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Equity Financing Restrictions and the Asset Growth Effect: International vs. Asian Evidence

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Abstract

This paper investigates the driver of asset growth to explain the cross-country variation of the asset growth effect. We find that institutional restrictions on equity financing constrain firms' abilities to grow assets, and the degree of such restrictions is associated with the observed cross-country variations of the asset growth effect. Specifically, the asset growth effect is weaker in countries with more restrictions on stock issuance and buyback. In horserace tests, equity financing restrictions supersede legal system, stock market development, and information transparency in explaining the cross-country differences of the effect. We highlight our results through a comparison of two Asian countries—Korea and China—with the United States. Our results provide evidence that country financial regulations dampen certain sources of risks in asset prices.

Keywords: Asset growth; stock returns; institutional restrictions; stock issuance; buyback; international markets; Asian; Korea; China

JEL Classification: G15, G12, M41

1. Introduction

Since Cooper, Gulen, and Schill (2008) first reported that firms with high asset growth exhibit low future stock returns in the U.S., the asset growth phenomenon has garnered attention in the literature. For example, Fama and French (2015, 2017) and Hou, Xue, Zhang (2015) add an asset growth factor into the new generations of asset pricing factor models. In addition to studies using U.S. data, a growing literature has documented a worldwide existence of the asset growth effect. Li et al. (2012), Titman et al. (2013), and Watanabe et al. (2013) find that such effect exists around the world, and that it is more significant in countries with stronger legal systems, better developed stock markets, and more transparent accounting environments. In this strand of literature, asset growth is typically treated as a corporate-investment factor; however, such notion is not without challenge. Recently, Cooper, Gulen, and Ion (2017) find that the validity of the corporate-investment factor depends crucially on how asset growth is measured, and the components that drive the asset growth effect do not necessarily measure corporate investment.

In this paper, we examine the fundamental drivers of asset growth and link them to the asset growth effect internationally. As a major category on the balance sheet, total assets do not change if there is only a change in the compositions of assets, for example capital expenditure paid by cash. Instead, assets will only change if there is a corresponding change in liabilities and/or stockholders' equity, such as debt financing, equity financing and income-generating operating activities. We find empirically that the major contributor to large asset growth is equity financing. Cross-country differences in equity financing contribute to the observed differences in the asset growth returns around the world. In particular, we find that the asset growth effect is weaker in countries with more restrictions on equity financing. Such institutional regulations on equity financing supersede legal system, stock market development, and information

transparency that are found in prior literature in explaining the differences of the effect across countries.

This paper revisits the optimal corporate investment explanation of the international asset growth effect. A growing school of literature argues that the asset growth effect reflects firms' rational choices for investments when there is a change in expected future stock returns and costs of capital, and that the effect is consistent with the q-theory developed in Cochrane (1991, 1996), Li, Whited and Zhang (2009), and Li, Livdan, and Zhang (2009).[1] For international markets, Titman et al. (2013) and Watanabe et al. (2013) find that the asset growth effect is stronger in developed markets and in countries with better legal protection and a higher level of information transparency. They view the results consistent with rational pricing, which predicts that in markets where stocks are more efficiently priced, firms make better corporate investment decisions and hence exhibit a stronger corporate-investment-driven asset growth effect.

Our findings suggest that the stronger asset growth effect in more developed markets is an artifact of these markets having fewer restrictions on equity financing. Institutional constraints on equity financing restrict firms' asset growth, leading to the observed cross-country differences in returns conditioning on asset growth. We assemble three pieces of evidence in our findings. We first identify four components of asset change based on the decomposition of balance sheet, namely cash flow from operations, debt financing, equity financing net of dividends, and change in non-cash current assets. We find that large asset growth is mainly funded by external sources, especially by equity financing. Given the dominant role equity financing plays in driving asset growth, we anchor our analyses on equity financing.

[1] Q-theory assumes that managers can condition investments on changes in their costs of capital. Firm values are maximized when the marginal return on investment equal the marginal cost of capital. Assuming declining marginal returns on investment, when the cost of capital is reduced due to exogenous shocks, managers who want to maximize firm value will keep adding investments until lowered marginal returns match the reduced cost of capital. Therefore, expected future stock return is lowered due to lower cost of capital and investment is increased. The asset growth effect is observed as asset growth is inversely related to the expected stock return.

Secondly, we show that in countries with fewer restrictions on stock issuances and buybacks, asset increase is much stronger, and this increase is primarily achieved through equity financing. Following McLean et al. (2009), we measure equity financing restrictions as the difficulty with which firms can issue or repurchase their shares. For an average firm in the top asset growth portfolios, over 65% of the asset increase is funded by equity financing in countries with fewer restrictions on stock issuance and buyback, while in countries with more restrictions, only 31% of the asset increase is funded by equity financing. Our results show that the importance of equity financing as a contributor to asset growth declines with more restrictions in equity issuance and buybacks. Such restrictions have more explanatory power over other traditional factors such as market efficiency, legal protection and financial transparency in explaining the importance of equity financing to the highest asset growth portfolio. In addition, we find that countries with less equity financing restrictions exhibit larger cross-sectional dispersion of asset changes, thanks to easier accesses to financing investments.

And lastly, we find that the asset growth effect is much stronger in countries with fewer restrictions on stock issuances and buybacks. The strength of the asset growth effect is negatively correlated with restrictions a country places on stock issuance and buyback. These results hold after we control for well-known country-level variables used in prior studies, including a country's legal system, stock market development, and information transparency. These control variables generally lose their statistical significance when included in the model along with equity financing restriction variables.

Our findings add to the debate of whether the asset growth is a rational asset pricing phenomenon. Our results seem at odds with the predictions of the q-theory. According to the q-theory, financing frictions reduce the elasticity of investments to costs of capital (Li and Zhang, 2010). Therefore, for a given magnitude of asset change, firms in countries with higher financing frictions should incur a larger change in costs of capital (i.e. the elasticity of investments to costs of capital of these firms is smaller). As such, the q-theory would predict that countries with

more financing restrictions would have a stronger asset growth effect. So long as restrictions on share issuance and buybacks provide reasonable proxies for a country's financing frictions, our findings do not conform with the predictions of the q-theory. Rather, we cannot rule out the mispricing explanation for the international asset growth effect.

We illustrate our findings through the lens of Korea and China as opposed to U.S., as well as Asian vs. the rest of the world. We find that Asian countries generally have more restrictions in equity financing, and as a result, the asset growth effect is weaker compared to the rest of the world. Specifically, within the Asian countries, China has vastly more equity restrictions than Korea and U.S., and consequently a much weaker asset growth effect.

This paper contributes to the literature that investigates the drivers of the asset growth effect. The asset growth-associated stock return has emerged as a new asset pricing factor--the investment factor--in the recent literature (e.g., Fama and French 2015, 2017; Hou et al. 2015). Therefore, it is important to examine the underlying mechanisms that lead the pricing of asset growth. In the U.S. market, Cooper et al. (2017) show that the pricing ability of the investment factor for the cross-section of returns depends on how investment is measured; for example, the pricing ability is much reduced if changes in both tangible and intangible assets are used to calculate investment. Cooper et al. (2017) also show that noncash current assets or long-term debt components of asset growth have similar return predictability as total asset growth. Our study on international asset growth effect is complementary to Cooper et al. (2017). By focusing on the fundamental components of asset changes, we single out equity financing as the dominant driver of asset growth, and then focus on the impact that financial market regulations have on equity financing to explain the differences of the asset growth effect across countries. Instead of the efficient market explanation of rational corporate investment decisions, we offer a regulation explanation for the international asset growth findings in Titman et al. (2013) and Watanabe et al. (2013). Our paper highlights the importance of institutional regulation in international asset pricing studies, and suggests that in addition to well-known variables such as legal system,

culture, market microstructure, and information transparency, researchers should take caution when applying asset pricing models globally as financial market regulation varies from country to country. Our findings suggest that the stronger asset growth effect in more developed markets is an artifact of these markets having fewer restrictions on equity financing. Institutional constraints on equity financing restrict firms' asset growth, leading to the observed cross-country differences in returns conditioning on asset growth.

Our results also provide evidence that international financial regulations can potentially dampen certain sources of risks in asset prices. The asset pricing anomaly literature does not typically converge on what constitutes the sources of risks of empirically observed anomalies—for example, researchers debate on whether the value effect represents distress risk (e.g. Fama and French 1992) or the Q-theory risk (e.g., Xing, 2013). The asset growth effect is an important empirical finding—it is in fact included as an asset pricing factor in Fama and French's (2015) five-factor model. If we therefore view asset growth as an empirically-inspired risk source, our results indicate that international financial regulations may exacerbate or dampen certain sources of risks in asset prices. Our findings suggest that developed markets are better able to reveal the asset growth risk source. Portfolio managers who utilize the asset growth effect for global asset allocation should heed to the fact that the international asset growth effect is driven by financing restrictions, and should reduce exposures to asset growth in countries with strong financing restrictions.

The remainder of the paper is organized as follows. Section 2 reviews the prior literature and develops hypotheses. Section 3 discusses the data, and Sections 4 and 5 present the empirical results. Section 6 concludes.

2. Hypothesis Development

2.1 Decomposing Asset Growth

Cooper, Gulen, and Schill (2008, hereafter "CGS") document a significant asset growth effect in the U.S. stock market, in which they find an annual return premium of 19.5% for a portfolio of firms with low asset-growth over a portfolio of firms with high asset-growth in the period of 1968-2002. They argue that the asset growth effect is a combination of the investment anomaly and the financing anomaly, where both firm investment and financing are negative predictors of future stock returns (see, e.g., Pontiff and Schill, 2001; Titman, Wei, and Xie, 2004; Daniel and Titman, 2006; Pontiff and Woodgate, 2008; Fama and French, 2008). To show the linkage between asset growth and financing growth, CGS decompose total asset growth to changes in each of the following components: operating liabilities; retained earnings; equity financing; and debt financing. To show the linkage between asset growth and investment, CGS decompose total asset growth to the change in cash, noncash current asset, property plant and equipment, and other assets.

