Is corporate governance ineffective in emerging markets?

Michael S. Gibson*

Federal Reserve Board

First draft: September 1999

This draft: November 1999

* Mail Stop 91, Washington, DC 20551. Email: michael.s.gibson@frb.gov. Phone: 1-202-452-2495. Fax: 1-202-452-5296. I thank Paul Kim for diligent research assistance and participants in a seminar at the World Bank for helpful comments. The author is a staff economist in the Division of Research and Statistics. The views in this paper are solely the responsibility of the author and should not be interpreted as reflecting the views of the Board of Governors of the Federal Reserve System or of any other person associated with the Federal Reserve System.
Is Corporate Governance Ineffective in Emerging Markets?

Abstract

I test whether corporate governance is ineffective in emerging markets by estimating the link between CEO turnover and firm performance for over 1,200 firms in eight emerging markets. While previous papers on corporate governance in emerging markets have studied corporate governance mechanisms, such as concentrated ownership, I study a corporate governance outcome: are poorly performing managers replaced? Others have answered this question in the affirmative for the United States and other developed countries. This paper is the first to address this question for emerging markets.

I find that CEOs of emerging market firms are more likely to lose their jobs when their firm’s performance is poor, suggesting that corporate governance is not ineffective in emerging markets. Earnings-based measures of performance have the strongest relationship, and stock-return-based measures the weakest relationship, with CEO turnover in emerging markets. The magnitude of the relationship is surprisingly similar to what Kaplan (1994a) found for the United States. Firms whose large shareholder is another domestic firm exhibit a weaker link between CEO turnover and firm performance. These results should be of interest to investors in emerging markets, as well as to those who debate the role of corporate governance in the recent Asian financial crisis.
Is corporate governance ineffective in emerging markets? On both sides of the question, anecdotes abound. On one side: Fotex, a Hungarian firm, issued convertible bonds on favorable terms to its large shareholder, who is also its CEO. Minority shareholders’ stakes were diluted. On the other side: the CEO of Enersis, a Chilean utility, was forced to resign in 1997 after it was revealed that a planned merger of Enersis with a Spanish utility involved $500 million in payments to the CEO and 13 of his closest colleagues.¹ Since dueling anecdotes are unlikely to convince a sceptic one way or the other, this paper uses cross-sectional data on over 1,200 emerging market firms to investigate whether corporate governance is ineffective in emerging markets.

This paper aims to expand our knowledge of how well the financial systems in emerging markets work. One of the paper’s goals is to help investors in emerging markets better understand the risks they face. Investment by developed country investors in emerging markets has grown dramatically in the 1990s. Emerging markets have liberalized, allowing foreign investors greater access. Emerging equity markets have been shown to offer high expected returns and low correlations with each other and with developed equity markets, making them attractive to global investors seeking diversification (Divecha, Drach, and Stefek 1992; Harvey 1995).

Investments have flowed into emerging markets even though emerging markets have not been studied as intensively as developed markets. Corporate governance is no exception. As

Shleifer and Vishny (1997) point out in their survey, there has been only a little research done on corporate governance outside the United States, apart from a few developed countries such as Japan and Germany. (I discuss some of this research below.) But there is almost no empirical evidence directly comparing the quality of corporate governance in emerging markets and developed markets.²

Some have blamed weak corporate governance for the vulnerability of some Asian emerging market countries to the 1997-98 global financial crisis. For example, James Wolfensohn, president of the World Bank, has argued that “weak governance was one of several factors contributing to the crisis” (Wolfensohn 1999). In looking for policies to reduce the risk of future crises, a group of international policymakers argued that it is “essential to develop sets of sound practice in the area of corporate governance” (Report of the Working Group on Strengthening Financial Systems 1998, p. vi). Policymakers are developing codes of good corporate governance practices to help prevent future crises (they hope). But others, such as Radelet and Sachs (1998), reject attempts to blame corporate governance for the financial crisis. They focus instead on the use of short-term debt and poor risk management by emerging market countries, and on the volatility of short-term capital flows. A second goal of this paper is to provide some evidence on the validity of the charge that weak corporate governance contributed to the global financial crisis.

A few studies have examined corporate governance in emerging markets, although none has estimated the link between CEO turnover and corporate performance that is the focus of this paper. Researchers have studied the implications of the concentrated corporate ownership that is

²See Chung and Kim (1999) on Korea for one example.
common in many emerging and developed markets. La Porta, Lopez-de-Silanes, and Shleifer (1999) study 27 countries and conclude that “the principal agency problem in large corporations around the world is that of restricting expropriation of minority shareholders by the controlling shareholders.” Claessens, Djankov, Fan and Lang (1999) identify the ownership structure of firms in nine East Asian countries, including four of the emerging markets studied in this paper. They conclude that the main corporate governance problem in these countries is the expropriation of minority shareholders by controlling shareholders. Both sets of authors carefully trace through pyramidal shareholding structures to identify a firm’s ultimate owners.

Three recent papers study corporate governance in India. Khanna and Palepu (1999) and Sarkar and Sarkar (1998) examine how the identity of the immediate owners of Indian firms is correlated with the firms’ valuation, as measured by a market-to-book ratio. Chhibber and Majumdar (1999) examine how ownership characteristics of Indian firms affect profitability. Because these authors look at immediate ownership, not ultimate ownership, it is hard to compare their results with the two papers mentioned above. A common result across the three Indian papers is that high foreign ownership has beneficial effects (either on market valuation or profitability).

Claessens and Djankov (1999a, 1999b) study corporate governance in transition economies. Using data on recently privatized firms in the Czech Republic, they find that firms with concentrated ownership, foreign ownership, and ownership by non-bank investment funds are more profitable and have higher labor productivity. They also find that CEO turnover is followed by improvement in profitability and labor productivity. These effects are stronger when the new CEO is appointed by a private owner, rather than the government.
Most of these papers focus on concentrated ownership, which can be described as a corporate governance *mechanism*. Corporate governance mechanisms are ways to deal with the agency problems between managers and shareholders and between controlling shareholders and minority shareholders. Corporate governance mechanisms aim to ensure that minority shareholders’ rights are not usurped, managers’ actions are monitored, and poorly performing managers are replaced. Studies of corporate governance mechanisms for U.S. firms are common and look at a wider range of mechanisms than the nascent literature on emerging markets has yet taken on. Boards of directors, institutional investor activism, hostile takeovers, and executive compensation schemes are common topics.3

However, inferring the effect of corporate governance mechanisms on the performance of a corporate governance “system” is problematic. The various mechanisms can substitute for one another. For example, La Porta, Lopes-de-Silanes, Shleifer and Vishny (1998) show that in countries where the legal system does not do a good job of protecting shareholders’ rights, concentrated ownership is more prevalent.

