCH, PORTAL & NCL



# Appendix 2 (Cont'd)

Figure 5: Median Dividends-to-Cashflow (%) for Low IP OTC, EXCH, PORTAL & NCL

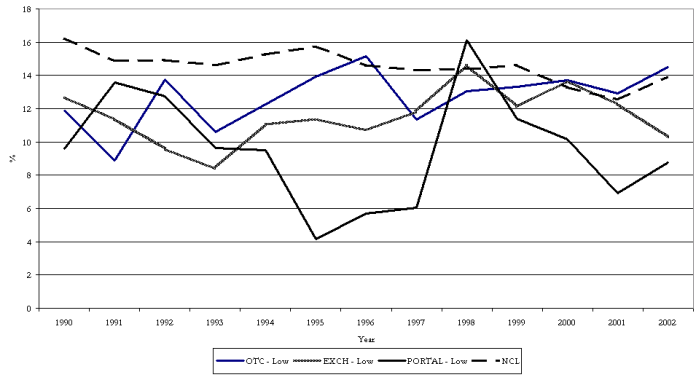



Figure 6: Median Dividends-to-Cashflow (%) for High IP OTC, EXCH, PORTAL & NCL

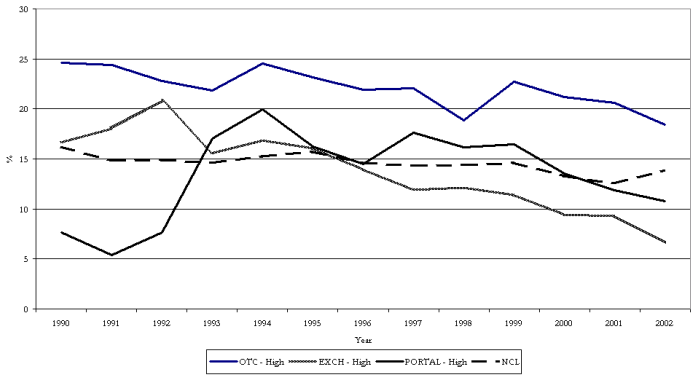



Figure 7: Median Dividends-to-Earnings (%) for OTC Firms (Low & High IP) & NCL

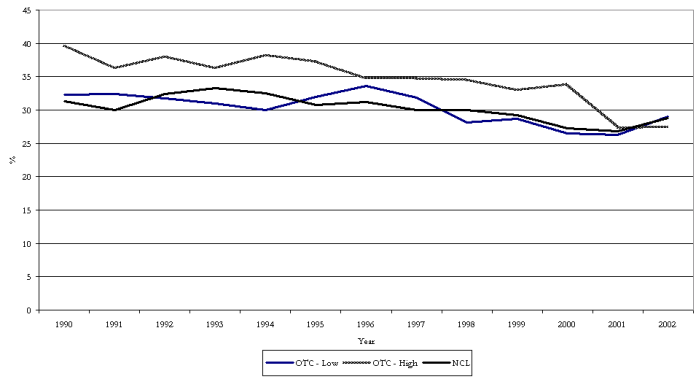
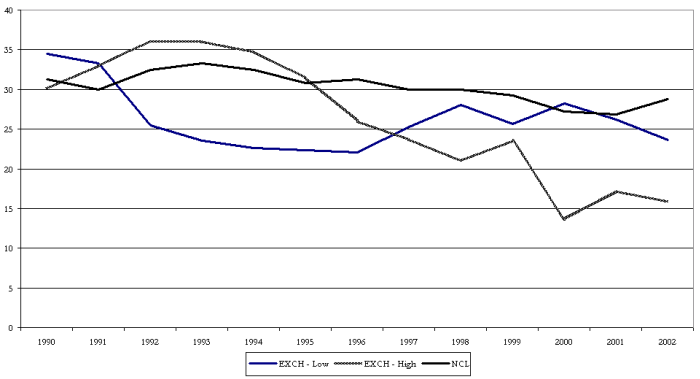



Figure 8: Median Dividends-to-Earnings (%) for EXCH Firms (Low & High IP) & NCL



# Appendix 2 (Cont'd)

Figure 9: Median Dividends-to-Earnings (%) for PORTAL Firms (High & Low IP) & NCL

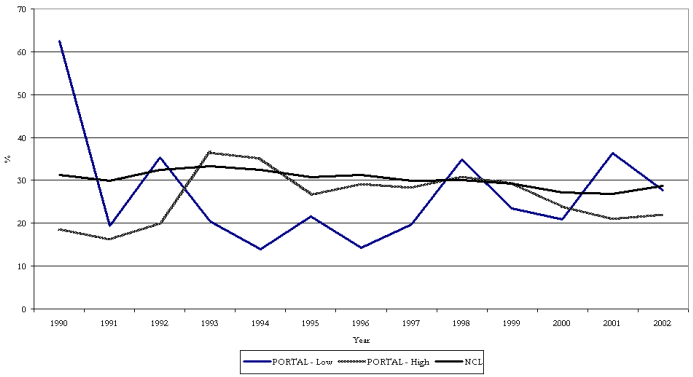



Figure 10: Median Dividends-to-Cashflow (%) for OTC Firms (High & Low IP) & NCL

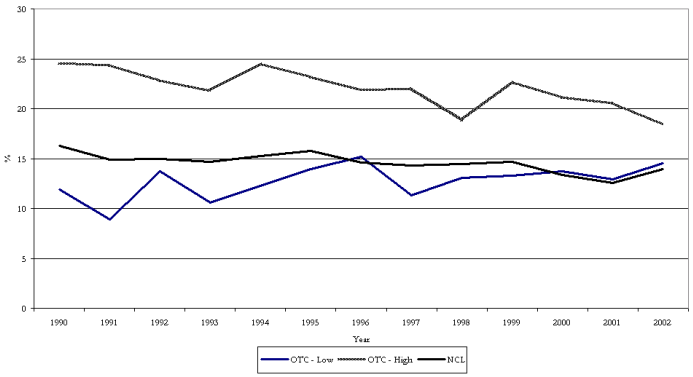



Figure 11: Median Dividends-to-Cashflow (%) for EXCH Firms (High & Low IP) & NCL

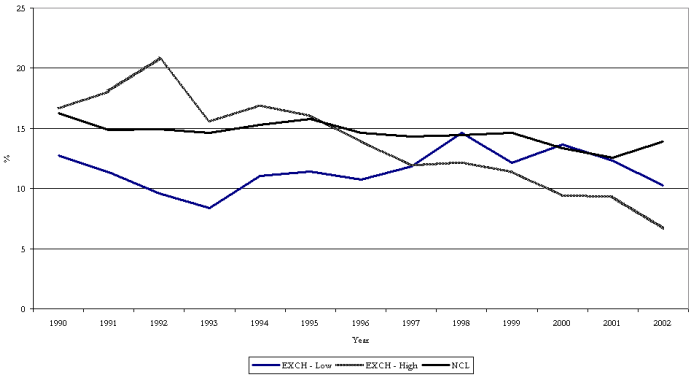



Figure 12: Median Dividends-to-Cashflow (%) for PORTAL Firms (High & Low IP) & NCL