However, investment does not always lead to asset growth. For example, investment using internal cash does not change total assets; it is merely a change in the compositions of assets. To change total assets, there must be a corresponding change in the right-side of the accounting equation, which is liability plus shareholders' equity. In this paper, we attempt to combine investment growth and financing growth in a unified accounting-identity. We start by decomposing asset growth into financing components:

$$\Delta\text{Assets} = \Delta\text{Liability} + \Delta\text{Equity}, \quad (1)$$

where Δ indicates change. Assuming a clean surplus accounting system that all gains and losses are recorded in retained earnings, we can decompose the right-hand side into the following four components:

$$\Delta\text{Assets} = \Delta\text{Non-debt Liability} + \Delta\text{Debt} + \Delta\text{Paid-in-Capital} + \Delta\text{Retained Earnings} \quad (2)$$

Because changes in retained earnings are caused by net income and dividends, we can further decompose the right-hand side into:

$$\Delta\text{Assets} = \Delta\text{Non-debt Liability} + \Delta\text{Debt} + \Delta\text{Paid-in-Capital} + \text{Net Income} - \text{Dividend} \quad (3)$$

By subtracting and then adding back the change in non-cash current assets to the right-hand side we have:

$$\Delta\text{Assets} = \text{Net Income} + \Delta\text{Non-debt Liability} - \Delta\text{Non-cash Current Assets} + \Delta\text{Non-cash Current Assets} + \Delta\text{Debt} + \Delta\text{Paid-in-Capital} - \text{Dividend}. \quad (4)$$

The sum of the first three components of the right-hand-side equals cash flow from operating activities. Therefore,

$$\Delta\text{Assets} = \text{Cash Flows from Operations} + \Delta\text{Non-cash Current Assets} + \Delta\text{Debt} + \Delta\text{Paid-in-Capital} - \text{Dividend}. \quad (5)$$

Equation (5) offers a distinct advantage by combining some elements of investment growth and financing growth into a collective decomposition. In particular, non-cash current asset growth is offered as a component of investment growth in CGS, while the last three components (ΔDebt, ΔPaid-in-Capital, and Dividend) are related to financing activities. The last two items in Equation (5), change in paid-in-capital and dividend, are equity financing net of payout to shareholders. We thus group them into one item, namely equity financing.

Equation (5) points to the possibility that the asset growth effect can even be stronger after removing the effect of cash flow from operations. Prior literature finds that cash flows from operations are positively related to future returns (e.g., Haugen and Baker 1996; Sloan, 1996). This relation is inconsistent with the empirical regularities from the remaining components in Equation (5), which are all shown to be negatively related to future stock returns. The relation

between the change in non-cash current assets and returns is part of the accrual anomaly, which predicts that accruals are negatively correlated with future returns (e.g., Sloan, 1996; Xie, 2001). Richardson et al. (2005), in particular, find that the change in non-cash current assets is one of the most significant predictors among all the components of accruals that negatively predict returns. The last three components of Equation (5) are related to the financing activities effect discussed earlier and negatively predict future stock returns (e.g., Daniel and Titman, 2006; Fama and French, 2008). We can thus enhance the asset growth effect by removing operating cash flows from changes in assets so that the revised asset growth measure contains only the accrual and financing effects. This revised measure can be interpreted as asset growth not funded by operating cash flows. It is also more consistent with the investment story in the Fama and French (2015) 5-factor model and Hou et al. (2015) 4-factor model. We therefore develop our first hypothesis:

H1: Asset growth excluding operating cash flows has a stronger prediction power of cross-sectional returns than asset growth including operating cash flows.

Our second hypothesis examines which component in Equation (5) is the major contributor to large asset changes. We state our second hypothesis in the alternative form:

H2: Equity financing (i.e. ΔPaid-in-Capital – Dividend) is the largest component of asset growth.

2.2 The Asset Growth Effect and Institutional Constraints

We next develop hypotheses with regards to institutional constraints on equity issuance and repurchase that firms may face in less developed markets. As the decomposition of Equation (5) shows, the asset growth effect is driven by financing activities and non-cash accruals. This paper focuses on equity financing because our tests of the second hypothesis later in the paper show that equity is the most important source of asset growth. When firms face institutional constraints on equity financing, managers may not be able to grow their assets even though they

have the intention to time the market by issuing stocks and to over-invest when the stock valuation is high, or rationally respond to external shocks of cost of capital when making their investment decisions as in the Q-theory.

On the other hand, if a country has strict regulations on stock buybacks, managers are not able to engage in stock repurchases when stocks are undervalued. Managers may also be reluctant to issue shares because unused cash balance from stock issuance cannot be used to buy back the stocks in the future (McLean et al. 2009). Further, without stock repurchases, an increase in share counts can reduce earnings per share, making managers reluctant to issue stocks.

In the internet appendix, we hypothesize and find that in countries and periods that have more restrictions in equity issuance and buybacks, equity financing constitutes a smaller component of asset growth; and as a result, asset growth across firms is less dispersed. Therefore, in restrictive markets and periods, asset growth is small, making it difficult to observe the asset growth effect. We state this regulation explanation in the following hypothesis to examine whether regulation on equity issuance and buybacks dampens the asset growth effect and whether such regulation supersedes traditional measures of market efficiency to explain the asset growth effect:

H3: Asset growth is less negatively related to future returns in countries and periods with more restrictions on stock issuance and buyback, after controlling for factors of stock market development, legal environment and information transparency.

3. Data and Descriptive Statistics

3.1 The Sample

We use the same 42 countries as in McLean et al. (2009).[2] We obtain non-U.S. firms' accounting and stock price data from Datastream and Worldscope, U.S. accounting data from the Compustat database, and U.S. stock price data from the CRSP database. Following Watanabe et al. (2013), we include in the sample all domestic common stocks listed on the major stock exchange(s) in each country. A major stock exchange is defined as the exchange with the largest number of listed stocks in a country. Multiple exchanges are used only for China (Shanghai and Shenzhen), India (Bombay and National Stock Exchanges), and the U.S. (NYSE, AMEX, and NASDAQ). We further remove non-US financial firms according to its Datastream industry names (INDM) and remove U.S. financial firms with four-digit SIC codes between 6000 and 6999. To avoid double counting, we include only a firm's primary listed shares (Datastream ISINP of "P") and eliminate all secondary listed shares (Datastream ISINP of "S"). For example, only NYSE-listed IBM is included in the sample, and Frankfurt-listed IBM is excluded.

We collect the data for the period of 1980 to 2012. Because we require at least two years of accounting data to calculate the asset growth variable, our first fiscal year that has all required accounting measures is 1981. We assume that financial statements are publicly available to form portfolios at least six months after the fiscal year end, and therefore our monthly return series starts from July 1, 1982 and ends on December 31, 2012.

We follow Watanabe et al. (2013), McLean et al. (2009), and Ince and Porter (2006) in data screening. Specifically, to ameliorate possible data errors, we exclude firm-months that have returns of over 300% that are quickly reversed in an immediate month such that the two months' cumulative return is less than 50%. We eliminate companies with negative assets, negative one-year-prior assets, or over 1000% asset growth. To be included in the sample, we require a country to have more than 30 firm observations in a certain month. We winsorize all variables

[2] These countries are similar to the sample countries used in Li et al. (2012), Titman et al. (2013), and Watanabe et al. (2013).

except stock returns at the 1st and 99th percentiles for each period, and truncate non-U.S. stock returns at the 1st and 99th percentile in each country. We do not truncate or winsorize U.S. stock returns.

Panel A of Table 1 shows the descriptive statistics. All variables are defined in the Appendix. We measure asset growth (*AG*) as the year-over-year growth of total assets [i.e., $(Asset_t - Asset_{t-1}) / Asset_{t-1}$], and the asset growth effect would amount to a negative association between *AG* and future returns. Asset growth excluding operating cash flow (*AGxCFO*) is measured as *AG* subtracting operating cash flow (CFO) scaled by previous year's total assets [i.e., $(Asset_t - Asset_{t-1} - CFO) / Asset_{t-1}$]. From the Panel, we note that the average *AGxCFO* is slightly smaller than the average *AG* across all countries, implying that operating cash flows are on average positive. For example, in the U.S. the average AG is 0.23 and the average *AGxCFO* is 0.21. The small difference between *AGxCFO* and *AG* indicates that the largest contributor to asset growth is not from operating cash flow, but from other components of asset growth in Equation (5), for which we will show more details in Table 2. Panel A of Table 1 also shows the time-series average of cross-sectional standard deviation of *AGxCFO* within each country. The U.S., arguably the country with the least financing restrictions, has the highest standard deviation of *AGxCFO* among the 42 countries.

3.2 Financing Restrictions and Institutional Environment

The rest of Panel A of Table 1 shows the summary statistics for each country's financing regulation and institutional environment. We use two variables to measure the regulations of stock issuance and repurchase. The first measure is non-zero issuance (*NonZeroIssue*), a country-level variable from McLean et al. (2009). It is the percentage of firms in a country that has non-zero stock issuance. A larger *NonZeroIssue* indicates more stock issuance activities in the country. The second measure is the year that stock buyback is allowed in a country (*Buyback*),

also from McLean et al. (2009), who define *Buyback* to be the year when stock buybacks begin to be allowed by a country's regulator and are not legally or tax-wise unattractive to do so.

We use three sets of variables to measure a country's institutional environment, namely, stock market development, legal system, and information transparency. A country's stock market development includes three variables, obtained from McLean et al. (2009). *Turnover* is a country's total U.S. dollar trading volume divided by the market value of shares outstanding from 1996 to 2000. *LogGDP* is a country's GDP per capita in U.S. Dollars in the year of 2000. *Short* is from Bris et al. (2007) and shows the periods when short sale began to be allowed. *ShortD* equals 1 if short-sale is allowed, and 0 otherwise. These measures positively indicate a country's stock market development.