Because I am interested in evaluating the performance of corporate governance in emerging markets, I focus on corporate governance *outcomes* rather than corporate governance *mechanisms*. Specifically, I look at the relationship between CEO turnover and corporate performance. A necessary condition for an effective corporate governance system is that poorly performing managers are replaced, as Macey (1997) suggests. I assess whether this condition holds in emerging markets.

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3See Shleifer and Vishny’s (1997) survey.
Such an approach was taken by Kaplan (1994a, 1994b, 1997), studying corporate governance in the U.S., Germany, and Japan. Some researchers had argued that one or the other corporate governance system was superior. Kaplan showed that firms in the three countries exhibit broadly similar relationships between CEO turnover and corporate performance. Poor performance made a manager more likely to be replaced in all three. Along one important dimension, the corporate governance outcomes in different countries were similar, although the corporate governance mechanisms in each country were and are quite different.⁴

While a relationship between CEO turnover and corporate performance may be a necessary feature of a corporate governance system that “works,” it is not sufficient. Other factors need to be in place for a corporate governance system to work well. For example, a market for corporate control is needed to deal with times when everyday monitoring is not adequate. Looking for a relationship between CEO turnover and corporate performance tests whether corporate governance is ineffective. Such a relationship, on its own, cannot prove the contrary, that corporate governance is effective.

I estimate the relationship between CEO turnover and corporate performance for emerging market firms:

\[
\text{Prob(CEO turnover)} = f(\text{firm performance, other control variables})
\]

I test whether there is a negative relationship between the probability of CEO turnover and firm performance. Since CEO turnover is a binary variable, I choose to estimate the following logit regression:

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⁴A number of papers study the relationship between CEO turnover and corporate performance in a single country. For the U.S., recent examples are Denis, Denis and Sarin (1997) and Parrino (1997). For Japan, see Kang and Shivdasani (1995) and Abe (1997).
\[ \text{Prob(CEO turnover)} = f(\beta \text{ firm performance} + \gamma'Z) \]

where \( \beta \) captures the relationship I am interested in, \( \gamma \) is a \( k \times 1 \) vector of coefficients, \( Z \) is a \( k \times 1 \) vector of other control variables (indicator variables for year, country, and industry), and \( f(\cdot) \) is the logistic function \( f(a) = \frac{e^a}{1+e^a} \).

To preview the results, I find that poor corporate performance increases the probability of CEO turnover among my sample of emerging market firms. The magnitude of the effect is similar to what Kaplan (1994a) found for the United States. Poorly performing managers in emerging market firms appear to be replaced at about the same rate as poorly performing managers in U.S. firms. This suggests that corporate governance in emerging markets is not ineffective. However, as the conclusion stresses, these results do not prove that emerging market corporate governance is perfect. Some aspects of the results hint at future problems that emerging market corporate governance might face.

Data issues

When undertaking a research project on emerging market corporate governance, availability and quality of data is always an issue. I use data from Worldscope. Worldscope provides firm-level financial information on publicly-traded firms in 53 developed and emerging markets (as of July 1999). I use data on non-financial firms in eight emerging markets that had a large number of firms present in Worldscope (over 1994-98): Brazil, Chile, India, Korea, Malaysia, Mexico, Taiwan, and Thailand. These eight markets make up 66 percent of the market
capitalization of the MSCI Emerging Markets Index. Because of the limited history available, I pool firms from all eight countries into a single dataset. The dataset contains all the firm-years covered by Worldscope for firms in these countries where data is available on CEO turnover and at least one of the measures of firm performance I use below. On average, firms in the regression sample make up about 40 percent of the market capitalization of their respective markets.

The regression sample covers 1993 to 1997. Most of the data comes from the October 1998 Worldscope CD-ROM. In nearly all cases, firms’ financial statements for the 1997 fiscal year had been added to Worldscope in time to make it on the October 1998 CD-ROM, so the data sample ends in 1997. The earliest data I have is for the 1992 or 1993 fiscal year, depending on what data was available to Worldscope when they began coverage of emerging markets in 1994. Since measuring CEO turnover requires two consecutive years of data, the regression sample contains data from 1993 to 1997. Because Worldscope has expanded their coverage of emerging markets over time, most of the observations come from 1995, 1996 and 1997.

Throughout the paper I refer to the firm’s top corporate officer as the “CEO,” but the title used by a firm’s top manager can differ both across countries and within a country. This makes it hard to identify the top corporate officer. While Worldscope lists several officers for each firm, it does not list them in order of importance. Even worse, firms within a country do not consistently use the same title to identify their top manager.

To identify a firm’s top manager, I consulted printed sources and country analysts and made a list for each country of titles ranked by importance. For each firm, if there was a manager

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3Market capitalization data are from Morgan Stanley Capital International (1998, p. 27) and were measured on September 30, 1997.
with title #1 on that country’s list, I identified that manager as “CEO”. If no manager had title #1, I looked for a manager with title #2 and identified that manager as “CEO”, and so on down the list. 6 The lists appear in Table 1. Undoubtedly some of the CEOs are misidentified in the dataset. This will introduce error into the CEO turnover variable, but unless the misidentification is correlated with firm performance, it should not bias the estimated coefficients.

The firm’s top corporate officers are identified in Worldscope, but only for the most recent fiscal year. No historical data on officers is present in the database. To obtain historical data on officers, I asked Worldscope to provide me with old CD-ROMs from 1994-1997, which they kindly did. Using the Worldscope CD-ROMs for October of each year from 1994 to 1998, each firm’s CEO at the end of each fiscal year was identified as described above and a 0/1 indicator variable for CEO turnover was coded by hand. I do not know anything else about the CEO apart from his or her name. In particular, I do not have data on characteristics that will affect the probability of CEO turnover such as the CEO’s age and tenure at the firm. It is plausible to argue that these unobserved characteristics are uncorrelated with firm performance. If so, their absence will worsen the fit of the regression models but should not bias the coefficient on firm performance. Summary statistics on CEO turnover in emerging markets are presented in Table 2.

I use five measures of firm performance common in the literature: earnings scaled by assets, change in earnings scaled by lagged assets, an indicator variable for positive earnings, stock market return, and growth in sales. The measure of earnings is EBIT, earnings before

6 If two managers had the same title, indicating shared responsibility, I dropped that firm-year from the sample to avoid dealing with split turnover.
interest and taxes. The positive earnings indicator variable is intended to capture the effects of financial distress. Stock market return is total return on the firm’s equity in excess of the return on a market index for the firm’s country. All five performance measures are measured over the firm’s fiscal year, as is CEO turnover.\footnote{I tried adding lagged performance to the regressions but it was always statistically insignificant.} Table 3 contains summary statistics on the five performance measures.

All but the stock market return rely on accounting data to some extent, and accounting data in emerging markets have flaws. While Worldscope claims to standardize and clean the firm-level financial data when adding it to their database, problems of non-comparable accounting standards across countries will always be present. I hope I have minimized their effect by choosing relatively simple measures of firm performance that do not demand too much from the accounting data. If corporate performance has random mismeasurement added in due to poor accounting standards, it should bias the coefficient on performance toward zero, making it harder to find an effect of performance on CEO turnover.

To get a sense of the quality of accounting standards in the eight emerging market countries in the sample, I consulted the rating of accounting standards constructed by the Center for International Financial Analysis and Research which was used by La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998). A country’s accounting standards are rated by examining the extent of disclosures made in the financial statements of a few listed firms. The mean rating across the eight emerging market countries is 61, identical to the mean for all 41 countries reported in La
The ratings, taken from Table 5 of La Porta, Lopes-de-Silanes, Shleifer and Vishny (1998), are Brazil 54, Chile 52, India 57, Korea 62, Malaysia 76, Mexico 60, Taiwan 65, Thailand 64. Eight of the 41 countries whose ratings were reported by La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998) have lower ratings than the lowest-rated country, Chile. For comparison, the rating for the United States is 71 and for Japan is 65.

Regression results

I estimate the logit regression described above for each of the five firm performance measures individually. Results are in Table 4. For all five performance measures, poor performance is associated with higher CEO turnover. For the three earnings-based measures and for sales growth, the link is statistically significantly different from zero (using a 5 percent one-tailed test). The link between stock market return and CEO turnover is not significant (the p-value of the one-tailed test is .054). All five pass the logit regression goodness-of-fit test of Hosmer and Lemeshow (1989).

Figure 1 translates the regression results into graphs of the relationship between the predicted probability of CEO turnover and firm performance. All predicted probabilities are calculated at the sample mean of the remaining regression variables (the year, country, and industry dummies). Along the bottom of each graph, the univariate distribution of the performance variable is summarized with a box-and-whiskers plot. Pointwise 95 percent confidence intervals for the predicted probability are shown with dotted lines.

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The ratings, taken from Table 5 of La Porta, Lopes-de-Silanes, Shleifer and Vishny (1998), are Brazil 54, Chile 52, India 57, Korea 62, Malaysia 76, Mexico 60, Taiwan 65, Thailand 64.
The change in the predicted probability of CEO turnover for any change in performance can be read off the appropriate graph. For example, using the top left graph, for a firm that falls from the median of earnings/assets to the 5th percentile, the probability of CEO turnover would rise from 11.2 percent to 13.2 percent, an 18% increase. Only the four performance measures that are continuous variables are included in the figure. For positive earnings, which is an indicator variable, the predicted probability of CEO turnover rises from 10.6 percent at firms with positive earnings to 17.3 percent at firms with negative earnings, a 63% increase.9

The regressions passed four robustness checks, to outliers, nonlinearities, the choice of which emerging markets to include in the data sample, and the inclusion of firm size effects.10 To look for influential outliers, I computed the “influence statistics” of Pregibon (1981). Any observation whose deletion from the sample would change the regression coefficient on a performance variable by more than one-half of the coefficient’s standard error was flagged for investigation. Four observations were flagged by this test; upon investigation two were revealed to be data errors and were dropped from the sample. The other two were not data errors and were left in. One had a large jump in earnings and a change in CEO. The other had very low earnings and no change in CEO. Omitting them would strengthen the estimated effect of performance on CEO turnover.11

9 The 95 percent confidence intervals for these two predicted probabilities are 0.093 < p < 0.119 and 0.121 < p < 0.225, respectively.

10 Also, redefining the performance measures as relative performance, by subtracting either a country-year mean or an industry-year mean, had little effect on the results.

11 I chose not to omit these two outliers because the extreme performance that led them to be outliers was not a data error. If they had been omitted, the coefficient on earnings/assets in Table 4 would be –2.1 with a t-statistic of –3.2, and the coefficient on Δearnings/assets would be
To check for nonlinearities in the relationship between performance and CEO turnover, I re-estimated the logit regression allowing the effect of performance on CEO turnover to be piecewise linear. Over several different specifications of the piecewise linearity with several different choices for the “knots,” the nonlinearity was never statistically significant.

To see if the results were unduly influenced by the choice of which emerging markets to include, I dropped all firms for one emerging market at a time and re-estimated the logit regressions on the remaining seven emerging markets. Earnings/assets and positive earnings had the most robust associations with CEO turnover, as their t-statistics were less than –2 for all eight sets of seven emerging markets. The t-statistics for the change in earnings and for sales growth were less robust but were always less than –1.5. The t-statistics for stock market return, which was not significant in the regression with all eight emerging markets, ranged from –1.2 to –2.1.

An alternative explanation for the link between CEO turnover and firm performance is that both are correlated with firm size, which is omitted from the regression. If this were true, the regression results would merely reflect an omitted variable bias, not a true causal relationship. To investigate this alternative, I divide firms into four size quartiles according to their total assets measured in U.S. dollars at the end of the fiscal year.

Firm size is correlated with CEO turnover. The mean rate of CEO turnover among firms in the smallest quartile is .082, compared with .136 among the remaining firms. But, firm size is not robustly correlated with firm performance. Of the five pairwise correlations between the

-1.9 with a t-statistic of –2.6. Other coefficients are not appreciably affected.

There were no significant differences in CEO turnover rates among the other three size quartiles.
natural log of assets and the individual performance measures, one is negative, two are positive, and two are not statistically different from zero.\textsuperscript{13} The lack of any robust association between firm size and performance suggests that omitted variable bias is not why poor firm performance is associated with higher CEO turnover.

Regression tests confirm that omitted variable bias is not driving the results. When dummy variables for size quartiles are added to the regression, the smallest size quartile has a significantly lower probability of CEO turnover than the other three size quartiles. However, the coefficients on firm performance are little changed from those reported in Table 4. When the size quartile dummy variables are interacted with the performance variables, to see if the relationship between CEO turnover and performance is different for different size firms, the interaction terms are never statistically significant.