A country legal environment is represented by the following variables. *Common* is from La Porta et al. (1998). It is a dummy variable and equals 1 if a country has a common-law legal origin, and 0 otherwise. La Porta et al. (2006) provide three additional variables to measure investor protection. *Criminal* reflects the easiness of pursuing accountants, directors, and other financial intermediaries in criminal courts. *Liability* is similar to *Criminal*, but measures the easiness of suing accountants, directors and intermediaries in civil courts. *Protect* is the principal component of three indices: *Liability*, disclosure requirements, and anti-director rights. Higher values of *Criminal*, *Liability* and *Protect* indicate better legal environment.

A country's information transparency is measured by *CIFAR* and earnings management index (*EM)*. *CIFAR* is from a 1995 publication by the Center for International Financial Accounting and Reporting. It rates annual reports of at least three firms in a country on 90 disclosure items. The mean of the firms' total disclosure points is the *CIFAR* index for that country; a higher value of *CIFAR* indicates more financial transparency. *EM* is from Leuz et al. (2003), which is the aggregate rank of four different earnings management measures. A higher EM means more earnings management in a country.

Panel A of Table 1 shows that developed countries generally enjoy fewer financing restrictions, and better institutional environment with respect to stock market development, legal system, and information transparency. For example, U.S. and U.K. have much higher values of *NonZeroIssue*, market turnover, legal protection, and financial transparency than Brazil, China and India. The correlation matrix from Panel B of Table 1 indicates high correlations among equity financing, stock market development, legal and transparency variables.[3] All correlations are significant at the 10% level except the greyed out cells. Following Watanabe et al. (2013), in some regressions we choose to use these institutional variables one by one when appropriate to ameliorate the potential multi-collinearity problem among country institutional variables.

4. Empirical Results on Financing Restrictions

4.1 *AG* versus *AGxCFO* in Predicting Returns (Hypothesis 1)

This section tests H1 that asset growth not funded by operating cash flows should have a stronger prediction power for cross-sectional returns than overall asset growth. We run the Fama-Macbeth (1973) monthly cross-sectional regression of the following equation:

$$\text{Ret}_{t+1} = a_0 + a_1\, AG \text{ or } AGxCFO + a_2\, Vol + a_3\, Mom + a_4\, LogSize$$

$$+ a_5\, ROA + a_6\, BM + a7\, DEBTP + a_8\, SP + \varepsilon_{t+1} \qquad (6)$$

where Ret_{t+1} is the one-month forward return. We include additional return-predictable firm characteristics documented by previous literature. *Vol* is the 12-month rolling average of standard deviation of within-month daily returns (Ang et al. 2006, 2009; Campbell et al. 2008); *Mom* is the past 12 month returns excluding the most recent month (Carhart 1997; Lakonishok et al. 1994; Rouwenhorst, 1998); *LogSize* is the logarithm of market value in U.S. Dollars; *ROA* is

[3] The mean of the absolute value of pair-wise correlations of the country variables is around 0.30. Within each group of variables (i.e., stock market development, legal system, and information transparency groups), the magnitude of pair-wise correlations is generally over 0.40.

the ratio of income before extraordinary items over prior year's total assets (Piotroski 2000); *BM* is the ratio of common equity over market value (Fama and French 1992); *DEBTP* is the ratio of total debt (including both short-term and long-term debt) over market value (Campbell et al. 2008); and *SP* is the ratio of sales over market value. Existing literature predicts a_2 and a_4 to be negative because firms with high volatility and large market values have lower future returns, and predicts a_3, a_5, a_6, a_7, and a_8 to be positive because firms with high momentum, ROA, book-to-market, debt-to-market, and sales-to-market tend to outperform other firms. The *t*-statistics are adjusted for Newey-West (1987) autocorrelations. H1 predicts a negative a_1.

To make the asset growth measures comparable across time periods and countries, consistent with prior literature (e.g., Abarbanell and Bushee 1998), we transform the ranking of the asset growth variable to facilitate cross-country comparability, which involves ranking firms by country-month and then transforming the ranking to a uniform distribution. Specifically, we first follow Watanabe et al. (2013) and partition each country-month cross section into terciles, quintiles, and deciles for the variable *AG* or *AGxCFO*, if the cross-section has respectively, between 30 and 50, between 50 and 100, and more than 100 firm observations. We then transform the resulting rank to a uniform distribution with a range of -1 to 1. This transformation ensures that *AG* and *AGxCFO* are comparable across time periods and countries with different numbers of firms. For example, across all countries and time periods, the highest asset increase firms are assigned with values of 1 and the lowest asset growth firms are assigned with values of -1.

Table 2 presents the regression results of Equation (6). In Panel A we first provide country-specific results for the 42 countries in our sample, using either *AG* or *AGxCFO* as the asset growth measure. The results are consistent with the prior literature: In 13(0) out of 42 countries *AG* loads significantly negatively (positively), indicating that high asset growth firms have significantly lower returns, and the asset growth effect exists in most developed markets,

such as U.S., U.K., and Australia. Furthermore, consistent with our H1 that *AGxCFO* embodies a stronger asset growth effect, we note that relative to *AG*, i) *AGxCFO* loads significantly negatively in 24 markets, and ii) the coefficient estimate of *AGxCFO* is generally larger in absolute terms than that of *AG*. Notably, we observe that the coefficient of *AGxCFO* is higher in absolute terms than that of *AG* in the US; and in untabulated results we can report that the difference in these two coefficients is significant. Hence, the *AGxCFO* effect is stronger than that of *AG* worldwide, as well as in the US.

In Panel B of Table 2, we pool all countries together and run Regression Equation (6) with country fixed-effects to examine the aggregate asset growth effect worldwide. Model (1) shows that the existence of a worldwide asset growth effect: the coefficient estimate of *AG* is significantly negative. This effect seems to be stronger with *AGxCFO*—it has a larger coefficient estimate. In Models (3) and (4), we add the control variables in Equation (6). When *AG* (*AGxCFO*) is used for asset growth, it has a loading of -0.333 (-0.394) with a *t*-statistic of 8.52 (10.10) on returns. In untabulated results we can report that the 0.061 (i.e. -0.394 subtracting -0.333) difference of loading between *AGxCFO* and *AG* is significant at the 1% level. In the last specification in Panel B of Table 2, we carry out a horse-race regression between *AGxCFO* and *AG* by putting them together in the same regression. The results show that the significance of *AG* is subsumed by *AGxCFO*. The magnitude of coefficient estimate of *AGxCFO* is slightly larger than when it is used without *AG*. In sum, the evidence in Table 2 supports H1 that asset growth not funded by operating cash flows has a stronger prediction power for cross-sectional returns than the plain-vanilla asset growth measure.

4.2 Components of Asset Growth (Hypothesis 2)

We now test Hypothesis 2 that the largest component of asset growth is equity financing. Panel A of Table 3 reports the statistics of the components in Equation (5) for firms in the highest asset growth (i.e. $Asset_t/Asset_{t-1}$ -1) group in a given country. Following Watanabe et al.

(2013), the group of firms categorized as the highest asset growth depends on how many firm observations a country has at each point of time (each month). If the number of observations is between 30 and 50, between 50 and 100, and more than 100 in the month, the highest (lowest) asset growth firms refer to, respectively, the top (bottom) tercile, quintile, and decile.

We then group the firms with the highest asset growth by country-wise financing constraints, and show time-series averages of the components of asset growth. Panel A of Table 3 shows that in countries and periods that allow buyback, average asset increase (i.e. $Asset_t/Asset_{t-1}$ -1) for firms in the highest asset-growth group is 1.35 (i.e. 135% year-over-year asset increase), as opposed to only 0.61 (i.e. 61% year-over-year asset increase) in countries and periods that buyback is not allowed. The amounts shown in italic percentage in the table are the contribution of each component to total asset growth. When buyback is allowed, equity financing (i.e. Changes in Paid-in-Capital divided by lagged assets) equals 0.88 and accounts for 65% (i.e. 0.88 divided by 1.35) of the total asset growth, as opposed to 0.19 or 31% (i.e. 0.19 divided by 0.61) of the total asset growth when buyback is not allowed. Further, operating cash flow is the smallest component regardless whether buyback is allowed or not. Overall, these results show that in the case of strong asset growth, equity financing activities are the most important contributor; and it is particularly so in countries with few restrictions on stock buyback.

Panel A shows similar results by grouping countries according to *NonZeroIssue*. In the top tercile *NonZeroIssue* countries (i.e. countries with the most stock issuance activities and fewest restrictions), the average asset increase of firms in the highest asset growth group is 1.52, and equity financing contributes 71% to the growth; and in countries with the bottom tercile *NonZeroIssue* (i.e. countries with the most stock issuance restrictions), the average asset increase of firms in the highest asset growth group reduces to 0.66, and equity financing contributes only 35%.

The last three columns of Panel A of Table 3 show the *t*-statistics for the differences between equity financing and each of the three other components of asset growth: operating cash flow, changes in non-cash current assets, and changes in total debt, for six country groups partitioned by whether buyback is allowed or the value of *NonZeroIssue*. There are a total of 18 cases studied. We note that in 17 out of the 18 cases, changes in paid-in-capital are significantly larger than either operating cash flow, changes in non-cash current assets, or changes in total debt. For example, when buyback is allowed, changes in paid-in capital are larger than operating cash flows by 0.94 (i.e. 0.88 subtracting -0.06) with a *t*-statistic of 40.47. Since both measures are deflated by lagged total assets, a magnitude of 0.94 means that the difference equals 94% of lagged assets, indicating strong economic significance. In sum, our results are consistent with Hypothesis 2 that equity financing is the most important source for asset growth.