Regression results: multiple performance measures

Since the performance measures are correlated with one another, it is possible that some of the associations between individual performance measures and CEO turnover shown in Table 4 reflect correlation with another performance measure, not a true causal link. To investigate this possibility, column 1 of Table 5 presents results of a logit regression using all the performance variables together. Although none of the performance variables are individually statistically significant, the two variables that depend on the level of earnings—earnings/assets and positive

\textsuperscript{13}The correlation coefficients are negative for earnings/assets ($\rho = -0.10$), positive for sales growth ($\rho = 0.11$) and positive earnings ($\rho = 0.06$), and not statistically different from zero for the change in earnings/assets and stock market return. The performance measures are all positively correlated with one another.
earnings—are jointly significant (p-value = .04, not shown in the table). Collinearity between these two variables seems to be keeping either one from being statistically significant. Columns 2 and 3 confirm this: in multiple regressions omitting one of these two variables, the other is statistically significant. The change in earnings, stock market return, and sales growth are never statistically significant in the multiple regressions in Table 5. We can conclude that the level of earnings has a robust association with CEO turnover in emerging markets, but we are unable to say whether the probability of a CEO change rises smoothly with lower earnings as monitoring is gradually intensified, whether it rises sharply when negative earnings trigger a jump in monitoring, or both.

Comparing CEO turnover in emerging markets and in the United States

The probability of CEO turnover in emerging markets rises with poor firm performance. The estimated effects do not seem overwhelmingly large, although statistically they are not zero. How do they compare with what has been found for the United States? Kaplan (1994) used many of the same measures of firm performance. Using the results reported in Table 4 and Kaplan’s reported regression coefficients, we can directly compare the magnitude of the effect of firm performance on CEO turnover for emerging markets with the effect in Kaplan’s sample of large U.S. firms.

Figure 2 shows how the predicted probability of CEO turnover varies with four of the firm performance measures used in this study and in Kaplan (1994a). (Kaplan (1994a) did not use earnings/assets.) In these comparisons, the three continuous performance measures—change in earnings, stock market return, and sales growth—are scaled by their respective standard
deviations. Scaling is desirable when comparing developed and emerging markets because there is much more performance variability in emerging markets. Evaluation of a CEO’s performance should be done by comparing it with other CEOs’ performances. In an environment of greater variability in firm performance, such as that found in emerging markets, greater absolute change in firm performance would likely be needed to induce monitoring of the CEO.\(^{14}\)

The top left graph shows that the effect of falling earnings on the probability of CEO turnover looks quite similar in emerging markets and the United States. (A 95 percent confidence interval on the predicted probability of CEO turnover in emerging markets is marked with a dotted line.) For stock market return, the effect is much weaker in emerging markets than in the U.S., and the difference appears to be statistically significant. (Recall that in Table 4 stock market return did not have a statistically significant relationship with CEO turnover in emerging markets, in contrast to what Kaplan (1994a) found for the U.S.) The effect of sales growth is a little stronger in the U.S., but the difference does not appear to be statistically significant. The U.S. predicted probabilities for sales growth never fall outside the 95 percent confidence interval.

\(^{14}\)Kaplan (1994a) regresses CEO turnover on firm performance variables over two-year periods. His regression coefficients cannot be used directly to predict CEO turnover over one-year period. Let \(P_i\) be the probability of CEO turnover over \(i\) years and let \(X_i\) be firm performance measured over \(i\) years, where \(i=1,2\). To link the one- and two-year variables, assume that 
\[
P_2 = 2P_1 - (P_1)^2 \quad \text{and} \quad X_2 = 2X_1.
\]
If Kaplan’s regression is written as \(P_2 = \alpha + \beta X_2\), then 
\[
2P_1 - (P_1)^2 = \alpha + \beta (2X_1)
\]
or, solving for \(P_1\), 
\[
P_1 = 1 - \sqrt{1 - \alpha - 2\beta X_1}. \]
This relationship is graphed in Figure 2, using the \(\beta\) coefficients reported in Table 2, column 3 of Kaplan (1994a). I ignore Kaplan’s coefficients on lagged performance since they were statistically insignificant. In Figure 2, the constant term \(\alpha\) is chosen so both the emerging markets and U.S. samples have a mean probability of CEO turnover of 12.2 percent. Because Kaplan and I use slightly different definitions of CEO turnover (he excludes turnover due to death or illness while I do not), the mean turnover probability is not comparable across our two samples. (For the record, his mean CEO turnover probability for the U.S. is 10.4 percent.) The constant term \(\alpha\) shifts the level of the curve in Figure 2, but this does not matter when comparing the slopes, which is the main idea behind the figure.
on the predicted probability for emerging markets. Negative earnings increases the probability of
CEO turnover in both emerging markets and the U.S. The effect is stronger in the U.S., but again
the difference does not appear to be statistically significant. In sum, with the exception of stock
market return, the magnitude of the effect of firm performance on the probability of CEO
turnover is similar in emerging markets and the United States.

**Does the identity of large shareholders matter?**

The role of large shareholders in corporate governance has been extensively documented
in the literature. In theory, the presence of a large shareholder could have a positive or negative
effect on the relationship between CEO turnover and firm performance. On the positive side, a
large shareholder may have better monitoring incentives and more monitoring influence than a
small shareholder. The large shareholder has a larger amount of wealth at stake, creating a better
incentive to monitor. A large shareholder also has more ability to influence the firm’s decision-
making, including the decision to replace the CEO. If having a large shareholder improves
monitoring, the relationship between firm performance and CEO turnover should be stronger at
firms with a large shareholder. Hoshi, Kashyap and Scharfstein (1990) and Kang and
Shivdasani (1995) present evidence suggesting that Japanese banks played such a monitoring role
in the 1980s (before financial deregulation reduced their power over borrowing firms).

On the negative side, a large shareholder could have other interests besides shareholder
value maximization and could insulate managers from outside pressure to let managers pursue

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15See La Porta, Lopez-de-Silanes and Shleifer (1999) for a recent example with references.
those other interests. This might be the case if the large shareholder has another relationship with
the firm—as a supplier, customer, or manager—and can extract rents from the firm through the
other relationship. Or, managers could facilitate direct transfers from minority shareholders to the
large shareholder. For example, Chung and Kim (1999) give several stories of large shareholders
in Korean companies who bought company assets at a below-market price and resold them for
personal profit.

To investigate the role of large shareholders in emerging market corporate governance, I
collected data from Worldscope on the identity of a firm’s large shareholder(s).\textsuperscript{16} I classified
firms into four groups according to whether their large shareholder is a domestic firm, a domestic
individual or family, a foreigner, or the government. Firms with no large shareholder are
collected in a fifth group. A large shareholder is defined as one directly holding at least
20 percent of the firm’s equity.\textsuperscript{17} I did not trace through indirect ownership chains because of
lack of data. Of the 2,663 firm-years in the initial regression, 408 firm-years must be dropped due
to missing ownership data and 16 firm-years must be dropped because the firm had more than

\textsuperscript{16}Like the data on CEO turnover, the ownership data had to be coded by hand from the
old Worldscope CD-ROMs because the Worldscope database does not retain historical data on
ownership. Worldscope records the identity of shareholders holding at least 5 percent of the
firm’s equity. The Worldscope data on ownership may be of a lower quality than the data on
CEO turnover and firm performance since the latter are more likely to be subject to mandatory
reporting requirements for exchange-listed firms.

\textsuperscript{17}La Porta, Lopez-de-Silanes and Shleifer (1999) use 20 percent as the cutoff for their
definition of a controlling shareholder. They argue that 20 percent of the votes gives effective
control over management’s decision-making. Claessens, Djankov and Lang (1999) compute
various cutoffs for their definition of a large shareholder, but their discussion focuses on the
results with 20 percent as the cutoff to be comparable with previous literature. Both papers
consider indirect as well as direct shareholdings, while I only use direct shareholding data.
one large shareholder or a large shareholder that did not fit into one of the categories (i.e., a religious group).

Table 6 shows regression results when the effect of earnings/assets on CEO turnover is allowed to vary according to the identity of the firm’s large shareholder. At firms whose large shareholder is another domestic firm, the link between earnings/assets and CEO turnover is significantly weaker, compared to firms with no large shareholder. (In fact, for this group the point estimate is zero.) For the remaining shareholder groups, no differences are statistically significant, due perhaps to the small number of firms in those groups. The results are shown using earnings/assets as the performance measure. Similar results obtain when Δearnings/assets or positive earnings are used as the performance measure; when stock market return or sales growth are used, none of the differences across groups are statistically significant.18

Monitoring of corporate managers appears to be weaker in emerging markets when a firm’s large shareholder is another domestic firm. Other research has also found that large shareholders have, on net, a negative effect on corporate governance in emerging markets. Claessens, Djankov, Fan and Lang (1999) conclude that stock market valuations in nine East Asian countries in 1996 are lower when large shareholders have control rights out of proportion

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18 Another firm-specific characteristic that I investigated, besides the identity of the firm’s large shareholder, was whether or not the firm was listed on a developed-country stock exchange. Firms listed on a developed-country exchange have chosen to submit to a stricter regulatory and disclosure regime. They may be better monitored than other firms, which might imply a stronger link between firm performance and CEO turnover. Just over 8 percent of the firms in the sample were listed on a developed-country exchange. However, when I allowed the coefficient on firm performance in the logit regression to differ for these firms, the difference was not statistically significant.
to their cash flow rights, due to pyramiding and cross-shareholdings. The effect is strongest for firms whose ultimate owner is a family.

Is monitoring weaker in family-controlled firms, as Claessens, Djankov, Fan and Lang (1999) find, or in firms controlled by another domestic firm, as I find? The two results are not necessarily contradictory. Their data on ultimate ownership and my data on direct ownership are not directly comparable. The two results can be reconciled with a result from Claessens, Djankov and Lang (1999), a companion paper, showing that the typical family ownership is achieved through intermediate ownership by corporate entities or foundations controlled by the family.

The result that large shareholders weaken corporate governance in emerging markets is striking because, in other times and places, large shareholders have been found to improve corporate governance. Using data on Japan in the 1980s, Kang and Shivdasani (1995) found that firms whose main bank was also a large shareholder had a stronger relationship between CEO turnover and firm performance, suggesting that main banks could improve monitoring. Using data on U.S. firms in the 1980s, Denis, Denis and Sarin (1997) found that having a large non-managerial shareholder increased the sensitivity of CEO turnover to performance; this result was marginally statistically significant (the p-value of the test was .09).

Does legal origin matter?

La Porta, Lopes-de-Silanes, Shleifer and Vishny (1999) claim that the different degree of legal protection given shareholders and creditors is the single most important factor explaining differences in corporate governance across countries. In other papers, these authors show that
concentrated ownership is less common and capital markets are more developed in countries with stronger legal protection of shareholders and creditors. They also show that the extent of legal protection of shareholders and creditors is largely determined by whether the country’s legal system is based on a common law tradition or a civil law tradition.

Although these papers clearly show that corporate governance mechanisms differ according to legal origin, it is not obvious that corporate governance outcomes must necessarily differ in the same way. On the one hand, strong legal protection of shareholders and concentrated ownership may simply be two different ways to achieve effective corporate governance of firms with publicly-traded equity. According to this argument, the link between CEO turnover and firm performance for publicly-traded firms should not differ across legal origin. On the other hand, the striking differences across countries in the legal protection of shareholders may carry over to corporate governance outcomes. In that case, the link between CEO turnover and firm performance could differ according to legal origin. Investors might be compensated with a higher expected return for investing in countries with poorer corporate governance outcomes.

To investigate this issue in my dataset, I divided the eight emerging markets in my sample into two groups according to legal origin. Three emerging markets (India, Malaysia, Thailand) are in the common law tradition, and the remaining five (Brazil, Chile, Korea, Mexico, Taiwan) are in the civil law tradition. Summary statistics for the civil law and common law subsamples
are shown in Table 7. The three common law countries account for 61 percent of the firm-years in the sample, reflecting the larger public equity markets in common law countries. The proportion of firm-years with CEO turnover is higher in common law countries.\footnote{In the earlier regressions in this paper, this difference in the mean CEO turnover rate was captured by the country dummies.}

Table 8 shows regression results allowing the effect of firm performance on CEO turnover to differ according to the origin of the legal system in the firm’s home country. The only change from Table 4 is that in Table 8 each performance variable is interacted with dummy variables for civil and common law origin. The coefficients and t-statistics on the interaction terms between legal origin and firm performance are reported in the first two columns of Table 8, and the t-statistics for equality of the two coefficients is reported in the third column.

The three columns of Table 8 lead to three conclusions, only two of which are robust (in a sense described below). The first column suggests that the link between CEO turnover and firm performance is weak in civil law countries; although the point estimates are all negative, the hypothesis that there is no link cannot be rejected. The second column shows that common law countries exhibit a strong link between CEO turnover and performance. For all five performance measures, the logit coefficients for common law countries are more negative than the logit coefficients for all countries pooled (in Table 4). In that sense, the common law countries were “driving” the results in Table 4. The third column shows that the differences between the first two columns are not statistically significant.