For completeness, Panel B of Table 3 shows the average asset change for firms in the lowest group of asset growth in a country. On average, these firms have negative asset growth, indicating that current total assets are smaller than prior year total assets. The levels of various components of asset changes for countries with or without buyback or stock issuance restrictions are not too different. We note that although the average changes in assets, non-cash current assets, and total debt are all negative, equity financing on average is non-negative, indicating that share issuance remains a stable source of financing for this group of firms. In Internet Appendix, we formally test and confirm that equity financing contributes more to asset growth than other asset growth components in countries with less stock issuance and buy back restrictions.

4.3 Asset Growth Effect and Restrictions on Stock Buyback and Issuance: Regression Analysis (Hypothesis 3)

We now turn to testing H3 that the asset growth effect is weaker in countries and periods that have restrictions in stock buybacks and issuances. We augment return regression Equation (6)

with the interaction term between asset growth and financing restriction variables and run the following Fama-Macbeth (1973) monthly cross-sectional regression:

$$\text{Ret}_{t+1} = a_0 + a_1\, AGxCFO + a_2\, Vol + a_3\, Mom + a_4\, LogSize + a_5\, ROA + a_6\, BM + a7\, DEBTP + a_8\, SP + a_9\, AGxCFO \times NonZeroIssue \text{ or } BuyBackD + a_{10}\, AGxCFO \times \text{Country Variables} + \text{Country-Fixed-Effects} + \varepsilon_{t+1} \quad (7)$$

In the above specification, the interaction terms capture the sensitivity of the asset growth effect to both the financing constraint (*NonZeroIssue or BuybackD*), and country characteristics. Mclean et al. (2009) use a similar specification. H3 predicts that a_9 is negative, because the asset growth effect should be stronger in countries that have more stock issuances and countries that allow share buybacks. Due to the high correlation among country variables, similar to Watanabe et al. (2013) and Titman et al. (2013), we add country characteristics one at a time.

Table 4 reports the results. Each numbered row shows a separate regression. The *t*-statistics are adjusted for Newey-West (1987) autocorrelations. In Panel A, we first show the results of *NonZeroIssue* alongside stock market development variables (i.e., Turnover, LogGDP and ShortD). We observe that in all of the regressions, the interaction term of *AGxCFO* × *NonZeroIssue* shown in the last column is always significantly negative, as predicted. When *AGxCFO* × *NonZeroIssue* is not included in the regressions (1), (2) and (3), countries with higher turnover, larger GDP per capita and no restriction on short-sell have larger asset growth effects, confirming the prior literature. The addition of *AGxCFO* × *NonZeroIssue* subsumes two sets of significance: i) it subsumes the significance of *AGxCFO*; and ii) it subsumes the significance of *AGxCFO* interacted with the market development variables in regressions (5) through (7). These results suggest that i) the international asset growth effect is concentrated in countries where stock issuance is less constrained, and ii) the market development argument for the international asset growth effect may merely be a manifestation of ease of financing. The

evidence in Table 4 indicates that ease of financing, as proxied by *NonZeroIssue*, has a stronger explanatory power than market development measures in our sample.

In Panel B of Table 4, we carry out a horse race between *NonZeroIssue* and a number of legal and information environment measures. Overall, the results are strikingly similar to those in Panel A. When *AGxCFO* × *NonZeroIssue* is not included in regressions (1) through (6), countries with better legal and information environments have a significantly larger asset growth effect, consistent with the prior literature. Such significance disappears while *AGxCFO* × *NonZeroIssue* remains significant after being included in regressions (7) through (12).

Table 5 repeats the exercises in Table 4 but uses *BuyBackD* instead to proxy for financing constraints. The results, albeit somewhat weaker than Table 4, suggest similar findings. We note that *AGxCFO* × *BuyBackD* is significantly negative when no country variable is added in Model 1 of Panel A. In Panel A when stock market development interaction is included, *AGxCFO* × *BuyBackD* remains significantly negative. In Panel B, the coefficients of *AGxCFO* × *BuyBackD* are negative in all regressions and significantly positive in 4 out of 6 regressions. The only two insignificant regressions are when *Protect* and *EM* are included in model (4) and (6). Overall, the inclusion of *AGxCFO* × *BuyBackD* greatly reduces the magnitude of coefficient estimate of both *AGxCFO* and the interaction term of *AGxCFO* and the country characteristic of interest. For example, compared with Panel B of Table 2 where *AGxCFO* has a coefficient estimate of -0.394 when *AGxCFO* × *BuyBackD* is not present, adding *AGxCFO* × *BuyBackD* reduces the coefficient estimate of *AGxCFO* to -0.227. In another example, compared with Panel A of Table 4 where the interaction between *AGxCFO* and LogGDP has a coefficient estimate of -0.226 when *AGxCFO* × *BuyBackD* is not present, adding *AGxCFO* × *BuyBackD* reduces the coefficient estimate of the interaction between *AGxCFO* and LogGDP to -0.167. In sum, the evidence in Table 5 suggests that the international asset growth effect is concentrated in

countries where buyback is less restricted, and that ease of financing, as proxied by stock buybacks, can be an explanation to the international asset growth effect.

To conclude, evidence from Tables 4 and 5 supports our third hypothesis that asset growth is less negatively related to future returns in countries and periods with more restrictions in stock issuance and buyback.

4.4 Asset Growth Effect and Restrictions on Stock Buyback and Issuance: Portfolio Analysis (Hypothesis 3)

In the previous section we test H3 using the regression analysis. For completeness, in this section we perform the portfolio analysis for H3. We conduct the analysis following Watanabe et al. (2013). At the end of each June in year *t*, we form either equal- or value-weighted portfolios based on the ranked year *t-1's* value of *AGxCFO*. The grouping based on *AGxCFO* again depends on how many observations a country has at each month. If the number of firm observations is between 30 and 50, between 50 and 100, and more than 100 in the month, the "high" ("low") *AGxCFO* firms refer to, respectively, firms in the top (bottom) tercile, quintile, and decile. For example, the high *AGxCFO* portfolio in the decile-group case refers to firms with the highest decile value of *AGxCFO*, which means they are the highest asset growth firms. We then hold the portfolio for a year, and rebalance the portfolio next June.

We control for portfolio risk using size-adjusted returns. We follow Titman et al. (2013) and form size-based benchmark portfolio. Similar to the asset growth portfolios, we form tercile, quintile, and decile size-portfolios based on a firm's market capitalization at the end of each June in each country. The size-adjusted return is the difference between a stock's raw return and its matched size-portfolio return. In unreported tests, we also use i) raw returns, ii) returns adjusted on book-to-market matched portfolios, and iii) returns adjusted on both size and book-to-market matched portfolios. We find quantitatively similar results in all three cases.

Table 6 shows the monthly size-adjusted portfolio returns for the high and low-*AGxCFO* portfolios. Similar to the regression analysis in Table 3, we observe a pervasive asset growth effect worldwide. In 25 (11) out of 42 countries, the equal-weighted (value-weighted) hedge portfolio return of high *AGxCFO* minus low *AGxCFO* firms are significantly negative. Notably, in the U.S., high asset-growth decile underperforms low asset-growth deciles by 151 (110) bps per month equal-weighted (value-weighted). These magnitudes are very similar to the results in Cooper et al. (2008), who report the difference between high and low portfolios' annual hedged returns as 17% equal-weighted and 10% value-weighted from 1968 to 2003. Other countries such as U.K, Australia, France, Denmark, and Germany also have a significant asset growth effect.

The last row of Table 6 reports the aggregate worldwide asset growth effect. To form a world portfolio, we pool all the firms and rank them into deciles at the end of each June and hold the portfolio for one year. We also form size-matched portfolio deciles based on a stock's market capitalization in USD at the end of each June. Our results indicate a strong aggregate worldwide asset growth effect: The monthly size-adjusted return on the hedge portfolio of the lowest-*AGxCFO* portfolio minus the highest-*AGxCFO* portfolio is 109 (83) bps equal-weighted (value-weighted), translating into 10-13% per annum.

In Table 7, we regress the country-wise, monthly returns of the high minus low hedge portfolio on financing restrictions and other country-level variables. Panel A reports the univariate regression of the hedge portfolio returns on financing restrictions (either *NonZeroIssue* or *BuybackD*) or country characteristics one at a time. Each row represents one separate univariate regression. We note that *NonZeroIssue* and *BuybackD* significantly and negatively predict both equal and value-weighted *AGxCFO* hedge portfolios' returns. Country characteristics such as turnover, GDP and legal and information environment have various

predictive powers on the hedge portfolio returns, depending on whether the portfolio is equal or value-weighted.

In Panels B and C we sequentially add a country characteristic, one at a time, to financing restrictions in the hedge portfolio return regressions. The idea here is to isolate the predictive power of financing restrictions from other well-known country characteristics. Each titled row is one separate regression including one country characteristic and financing restriction as independent variables. We observe that both *NonZeroIssue* and *BuybackD* have negative coefficients in all 36 cases presented in these two panels. *NonZeroIssue* loads significantly negative in 8 (7) out of 9 cases of equal-weighted (value-weighted) returns that controls for country characteristics; and *BuybackD* loads significantly negative in 7 (5) out of 9 cases of equal-weighted (value-weighted) returns that controls for country characteristics. In cases where *NonZeroIssue* and *BuybackD* are insignificant, country characteristics tend to be insignificant as well. In contrast, compared to the univariate results in Panel A of Table 7, the significance of country characteristics is subsumed by *NonZeroIssue* or *BuybackD*. In sum, these portfolio results are highly consistent with what was presented in the previous section where we carried out firm-level regressions. The results support our H3 that the asset growth effect is stronger in countries with fewer stock issuance and buyback restrictions.

4.5 A Case Study: Asia, Korea, and China

Many emerging markets institute constraints on equity financing. Asian countries of Korea and China are two prime examples of emerging economies with growing capital markets over our sample period. In this section we compare Asia—specifically Korea and China—with the rest of the world or U.S. on the asset growth effect and financing constraints.