The conclusions based on the second and third columns of Table 8 appear to be robust, while the conclusion based on the first column, for civil law countries, is not. To assess
robustness, I repeated the same robustness check performed earlier: dropping one country at a time from the dataset and re-estimating the regressions to see if the conclusions depend on the particular countries that I chose to include in my sample. When firms in one civil law country (Mexico) are dropped from the dataset, the logit coefficients for civil law countries become much closer in magnitude to the coefficients for common law countries, and for two of the five performance measures they become statistically significantly less than zero (not shown in the table). This finding leads me to the conclusion that the absence of a link between CEO turnover and performance reported in Table 8 for civil law countries is not robust. Also, the lack of statistical significance for civil law countries may be due in part to the smaller sample size (only 39 percent of the dataset are firm-years in civil law countries).

These regressions suggest that, regardless of legal origin, corporate governance is not ineffective for emerging market firms with publicly-listed equity. This is consistent with Kaplan’s (1994a, 1994b, 1997) finding that the link between CEO turnover and firm performance was similar in the United States, a common law country, and Germany and Japan, two civil law countries. One interpretation of these results is that investors are only willing to buy equity in firms with effective corporate governance. Hence, all publicly-listed firms have effective corporate governance regardless of legal origin. The difference between civil and common law countries shows up not in the effectiveness of corporate governance, but in the number of firms that are able to achieve effective corporate governance, and hence the size of equity markets.

\[\text{\footnotesize \cite{Kaplan1994}}\]

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\[\text{\footnotesize 22} \text{The second and third columns of Table 8 do not change appreciably when doing this robustness check.}\]
Conclusions

CEOs of poorly performing firms in emerging markets are more likely to lose their jobs than CEOs of well-performing firms. Along this dimension, corporate governance in emerging markets is not ineffective. Measures of performance based on earnings have the strongest association with CEO turnover, while measures based on stock market returns do not have a robust association with CEO turnover. The relative unimportance of stock market returns may be unsurprising, given the rudimentary state of development of domestic equity markets in many emerging markets.

One of the goals of the paper is to help global investors in emerging markets better understand the nature of the risks they are taking. They may sleep a little better at night knowing that corporate governance in emerging markets is not ineffective. However, the presence of a domestic firm as a large shareholder appears to negate the link between poor performance and CEO turnover. This evidence is consistent with other research suggesting that minority investors in emerging market firms controlled by a large shareholder should be aware that managers may favor the large shareholder at the expense of minority shareholders.

Another goal was to provide some evidence for the debate over the causes of the 1997-98 global financial crisis. Because we found that corporate governance in emerging markets is not ineffective, the results undercut those who argued that structural problems, such as weak corporate governance, were a major factor making emerging markets vulnerable to crisis.

This paper has studied corporate governance in emerging markets by examining non-financial firms in eight of the largest emerging markets. Two caveats related to the choice of firms are in order. First, by choosing the emerging markets to work with based on data
availability, a bias may have been introduced into the results. These eight markets may have the most data available because they liberalized earliest, simultaneously raising their profile with global investors, improving their corporate governance, and increasing the number of listed firms. It would be dangerous to extrapolate these results to so-called “frontier” markets that are still in the early stages of liberalization.

Second, by focusing on the governance of non-financial firms, we give up the possibility of saying anything about bank governance. Bank governance in emerging markets has also been criticized in the wake of the recent financial crisis. Of course, bank governance is heavily influenced by government regulation, which is why it is usually studied separately from corporate governance of non-financial firms.

It is important to keep in mind that these findings do not imply that corporate governance in emerging markets is perfect. This evidence should be viewed as necessary, but not sufficient, for effective corporate governance. Indeed, the results I present may contain some seeds of concern for the future of emerging market corporate governance. The importance of earnings-based measures of performance for emerging markets, compared to stock-market-based measures, is similar to what Kaplan (1994) found for Japan. Events in the 1990s suggest that, while the link between CEO turnover and corporate performance in Japan was broadly similar to that in the U.S. in the 1980s, the Japanese corporate governance system may not be similar to the U.S. system along other dimensions, such as preventing firms in declining industries from overinvesting. Gibson (forthcoming) suggests that, while Japan’s corporate governance system

23 This would be consistent with Stulz (1999), who argues that corporate governance should improve after a liberalization as domestic firms get more scrutiny from foreign investors.
worked well in Japan’s high growth period of the 1960s and 1970s, its flaws have contributed to the poor performance of the Japanese economy in the 1990s. As emerging markets continue to grow and become more integrated into the global economy, more research will be needed to see if their corporate governance systems also mature.
References


Table 1. Titles used to identify the top manager

<table>
<thead>
<tr>
<th>Country</th>
<th>Title</th>
<th>Title</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>CEO</td>
<td>President</td>
<td>Managing Director/Superintendent</td>
</tr>
<tr>
<td>Chile</td>
<td>Chief Executive</td>
<td>General Manager - CEO</td>
<td>Managing Director - CEO</td>
</tr>
<tr>
<td>India</td>
<td>CEO</td>
<td>Managing Director</td>
<td>Chairman</td>
</tr>
<tr>
<td>Korea</td>
<td>CEO</td>
<td>President</td>
<td>Chairman</td>
</tr>
<tr>
<td>Malaysia</td>
<td>CEO</td>
<td>President</td>
<td>Chief Executive</td>
</tr>
<tr>
<td>Mexico</td>
<td>CEO</td>
<td>President</td>
<td>Managing Director</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Chief Executive</td>
<td>President</td>
<td>General Manager</td>
</tr>
<tr>
<td>Thailand</td>
<td>CEO</td>
<td>Chairman of Executive Board</td>
<td>Chairman</td>
</tr>
</tbody>
</table>
Table 2. Summary statistics on CEO turnover for firms in emerging markets

Data cover all non-financial firms present in the Worldscope database from Brazil, Chile, India, Korea, Malaysia, Mexico, Taiwan, and Thailand as of October 1998. CEO turnover refers to a change in the identity of the firm’s CEO (or equivalent top manager, as discussed in the text) from the previous fiscal year. The firm’s CEO is identified in the Worldscope database. Firms with missing data on CEO turnover were dropped from the analysis.

<table>
<thead>
<tr>
<th></th>
<th>Number of firms</th>
<th>Number of firm-years</th>
<th>Fraction of firm-years with CEO turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Entire Sample</td>
<td>1240</td>
<td>2747</td>
<td>0.122</td>
</tr>
<tr>
<td>B. By country</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td>120</td>
<td>293</td>
<td>0.075</td>
</tr>
<tr>
<td>Chile</td>
<td>60</td>
<td>150</td>
<td>0.167</td>
</tr>
<tr>
<td>India</td>
<td>263</td>
<td>651</td>
<td>0.103</td>
</tr>
<tr>
<td>Korea</td>
<td>146</td>
<td>284</td>
<td>0.134</td>
</tr>
<tr>
<td>Malaysia</td>
<td>285</td>
<td>605</td>
<td>0.177</td>
</tr>
<tr>
<td>Mexico</td>
<td>75</td>
<td>174</td>
<td>0.098</td>
</tr>
<tr>
<td>Taiwan</td>
<td>99</td>
<td>165</td>
<td>0.055</td>
</tr>
<tr>
<td>Thailand</td>
<td>192</td>
<td>425</td>
<td>0.120</td>
</tr>
<tr>
<td>C. By year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>100</td>
<td></td>
<td>0.030</td>
</tr>
<tr>
<td>1994</td>
<td>332</td>
<td></td>
<td>0.069</td>
</tr>
<tr>
<td>1995</td>
<td>725</td>
<td></td>
<td>0.127</td>
</tr>
<tr>
<td>1996</td>
<td>945</td>
<td></td>
<td>0.126</td>
</tr>
<tr>
<td>1997</td>
<td>645</td>
<td></td>
<td>0.154</td>
</tr>
</tbody>
</table>
Data cover all non-financial firms present in the Worldscope database from Brazil, Chile, India, Korea, Malaysia, Mexico, Taiwan, and Thailand as of October 1998. All variables are measured in local currency. Earnings/Assets is EBIT (earnings before interest and taxes) for the fiscal year divided by end-of-fiscal year assets. ΔEarnings/Assets is EBIT less last year’s EBIT, divided by end-of-last-fiscal-year’s assets. Positive earnings is an indicator variable set to one if EBIT is greater than or equal to zero, and zero otherwise. Stock market return is total return, from Worldscope, less the continuously compounded return on the MSCI country index for the firm’s country. Both returns are measured over the firm’s fiscal year. Sales growth is the log difference in sales.

<table>
<thead>
<tr>
<th></th>
<th>Median</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Number of firm-years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earnings/Assets</td>
<td>.081</td>
<td>.086</td>
<td>.094</td>
<td>2663</td>
</tr>
<tr>
<td>ΔEarnings/Assets</td>
<td>.011</td>
<td>.022</td>
<td>.17</td>
<td>2470</td>
</tr>
<tr>
<td>Positive earnings</td>
<td>.92</td>
<td></td>
<td></td>
<td>2679</td>
</tr>
<tr>
<td>Stock market return</td>
<td>-.045</td>
<td>.037</td>
<td>.61</td>
<td>2369</td>
</tr>
<tr>
<td>Sales growth</td>
<td>.14</td>
<td>.19</td>
<td>.43</td>
<td>2553</td>
</tr>
</tbody>
</table>
Results from five logit regressions of CEO turnover on five different firm performance measures for the pooled sample from all eight emerging market countries. In addition to a single performance measure, all regressions included a constant term and year, country, and industry dummies, whose coefficients are not reported. The pseudo $R^2$ is defined as $1 - \frac{L}{L_0}$, where $L$ is the logit regression’s log-likelihood and $L_0$ is the log-likelihood of a logit regression whose only explanatory variable is a constant. The logit regression goodness-of-fit test is that of Hosmer and Lemeshow (1989), with the data divided into ten groups. It is distributed as $\chi^2_8$. The number of firm-years varies across the five regressions because of missing data. The critical value for a 5% one-tailed t-test is 1.65.

<table>
<thead>
<tr>
<th>Performance measure</th>
<th>Logit coefficient (t-value)</th>
<th>Pseudo $R^2$</th>
<th>Goodness of fit statistic (p-value)</th>
<th>Number of firm-years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earnings/Assets</td>
<td>-1.7 (-2.9)</td>
<td>0.042</td>
<td>4.6 (0.80)</td>
<td>2663</td>
</tr>
<tr>
<td>ΔEarnings/Assets</td>
<td>-1.4 (-2.0)</td>
<td>0.036</td>
<td>9.5 (0.30)</td>
<td>2470</td>
</tr>
<tr>
<td>Positive earnings</td>
<td>-0.57 (-2.9)</td>
<td>0.043</td>
<td>4.1 (0.85)</td>
<td>2679</td>
</tr>
<tr>
<td>Stock market return</td>
<td>-0.24 (-1.6)</td>
<td>0.042</td>
<td>5.3 (0.73)</td>
<td>2369</td>
</tr>
<tr>
<td>Sales growth</td>
<td>-0.47 (-2.4)</td>
<td>0.038</td>
<td>3.7 (0.88)</td>
<td>2553</td>
</tr>
</tbody>
</table>
Results from logit regressions of CEO turnover on firm performance measures for the pooled sample from all eight emerging market countries. In addition to the performance measures, all regressions included a constant term and year, country, and industry dummies, whose coefficients are not reported. The pseudo $R^2$ is defined as $1 - L/L_0$, where $L$ is the logit regression’s log-likelihood and $L_0$ is the log-likelihood of a logit regression whose only explanatory variable is a constant. The logit regression goodness-of-fit test is that of Hosmer and Lemeshow (1989), with the data divided into ten groups. It is distributed as $\chi^2$. Each regression has 2,162 firm-years.