Korea has very strict listing requirements. The requirements that Korea Exchange set during our sample period for firms applying for preliminary listing review on the main board

include but are not limited to the applicant: (1) having sales more than 30 billion Korean Won (KRW) in the most recent year, and an average three year sales more than 20 billion KRW; (2) having a past-year (three-year sum) net income of at least 2.5 (5) billion KRW, or a past-year (three-year sum) ROE of at least 5% (10%). The ROE requirement can be lowered to 3% for large corporations, but in this case the net income requirement will increase to 5 billion KRW and there is an additional requirement of positive operating cash flow.

China similarly imposes very strict regulations on firms issuing equities. China is among the most difficult markets in the world to issue IPO—among other things, firms have to be vetted through a series of government regulatory authorities and are required to be book-profitable for the past three years (e.g., Wei and Kong 2017). It also has a strict set of rules for firms to issue secondary stock offerings (SEO) and rights offerings, including multiple-year profitability requirement and a case-by-case review by its market watchdog, the Chinese Securities Regulatory Commission (CSRC). For example, in 2002-2006 listed companies in China are required to generate an average return on equity of at least 10 percent in the past three years before they can apply to the Chinese SEC for SEO. In some years, CSRC halted all IPOs to stabilize the supply of shares in the equity market. In absence of stock issuances, asset growth tends to be restricted. China also imposes strict short-sale ban before 2010 (Li et al. 2017).

These facts about Korea and China are evidenced by the low *NonZeroIssue* value for both countries. From Table 1, Korea's and China's *NonZeroIssue* is 37.95 and 32.98, respectively, much lower than that of the U.S. (87.48)—the latter is the highest among the world. Over our sample period, China does not allow stock buyback, but both U.S. and Korea do. Therefore, among the three countries, U.S. has the least equity financing restrictions and China is the most restrictive.

The degree of the asset growth effect across these countries is consistent with their institutional financing restriction differences. Earlier, Table 2 shows the Fama-MacBeth cross-sectional return regression for each country, where the coefficient on *AGxCFO* indicates the

strength of the asset growth effect. The coefficients for China, Korea, and U.S. are, respectively, -0.092 (insignificant), -0.447 (significant), and -0.557 (significant). The results showed that there is no asset growth effect in China. The asset growth effect is significant in Korea, but the coefficient for Korea is smaller than for the U.S. where the financing restriction is the least. In addition, Table 6 showed the time-series average of portfolio returns sorted on *AGxCFO*. The hedged return for China is -0.04 equal-weighted and -0.15 value weighted with no statistical significance. In contrast, the hedged portfolio returns for both Korea and the U.S. are significant. The equal-weighted return is smaller in absolute terms for Korea at -0.72 than for the U.S. at -1.51.

For wider geographic regions, Yao et al. (2011) document the prevalence of the asset growth effect in Asia. They find that the asset growth effect is weaker in economies that are more dependent on bank financing. Since firms' debt and equity financing are substitute financing channel, our results are consistent with Yao et al. (2011). Specifically, in economies that are more dependent on bank financing, the dependence on equity financing is weaker, and thus leads to a weaker asset growth effect as found in both this paper and Yao et al. (2011).

To highlight the difference of the asset growth effect in Asia, as well as Korea and China, in Table 8 we show Fama-MacBeth regressions with different Asian samples. The first regression tests the difference between Asian countries and the rest of world with Asian dummy variables included in the fixed effects regression. The coefficient on AGxCFO is significantly negative at -0.401, while the coefficient on the interaction between AGxCFO and Asia dummy variable is significantly positive, suggesting that the asset growth effect is significantly weaker in Asian countries, consistent with Yao et al. (2011).

The remaining regressions test the difference of the asset growth effect between US and Korea/China. The second regression uses data from the U.S. and Korea. We find that the standalone AGxCFO is again significantly negative at -0.517; however, the interaction between

AGxCFO and Korea dummy is positive but insignificant. Note that Korea and US share the commonality of allowing stock buyback during the whole sample period; the restrictive equity financing constraints alone do not render the asset growth effect to be much weaker than that of the U.S.

We next use the sample from the U.S. and China. The standalone AGxCFO is significantly negative at -0.535. The interaction between AGxCFO and China dummy variable is significantly positive at 0.416, which strongly supports our hypothesis that in countries with more financing restrictions like China, the asset growth effect is much weaker.

We continue to pool US with Korea and China. When we use separate dummies for Korea and China, the results are similar—the interaction between AGxCFO and China is significantly positive while the interaction with Korea is insignificantly positive. However, when we create a join dummy for Korea and China against the U.S. in the last column, we find the interaction between AGxCFO and the joint dummy is significantly positive, consistent with the results of Asia vs. the world.

In sum, the results from Korea, China, and the U.S. are consistent with our hypotheses. In China where equity financing is the most restrictive among the three countries, the asset growth effect is the weakest—it does not exist. The asset growth is stronger in Korea and the strongest in the U.S., consistent with the ranking of equity financing and stock buyback restrictions.

5. Robustness Tests

5.1 Removing the Effect of Debt Financing

Asset growth may be funded by debt financing rather than equity financing. Earlier in Table 2 we show that debt financing is a relatively minor contributor to asset growth. For example, in firms with the highest asset growth (Panel A of Table 2), debt financing accounts for 17% (26%) of asset growth in countries that allow (do not allow) buyback, as opposed to equity

financing's 65% (31%). In this section we remove debt financing from asset growth, and test whether the effect of asset growth not funded by operating cash flows and debt financing is more prevalent in countries with fewer restrictions on stock issuance and buyback.

Table 9 reports the regression results of Equation (6) using asset growth excluding operating cash flows and short- and long-term debt financing (*AGxCFOxDebt*). We observe that the results on stock issuance restrictions are highly similar to those of Table 4, and the results on buyback dummy are highly similar to those of Table 5. Thus, our conclusion that institutional restrictions on stock issuance and buyback significantly drive the magnitude of the asset growth effect remains robust to the debt-excluded asset growth measure. Unreported portfolio analyses also confirm the findings.

5.2 Including Operating Cash Flows in the Asset Growth Measure

The original asset growth factor measures the year-over-year asset change without excluding operating cash flows from asset growth. In our Hypothesis 1 we exclude operating cash flows from the traditional asset growth measure. In this section we use the traditional measure to test whether equity issuance restriction contributes to the world-wide variance in the asset growth effect. Table 10 reports the regression results of Equation (6) using the traditional asset growth measure (*AG*). We observe that the results on stock issuance restrictions are highly similar to those of Table 4, and the results on buyback dummy are highly similar to those of Table 5. All coefficients on the interaction between *AG* and *NonZeroIssue* are significant. Except when the Earnings Management (EM) variable is included, all coefficients on the interaction between *AG* and *BuybackD* are significant. Thus, our conclusion that institutional restrictions on stock issuance and buyback significantly drive the international asset growth effect remains robust to the plain vanilla asset growth measure. Unreported portfolio analyses also confirm the findings.

5.3 The Effect of Accruals on the Asset Growth Effect

In this section we examine whether the results that we documented earlier are driven by accruals. As documented in Table 3, accruals are a small component of asset growth compared to equity financing. Nevertheless, we wish to rule out the possibility that accruals anomaly contributes to the observed cross-country variation in the asset growth effect. We thus include a firm's accruals in the regression to control for the accruals anomaly. Accruals are measured as the difference in operating cash flow and net income before extraordinary items scaled by lagged total assets.

Table 11 shows the regression results of Equation (6) when we add accruals. The coefficients on accruals are significantly negative, consistent with results of the accruals anomaly. Consistent with the prior tables, the coefficients on asset growth are mostly insignificant, and the interaction between asset growth and country-specific factors are also mostly insignificant. Most importantly, the coefficients on the interaction with equity financing (i.e. *NonZeroIssue* in Panel A and *BubyBackD* in Panel B) are mostly significant. Therefore, the results demonstrate accruals anomaly does not subsume the contribution of equity financing restriction to the cross-country variation in the asset growth effect.

6. Conclusion

The asset growth effect documented by Cooper, Gulen, and Schill (2008) has led to the emergence of a corporate investment pricing factor (Fama and French 2015, 2017; Hou, Xue, Zhang 2015). Internationally, the literature finds that the asset growth effect is stronger in more efficient markets, and attributes this finding to that firms are better at making rational corporate investment decisions in more efficient markets (e.g., Titman et al. 2013; Watanabe et al. 2013). This paper offers a regulation explanation for the international asset growth effect.

By decomposing asset growth using a balance-sheet approach, we first identify a stronger international asset growth effect by excluding asset growth funded by operating cash flows. Operating cash flows positively predict returns, which is against the asset growth effect. Purging operating cash flows from asset growth renders asset growth a stronger return predictor in international markets. We further identify that the major contributor to asset growth is equity financing, leading us to focus on whether regulations on equity issuance and stock repurchases affects the asset growth effect. We document that assets grow more rapidly in countries with fewer restrictions on stock issuances and buybacks. When countries restrict equity financing in the form of stock issuances and buybacks, the asset growth effect is much weaker in such countries. Institutional regulations on stock issuances and buybacks further supersede legal system, stock market development, and information transparency in explaining the difference of the effect across countries. We illustrate our findings through the lens of Korea and China as opposed to U.S. We find that Asian countries generally have more restrictions in equity financing—for example, China has vastly more equity restrictions than Korea and U.S.—and consequently exhibit a much weaker asset growth effect.

Overall, our results show that the scope of the international asset growth effect is crucially tied to institutional restrictions on equity financing. Our paper suggests that one cannot rule out the mispricing explanation for the international asset growth effect. International financial regulations can potentially dampen certain sources of risks in asset prices, a factor that should be considered by international portfolio managers in global portfolio allocations.