Table 5. Logit regressions of CEO turnover on several firm performance measures

<table>
<thead>
<tr>
<th>Performance measure</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earnings/Assets</td>
<td>-1.1</td>
<td>-1.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-1.2)</td>
<td>(-2.1)</td>
<td></td>
</tr>
<tr>
<td>ΔEarnings/Assets</td>
<td>.26</td>
<td>.21</td>
<td>-.32</td>
</tr>
<tr>
<td></td>
<td>(0.3)</td>
<td>(0.2)</td>
<td>(-0.4)</td>
</tr>
<tr>
<td>Positive earnings</td>
<td>-.39</td>
<td></td>
<td>-.54</td>
</tr>
<tr>
<td></td>
<td>(-1.4)</td>
<td></td>
<td>(-2.3)</td>
</tr>
<tr>
<td>Stock market return</td>
<td>-.10</td>
<td>-.10</td>
<td>-.13</td>
</tr>
<tr>
<td></td>
<td>(-0.6)</td>
<td>(-0.6)</td>
<td>(-0.8)</td>
</tr>
<tr>
<td>Sales growth</td>
<td>-.26</td>
<td>-.29</td>
<td>-.24</td>
</tr>
<tr>
<td></td>
<td>(-1.2)</td>
<td>(-1.4)</td>
<td>(-1.1)</td>
</tr>
<tr>
<td>Pseudo R$^2$</td>
<td>.042</td>
<td>.041</td>
<td>.041</td>
</tr>
<tr>
<td>Goodness of fit statistic (p-value)</td>
<td>10.9</td>
<td>6.3</td>
<td>12.9</td>
</tr>
<tr>
<td></td>
<td>(.21)</td>
<td>(.61)</td>
<td>(.12)</td>
</tr>
</tbody>
</table>
The results of a logit regression of CEO turnover on earnings/assets, allowing the effect of earnings/assets to differ according to the identity of the firm’s large shareholder. A large shareholder is defined as owning more than 20 percent of the firm’s equity. The total number of firm-years in the regression is 2241. The regression’s pseudo $R^2$ is 0.041 and the p-value of its Hosmer-Lemeshow goodness-of-fit test is 0.82. A constant term and dummy variables for year, country, and industry were included in the regression but their coefficients are not reported.

<table>
<thead>
<tr>
<th>Large shareholder is:</th>
<th>Logit coefficient on Earnings/Assets (t-value)</th>
<th>Number of firm-years</th>
<th>t-statistic for test of equality with “No large shareholder”</th>
</tr>
</thead>
<tbody>
<tr>
<td>No large shareholder</td>
<td>-2.8</td>
<td>1480</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>(-3.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic firm</td>
<td>-.02</td>
<td>559</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>(-.02)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic individual</td>
<td>-5.6</td>
<td>109</td>
<td>-0.9</td>
</tr>
<tr>
<td></td>
<td>(-1.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>-1.8</td>
<td>59</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>(-0.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>0.6</td>
<td>34</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>(0.1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6. The effect of firm ownership on the link between CEO turnover and firm performance
Data cover all non-financial firms present in the Worldscope database from Brazil, Chile, India, Korea, Malaysia, Mexico, Taiwan, and Thailand as of October 1998. Performance variables are defined in the notes to Table 3. Each country’s legal origin is classified as civil law or common law following La Porta, Lopes-de-Silanes, Shleifer and Vishny (1997). Civil law countries are Brazil, Chile, Korea, Mexico, Taiwan. Common law countries are India, Malaysia, Thailand. Equality of means across legal origin is tested with a two-tailed t-test assuming unequal variances. Equality of the proportion of positive earnings is tested with Fisher’s exact test. Equality of medians is tested with a Wilcoxon rank-sum test.

### Table 7. Summary statistics on CEO turnover and firm performance by legal origin

<table>
<thead>
<tr>
<th></th>
<th>Civil law countries</th>
<th>Common law countries</th>
<th>p-value for test of equality of means/medians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of firm-years</td>
<td>1066</td>
<td>1681</td>
<td></td>
</tr>
<tr>
<td>Fraction of firm-years with CEO turnover</td>
<td>.104</td>
<td>.134</td>
<td></td>
</tr>
<tr>
<td><strong>Means of performance variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings/Assets</td>
<td>.071</td>
<td>.095</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>ΔEarnings/Assets</td>
<td>.036</td>
<td>.014</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Positive earnings</td>
<td>.90</td>
<td>.93</td>
<td>.02</td>
</tr>
<tr>
<td>Stock market return</td>
<td>.004</td>
<td>.059</td>
<td>.04</td>
</tr>
<tr>
<td>Sales growth</td>
<td>.23</td>
<td>.16</td>
<td>&lt;.01</td>
</tr>
<tr>
<td><strong>Medians of performance variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings/Assets</td>
<td>.072</td>
<td>.089</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>ΔEarnings/Assets</td>
<td>.011</td>
<td>.011</td>
<td>.47</td>
</tr>
<tr>
<td>Stock market return</td>
<td>-.063</td>
<td>-.032</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Sales growth</td>
<td>.14</td>
<td>.13</td>
<td>&lt;.01</td>
</tr>
</tbody>
</table>
Table 8. The effect of legal origin on the link between CEO turnover and firm performance

Results of five logit regressions of CEO turnover on five different firm performance measures, allowing the effect of performance to differ according to the legal origin of the firm’s country. In addition to a single performance measure, all regressions included a constant term and year, country, and industry dummies, whose coefficients are not reported.

<table>
<thead>
<tr>
<th>Logit coefficient (t-value)</th>
<th>Civil law countries</th>
<th>Common law countries</th>
<th>t-statistic for test of equality across legal origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earnings/Assets</td>
<td>-.74 (-0.7)</td>
<td>-2.1 (-3.0)</td>
<td>-1.1</td>
</tr>
<tr>
<td>ΔEarnings/Assets</td>
<td>-.79 (-0.7)</td>
<td>-1.9 (-2.0)</td>
<td>-0.8</td>
</tr>
<tr>
<td>Positive earnings</td>
<td>-.49 (-1.4)</td>
<td>-.61 (-2.5)</td>
<td>-0.3</td>
</tr>
<tr>
<td>Stock market return</td>
<td>-.18 (-0.8)</td>
<td>-.29 (-1.4)</td>
<td>-0.4</td>
</tr>
<tr>
<td>Sales growth</td>
<td>-.45 (-1.3)</td>
<td>-.48 (-2.1)</td>
<td>-0.08</td>
</tr>
</tbody>
</table>
Figure 1. Predicted probability of CEO turnover as a function of firm performance

The predictions are based on the regressions shown in Table 4. The predictions are made setting the other independent variables in the regression—the dummy variables for year, country, and industry—to their means in the regression sample. The dotted lines show pointwise 95 percent confidence intervals for the predicted probabilities. The box-and-whiskers plot above the horizontal axis shows the empirical distribution of that performance variable in the regression sample. The box is drawn from the 25th percentile to the 75th percentile, with the median shown as a vertical line through the box. The “whiskers” extend out from the box to the 5th and 95th percentiles.
For emerging markets (solid line) and the United States (dashed line), the graphs show the predicted probability of CEO turnover as a function of firm performance. The predictions for emerging markets use the logit regressions reported in Table 4; those for the United States use the linear regressions reported in Table 2, column 3 of Kaplan (1994). Pointwise 95 percent confidence intervals for the emerging markets predicted probabilities are shown as dotted lines.