Appendix: Variable Definition and Source

Variable	Definition	Source
AG	$(Asset_t - Asset_{t-1}) / Asset_{t-1}$	Compustat, Worldscope
AGxCFO	$(Asset_t - Asset_{t-1} - Operating\ Cash\ Flows_t) / Asset_{t-1}$	Compustat, Worldscope
AGxCFOxDebt	$(Asset_t - Asset_{t-1} - Operating\ Cash\ Flows_t - Changes\ in\ Short\text{-}term\ and\ Long\text{-}term\ Debt_t) / Asset_{t-1}$	Compustat, Worldscope
NonZeroIssue	Percentage of firms in a country that has non-zero stock issuance	McLean et al. (2009)
Buyback year	The year when stock buybacks began to be allowed and are not legally or tax-wise unattractive in a country	McLean et al. (2009)
BuyBackD	1 if the year of a period is equal to or larger than the Buyback year, and 0 otherwise	McLean et al. (2009)
Short year	The year when short sale began to be allowed in a country.	Bris et al. (2007)
ShortD	1 if the year of a period is equal to or larger than the Short year, and 0 otherwise	Bris et al. (2007)
Turnover	A country's total dollar trading volume divided by the market value of shares outstanding from 1996 to 2000	McLean et al. (2009)
LogGDP	A country's GDP per capita in U.S. Dollars in the year of 2000	McLean et al. (2009)
Common	1 if a country has a common law legal origin, and 0 otherwise	La Porta et al. (1998)
CIFAR	A country's disclosure index. The Center for International Financial Accounting and Reporting rates annual reports of at least three firms in a country on 90 disclosure items. The average of all firms' total disclosure points is the CIFAR index for that country.	Center for International Financial Accounting and Reporting in 1995

Criminal	The easiness of pursuing accountants, directors, and other financial intermediaries in *criminal* courts in a country	La Porta et al. (2006)
Liability	The easiness of pursuing accountants, directors, and other financial intermediaries in *civil* courts in a country	La Porta et al. (2006)
Protect	The principal component of three indices in a country: (1) the easiness of pursuing accountants, directors, and other financial intermediaries in civil courts; (2) disclosure requirements; and (3) anti-director rights.	La Porta et al. (2006)
EM	Earnings management index of a country. It is the average rank of the following four components: (1) the volatility of operating income over the volatility of operating cash flow; (2) the correlation between changes in accruals and changes in operating cash flows; (3) the ratio of the absolute value of accruals over the absolute value of operating cash flows; and (4) the ratio of the number of "small profits" over the number of "small losses" in a country.	Leuz et al. (2003)
Vol	12-month average of monthly standard deviation of daily returns	Datastream, CRSP
Mom	Past 12-month returns excluding those of the most recent month	Datastream, CRSP
LogSize	Logarithm of current market value in U.S. Dollars	Datastream, CRSP
ROA	Income before Extraordinary Items$_t$ / Total Assets$_{t-1}$	Compustat, Worldscope
BM	Common Equity / Market Value. Market value is from June 30th of the current year, and Common Equity is from the fiscal	Compustat, Worldscope,

	period that ends on or before December 31st of the prior year.	Datastream, CRSP
DEBTP	Total Debt / Market Value. Market value is from June 30th of the current year, and Total Debt is the sum of short-term and long-term debt from the fiscal period that ends on or before December 31st of the prior year.	Compustat, Worldscope, Datastream, CRSP
SP	Sales Revenue / Market Value. Market value is from June 30th of the current year, and Sales Revenue is from the fiscal period that ends on or before December 31st of the prior year.	Compustat, Worldscope, Datastream, CRSP

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Table 1: Descriptive Statistics

In Panel A, the columns "Average Num. of Firms", "Average *AG*", "Average AGxCFO" are the time-series mean of monthly firm numbers, and monthly average of AG and AGxCFO, respectively. "Mean of Stdev *AGxCFO*" refers to the time-series average of monthly cross-sectional standard deviation of *AGxCFO*. In Panel B, p-values are shown in parentheses. All other variables are defined in the Appendix.

Panel A: Descriptive Statistics of Institutional Variables

Country	Average # of Firms	Average *AG*	Average *AGxCFO*	Mean of Stdev *AGxCFO*	*NonZeroIssue*	Buy back	Liquidity	Turnover	Log GDP	Short	*Common*	*Critical*	*Liability*	*Protect*	*CIFAR*	*EM*
Argentina	53	0.15	0.07	0.33	24	Full	5.83	14.42	8.95	1999	0	0.17	0.22	0.47	4	
Australia	445	0.20	0.19	0.55	60.85	1996	45.16	48.16	9.89	Before 1996	1	0.83	0.66	0.78	5	4.8

										0				4		
										Before				0.1		2
										re				0		8
Austria	52	0.09	0.03	0.32	13.81	2000	6.71	49.52	10.05	1990	0	0.5	11	04	4	3
										Before				0.0		1
										re				0		9
Belgium	70	0.14	0.06	0.42	18.35	2000	16.83	24.68	10.02	1990	0	0.5	0.44	6	6	.5
										Before				0.4		
										re						
Brazil	325	0.36	0.33	0.35	24.09	Full	18.29	61.14	8.14	1990	0	0.3	0.33	4	5	
										Before				0.9		
										re						5
Canada	431	0.22	0.16	0.54	64.95	Full	57.86	65.64	10.05	1990	1	0.8	1	5	7	.3
										Before						
										re				0.6		
	108	0.14	0.05				9.14			1990			0.33	1	5	
Chile				0.30	11.06	Full		10	8.44		0	0.5			2	
										Not						
China	966	0.20	0.15	0.39	32.98		9.14	10	8.44	Allowed	0					
Czec	38	0.	-	0.20	6.06					Befo	0					

h		05	0.05							re 1990						
										Before			0.3			
Denmark	112	0.10	0.04	0.38	22.23	2001	36.27	64.23	10.31	1990	0	0	0.55	6 3	6 2	16
														0.2		
Egypt	67	0.15	0.01	0.38	8.31		7.76	32.81	7.28		0	0.42	0.22	0 2	2 4	
														0.4		
Finland	93	0.10	0.02	0.33	36.04	1998	70.97	51.34	10.06	1998	0	0.5	0.66	6 5	7 7	12
										Before				0.4		13
France	359	0.15	0.08	0.37	39.66	1999	44.99	63.82	9.99	1990	0	0.3	0.22	7 3	6 9	.5
										Before						21
Germany	305	0.10	0.04	0.37	20.15	1999	37.8	118.46	10.03	1990	0	0.5	0	0	6 2	.5
Greece	179	0.20	0.16	0.43	28.96	Full	60.84	78.79	9.27	Not Allo	0	0.5	0.5	0.3	5 5	28

										wed			1		.
													9		3
													0.		1
													8		9
Hong	38	0.	0.			199	179	64.9		199			0.	5	6	.
Kong	5	22	15	0.53	52.88	2	.05	4	10.1	6	1	1	66	1	9	5
														0.		1
														7		9
	68	0.	0.			200	54.	63.7				0.8	0.	6	5	.
India	6	21	15	0.40	26.18	0	65	2	6.16		1	3	66	9	7	1
														0.		1
										Not				5		8
Indo	17	0.	0.				13.			Allo			0.	0		.
nesia	5	19	12	0.40	26.2		78	65.2	6.59	wed	0	0.5	66	7		3
										Befo				0.		
										re				4		5
Irela		0.	0.				30.	59.9	10.1	199		0.8	0.	7		.
nd	34	18	12	0.47	70.44	Full	79	6	4	0	1	3	44	8		1
										Befo				0.		2
										re				1		4
	15	0.	0.				36.	80.0		199			0.	9	6	.
Italy	7	13	07	0.34	38.14	Full	58	8	9.84	0	0	0.5	22	7	2	8
										Befo				0.		2
Japa	13	0.	0.			199	35.		10.5	re			0.	4	6	0
n	55	06	01	0.17	41.9	6	5	49.4	4	199	0	0	66	2	5	.

										0						5
																1
														0.		4
Mala	32	0.	0.			199	98.	50.7		199			0.	7	7	.
syia	4	13	07	0.35	34.88	8	54	7	8.25	7	1	1	66	3	6	8
										Befo						
										re						
Mexi		0.	0.				9.8	34.4		199			0.	0.	6	
co	94	19	10	0.25	44.85		9	2	8.67	0	0	0.5	11	1	0	
										Befo						1
Neth										re				0.		6
erlan	10	0.	0.			200	113	95.3	10.0	199			0.	5	6	.
ds	3	13	05	0.42	45.23	2	.49	6	6	0	0	0.5	89	4	4	5
New														0.		
Zeala		0.	0.			200	17.	42.6		199		0.3	0.	4	7	
nd	66	13	06	0.48	52.62	0	82	8	9.48	2	1	3	44	6	0	
														0.		5
Nor	11	0.	0.			200	30.	79.6	10.4	199			0.	4	7	.
way	7	21	17	0.54	43.58	0	15	4	9	2	0	1	39	4	4	8
																1
										Not				0.		7
Pakis		0.	0.				26.	220.		Allo		0.0	0.	6		.
tan	77	16	06	0.29	21.91	Full	5	97	6.1	wed	1	8	39	3		8
		0.	0.				5.1	21.6		Not			0.	0.	3	
Peru	76	13	01	0.30	38.07		9	5	7.64	Allo	0	0.5	66	6	8	

										wed				6		
														0.		8
Philli		0.	0.				21.	39.5		199				8	6	.
pines	99	16	10	0.43	27.6		45	2	6.83	8	0	0.5	1	1	5	8
Pola	15	0.	0.			199				200						
nd	5	30	28	0.63	16.53	8				0	0					
										Befo						2
										re				0.		5
Portu		0.	0.				30.	68.1		199			0.	5	3	.
gal	47	11	06	0.30	16.18		98	8	9.27	0	0	0	66	7	6	1
																2
										Not				0.		1
Sing	24	0.	0.			199	79.	49.6	10.0	Allo			0.	7	7	.
apore	5	16	09	0.36	42.11	9	15	2	5	wed	1	1	66	7	8	6
Sout										Befo						
h										re						5
Afric	15	0.	0.			200	41.	27.7		199		0.4	0.	0.	7	.
a	6	18	07	0.40	39.5	1	77	4	7.98	0	1	2	66	6	0	6
Sout																2
h										Not				0.		6
Kore	37	0.	0.				110	204.		Allo		0.3	0.	3	6	.
a	0	15	11	0.36	37.95	Full	.16	92	9.18	wed	0	3	66	6	2	8

Table 1 Panel A

cont'd

Country	Average # of Firms	Average AGxCFAGO	Average Mean of Std dev AGxCFAGO	NonZeroIssue	Buyback	Liquidity	Turnover	Log GDP	Short	Common	Critical	Liability	Protect	CIFAR	EM
Spain	88	0.15	0.07	0.37	37.49	Full	107.98	174.82	9.56	1992	0	0.5	0.66	0.05	6.4	18.6
Sweden	186	0.18	0.15	0.49	39.73	2001	92.22	78.08	10.15	1991	0	0.58	0.28	0.03	8.9	6.38
Switzerland	157	0.09	0.01	0.31	24.77	1998	206.27	91.22	10.41	Before 1990	0	0.33	0.44	0.03	0.38	2.22
Taiwan	442	0.14	0.06	0.28	72.05	2001	320.69	314.74	9.54	1990	0	0.83	0.66	0.05	6.55	2.25

																1
														0.		8
Thail	25	0.	0.			200	22.	62.5		199		0.5	0.	3	6	.
and	7	12	04	0.33	45.08	2	55	1	7.58	7	1	8	22	7	4	3
										Befo				0.		
										re				3		
Turk	15	0.	0.				43.			199			0.	3	5	
ey	2	46	36	0.44	48.75	Full	68	148	8.02	0	0	0.5	22	8	1	
										Befo						
										re				0.		
	87	0.	0.				83.	50.6	10.0	199		0.4	0.	7	7	
U.K.	0	20	14	0.54	55.35	Full	02	2	8	0	1	2	78	7	8	7
										Befo						
										re						
	38	0.	0.			198	178	125.	10.4	199					7	
U.S.	47	23	21	0.68	87.48	2	.88	3	6	0	1	0.5	1	1	1	2

Panel B: Correlations of Institutional Variables

Greyed cells are not significant at 10% level.

	NonZeroIssue	Turnover	LogGDP	Common	Criminal	Liability	Protect	CIFAR	E
NonZeroIssue	1.00	0.29	0.37	0.51	0.42	0.43	0.48	0.58	-0
Turnover		1.00	0.02	-0.05	0.00	0.09	0.01	0.10	0.
LogGDP			1.00	-0.08	0.08	0.04	-0.12	0.40	-0
Common				1.00	0.41	0.34	0.61	0.47	-0

Criminal	1.00	0.17	0.33	0.45	-0
Liability		1.00	0.78	0.32	-0
Protect			1.00	0.36	-0
CIFAR				1.00	-0
EM					1.

Table 2: The Asset Growth Effect with *AGxCFO*

This table shows the Fama-MacBeth (1973) cross-sectional regressions of one-month-ahead returns (multiplied by 100) on asset growth (*AG*) and/or asset growth without operating cash flows (*AGxCFO*). *AG* and *AGxCFO* are ranked and then scaled to between -1 and 1. All other variables are defined in the Appendix. In Panel B, we control for country fixed effects. Newey-West robust *t*-statistics with autocorrelation lag adjustment of 12 are in square brackets. ***, **, and * indicate significance at, respectively, 1, 5 and 10 percent levels.

Panel A: Country-specific asset growth effect (for asset growth with and without CFO)

Country	Month #	*AG*	*Vol*	*Mom*	*LogSize*	*ROA*	*BM*	*DEBTP*	*SP*	*AGxCFO*	*Vol*	*Mom*	*LogSize*	*ROA*	*BM*	*DEBTP*	*SP*
Argentina	164	0.129	26.052	-0.005	0.015	2.437*	-0.036	-0.020	0.133**	0.196	22.983	-0.005	-0.010	2.901**	-0.066	-0.026	0.139***
Aus	366	-0.3	-26.	0.004	-0.0	3.087	0.415	0.008	0.032	-0.4	-26.	0.	-0	2.	0.	0.0	0.

tra		81	252	**	54		**			33	770	0	.	3	3	2	0
lia		**	**							**	**	0	0	3	9	4	3
		*								*		4	6	0	4		4
												*	1		*		
															*		
												0					
G												.	0	0	0		0
er		-	-	0.0						-	-	0	.	.	.	0.	.
m	36	0.1	25.	07	0.0	0.46	0.0	0.08	0.0	0.1	20.	0	0	4	0	9	0
an	6	76	507	**	55	0	70	2	19	89	727	7	5	0	9	5	1
y		**	***	*						**	**	*	5	6	2		6
												*					
												*					
												0					
												.	0	-	0	-	-
Be		-		0.0						-		0	.	0	.	0.	0
lgi		0.2	-	12	0.0		0.2	-	-	0.2	-	1	0	.	2	0	.
u	28	47	16.	**	92	0.45	58	0.07	0.0	83	16.	1	9	1	5	0	0
m	2	**	705	*	**	8	**	0	02	**	286	*	6	3	4	6	0
		*								*		*	*	7	*	4	1
												*	*		*		
												0	0	1	0	-	0
Br		-					0.0	-	0.0	-		.	.	.	.	0.	.
az	19	0.1	5.1	0.0	0.0	1.95	61	0.02	31	0.2	5.3	0	0	6	0	0	0
il	8	47	28	02	86	9***	*	9	**	38	49	0	7	2	6	3	3
										**		0					

												2	9	4**	1**	0	1**
China	186	-0.048	-34.037***	0.002	-0.296*	-0.367	0.647*	0.165	0.164	-0.092	-32.871**	0.002**	-0.302**	-0.355**	0.626*	0.179	0.182
Chile	234	-0.028	-17.260*	0.005*	0.110	1.482*	-0.026	0.047	-0.025	-0.125**	-16.596	0.004**	0.113**	0.285**	-0.027	0.022	0.013
Canada	366	-0.056	-1.932	0.005***	-0.089**	0.864	-0.035	-0.042	0.008	-0.161*	-2.032	0.058**	0.089**	0.807**	-0.032	0.039	0.052

												*	*			
Czech Republic	77	0.048	-65.321***	-0.001	-0.007	5.629	0.078	0.075	-0.073	-0.046	-68.313***	-0.003	0.012	6.141	0.085	0.094	-0.071
Denmark	292	-0.269***	-12.393	0.008***	0.097*	0.086	0.035	-0.059	0.034	-0.422***	-13.809*	0.008***	0.085	-0.777	0.032	-0.038	0.030
Spain	282	0.031	-21.360*	0.006**	0.139***	1.221	-0.073	-0.013	0.122**	-0.018	-23.210*	0.006**	0.135***	1.351	-0.085	-0.022	0.134**
Eg	78	0.2	8.7	0.0	-	1.43	0.4	-	-	0.0	10.	0	-	1	0	-	0

yp		44	94	01	0.1	3	36	0.63	0.0		46	976	.	0	.	.	0.	.
t					57			3	31				0	.	4	2	6	0
													0	1	5	6	2	5
													0	4	9	1	4	7
														0				
													0			0		
															-	.	-	-
													.	0				
Fi							0.3								1	3	0.	0
			-	0.0		-		-	-		-	-	0	.				
nl	26	0.1			0.0		55								.	7	1	.
			13.	05		2.39		0.12	0.0		0.0	11.	0	0				
an	6	64			87		**								5	9	2	0
			476	**		2		1*	42		02	754	5	9				
d							*								5	*	5	4
													*	1				
															3	*	*	5
													*					
																*		
													0					
													.	-	-			
		-									-					0		0
				0.0									0	0	1		0.	
Fr		0.2	-		-	-					0.2	-				.		.
	36			09			0.0	0.02	0.0				0	.	.		0	
an		45	15.		0.0	0.54					51	13.				0		0
	6			**			15	6	19				9	0	0		2	
ce		**	452		37	3					**	922				1		2
				*									*	3	8		5	
		*									*					6		0
													*	7	0			
													*					
													-	-	1	0	-	0
Gr		-	-	-	-			-			-	-						
	23					1.60	0.0		0.0				0	0	.	.	0.	.
ee		0.1	7.6	0.0	0.1			0.24			0.2	7.4						
	4					5	31		91				.	.	6	0	2	0
ce		09	36	01	56			0**			17	24						
													0	1	5	3	2	8

												01	54	8	2	5**	8
Hong Kong	294	-0.069	-18.307	0.004**	0.007	-0.478	0.072	-0.155	0.136**	-0.234**	-15.655	0.04**	0.004	-0.344	0.078	-0.083	0.124**
Indonesia	234	-0.363***	10.135	0.001	0.011	4.576***	0.155**	0.009	0.032	-0.691***	11.273	0.001	0.008	4.223***	0.141*	0.044	0.032
India	222	-0.138	0.820	0.005**	0.030	-0.547	-0.021	-0.100**	0.053**	-0.205	1.087	0.005**	0.029	-0.623	-0.009	-0.095*	0.048*

Ireland	174	-0.328	27.012*	0.005	0.254	4.596***	-0.096	-0.296	-0.086	-0.390*	27.992*	0.004	0.174	4.103***	-0.160	-0.141	-0.094
Italy	318	-0.085	-27.352***	0.008***	0.026	2.004	0.011	-0.031	0.018	-0.169*	-26.532***	0.008***	0.030	1.723	0.022	-0.037	0.016
Japan	366	-0.063	-19.635***	0.002	-0.013	0.666	0.875***	0.085	0.005	-0.091***	-19.109***	0.002	-0.015	0.530	0.873***	0.085	0.005
So	27	-	-	-	0.0	4.76	0.1	-	0.0	-	-	-	0	4	0	-	0

uth Korea	0	0.326***	76.453***	0.002	17	5**	22	0.058*	41**	0.447***	74.113***	0.002	.009	.059**	.126	0.054	.041**
Mexico	246	0.011	-1.855	0.004*	0.161***	2.386***	0.059	-0.228***	0.100***	-0.021	-3.835	0.005**	0.165***	2.161**	0.069	-0.233***	0.098***
Malaysia	316	-0.122	-11.500	0.003	0.022	4.044***	0.596**	-0.125	0.369***	-0.182**	-11.924	0.004	-0.007	4.060***	0.579**	-0.145	0.359**
Nethe	303	-0.115	-23.970	0.006**	0.070	2.129*	0.139	-0.119	0.053**	-0.216	-25.708	0.0	0.0	2.2	0.1	-0.0	0.0

rla nd s			**							**	**	0 6 * *	6 2	8 1 * *	1 6	7 9	5 0 * *
N or w ay	28 2	- 0.1 65	3.4 21	0.0 08 ** *	0.0 66	0.98 2	0.1 96	- 0.26 0**	0.0 97 **	- 0.1 01	3.8 77	0 . 0 8 * * *	0 . 0 7 0	0 . 9 5 0	0 . 2 0 1	- 0. 2 6 5 * **	0 . 1 0 0 * **
N e w Ze al an d	18 6	- 0.0 96	- 26. 365	0.0 02	- 0.0 35	- 0.84 9	0.2 37	- 0.40 1	0.0 28	- 0.1 80	- 27. 517	0 . 0 0 2	- 0 . 0 4 6	- 0 1 . 1 7 5	0 . 2 0 7	- 0. 3 9 9	0 . 0 3 1
A us tri a	24 4	- 0.2 62 *	- 11. 183	0.1 0.0 03	0.1 68 **	2.09 4	0.2 07 *	- 0.31 1***	0.1 19 **	- 0.2 26	- 13. 847	0 . 0 0 2	0 . 1 6 0 4 *	0 . 7 0 7	0 . 2 2 4 *	- 0. 3 1 9 *	0 . 1 2 3 *

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ru	8	47	377	03	30 *	0*	13 *	0.07 8**	00	0.1 79	326	0 4	1 2	6 8 *	0 7 *	9 2 *	2	0 0 6
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pi	23	0.1	2.2	0.0	0.0	0.47	14	0.02	0.0	0.1	1.7	0	0	4	0	1	0	0
ne	4	08	03	02	79	9	**	6	96 **	62	22	0	6	1	0 *	0	9	0
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ki	21	0.0		0.0	0.0	2.17	0.0		63	-		0	0	3	0	0		6
sta	0	03	13.	00	05	7	35	0.08 **	*	0.0 45	14. 249	0	0	2	5	8		*
n			619					8				0	8	0	1	9		*
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la	0.4	34.	03	0.0	7	44	0.87	94		0.4	33.	.	0	.	.	0.	.
nd	11	723		20			3**	**		55	780	0	.	0	4	8	1
								*		**		0	0	9	2	3	9
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Table 2 Panel

A cont'd

Country	Month #	*AG*	*Vol*	*Mom*	*LogSize*	*ROA*	*BMT*	*DEBP*	*SP*	*AGxCF*	*Vol*	*Mom*	*LogSize*	*ROA*	*BMT*	*DEBP*	*SP*
Portugal	256	-0.101	0.8099	0.000 5	0.027**	2.613	0.226**	-0.278*	0.255***	-0.125	2.2388	0.004	0.297**	2.160	0.269**	-0.328*	0.266**
South	30	-0.21	-17.40	0.00	0.002	-0.4	-0.6	0.080	0.00	-0.	-16.	00	00	0.	0.	16	04

Africa	6	1	25	0.04	3	43	16		5.54*	38.41*	27	4	5	75.55	19.1	5	9
Sweden	3.42	-0.412**	-7.155	0.006***	0.009	3.502*	-0.047	-0.031	-0.027**	-0.462**	-6.083	-0.006**	-0.003	-2.832	-0.040	-0.030	0.023
Singapore	2.58	-0.083	-18.106	0.006***	-0.057	1.525	-0.073	-0.176*	-0.074**	-0.163**	-17.676	-0.006**	-0.063	-1.455	-0.070	-0.144	0.078**
Switzerland	3.30	-0.218***	-27.371**	0.008***	0.074**	3.417**	0.076**	0.001	0.004***	-0.287**	-30.870**	0.007**	0.067**	3.347**	0.082**	0.013	0.002
Taiwa	2.1	0.070	-26.50	0.00	0.07	0.644	-0.0	-0.72	0.5	-0.	-27.	00	06	1.17	-0.	-0.	51

n	0		41	0	2		41	2**	7		04	14	3	2	3	42	62	0*
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Th	2	-		0.			0.				0.	-	0.	0.	2.	0.	0.	0.
aila	3	0.33	-	0	0.	2.2	18	-	9		43	14.	00	06	02	18	01	09
nd	4	9**	16.4	0	06	98*	1*	0.00	5		7*	81	1	4	7*	8*	2	3*
		*	76	2	8	**	*	8	*		**	7			*	*		**
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	1		-	0.	-		0.	-	0.		0.	58.	-	-	1.	0.	0.	-
Tur	8	0.19	56.7	0	0.	1.4	28	0.31	0		10	84	0.	0.	72	21	03	0.
key	4	0	22*	0	11	04	7	5	5		5	6*	00	13	9*	2	0	05
			**	3	6				4			**	3	4				7
				0.														
				0							-						-	
	3	-					0.	-	0.		0.	-	0.			0.	0.	0.
U.	6	0.26	-	0	0.	0.6	17	0.16	0		32	11.	00	0.	0.	18	16	01
K.	6	3**	11.9	7	06	29	8*	7**	1		7*	54	7*	06	04	7*	5*	2
		*	31*	*	4		**	*	5		**	1*	**	1	9	**	**	
				*								**						
				*														
U.	3	-	-	-	-	1.0	0.	-	0.		-	0.1	-	-	0.	0.	-	-

S.	6	0.528**	0.702	0.00	0.05	32**	268**	0.125**	0		0.55	79	0.00	0.06	581*	271**	0.120**	0.002
	6	*		0	1		*	*	0		7**		1	5*		*	0**	
				1														

Panel B: All countries (366 months)

Model	*AG*	*AGxCFO*	*Vol*	*Mom*	*LogSize*	*ROA*	*BM*	*DEBTP*	*SP*
(1)	-0.317								
	[-6.07]***								
(2)		-0.480							
		[-9.02]***							
(3)	-0.333		-1.193	0.002	0.002	1.133	0.166	-0.075	0.014
	[-8.52]***		[-0.21]	[2.41]**	[0.07]	[4.54]***	[4.11]***	[-6.41]***	[1.78]*
(4)		-0.394	-0.674	0.002	-0.007	0.812	0.168	-0.070	0.013
		[-10.10]***	[-0.12]	[2.27]**	[-0.29]	[3.15]***	[4.20]***	[-5.98]***	[1.67]*
(5)	0.008	-0.399	-0.640	0.002	-0.008	0.826	0.167	-0.070	0.013
	[0.17]	[-8.36]***	[-0.11]	[2.27]**	[-0.33]	[3.22]***	[4.20]***	[-6.04]***	[1.65]

Table 3: Components of Asset Growth

This table shows the time-series average of the cross-sectional means of the components of asset growth, and their corresponding percentages relative to total asset changes. The first column indicates the country group. In a given month, if the number of observations of the country is between 30 and 50, between 50 and 100, and more than 100, the highest (lowest) asset growth firms refer to, respectively, the top (bottom) tercile, quintile, and decile. All variables are scaled by lagged total assets.

Panel A: Contribution to Asset Growth for Firms in the Highest Asset Growth Group in a Country

						Difference between Changes in Paid-in-Capital and Changes		
	Changes in Assets	Operating Cash Flow	Changes in Non-cash Current Assets	Changes in Total Debt	Changes in Paid-in-Capital	Operating Cash Flow	Changes in Non-cash Current Assets	Changes in Total Debt
Buyback Allowed	1.35	-0.06	0.30	0.22	0.88	0.94	0.58	0.66
	100%	*-4%*	*22%*	*17%*	*65%*	[40.47]***	[30.82]**	[31.32]***
Buyback Not Allowed	0.61	0.08	0.19	0.16	0.19	0.11	0.00	0.03
	100%	*12%*	*31%*	*26%*	*31%*	[10.22]***	[1.32]	[3.03]**
Top Tercile	1.52	-0.08	0.30	0.23	1.08	1.16	0.78	0.85

NonZeroIssue								
Countries								
	100 %	*-5%*	*20%*	*15%*	*71%*	[38.09] ***	[28.75]** *	[29.86] ***
Middle Tercile								
NonZeroIssue								
Countries	0.64	0.07	0.19	0.15	0.24	0.17	0.05	0.09
	100 %	*11%*	*29%*	*23%*	*37%*	[16.03] ***	[5.43]***	[8.59]* **
Bottom Tercile								
NonZeroIssue								
Countries	0.66	0.06	0.20	0.16	0.23	0.17	0.03	0.07
	100 %	*9%*	*31%*	*25%*	*35%*	[15.80] ***	[3.83]***	[8.92]* **

Panel B: Contribution to Asset Growth for Firms in the Lowest Asset Grwoth Group in a Country

	Changes in Assets	Operating Cash Flow	Changes in Non-cash Current Assets	Changes in Total Debt	Changes in Paid-in-Capital
Buyback Allowed	-0.26	-0.05	-0.08	-0.06	0.04
	100%	*19%*	*31%*	*22%*	*-15%*
Buyback Not Allowed	-0.11	0.05	-0.05	-0.04	0.00
	100%	*-44%*	*48%*	*34%*	*0%*
Top Tercile *NonZeroIssue* Countries	-0.28	-0.07	-0.08	-0.05	0.05

	100%	*25%*	*27%*	*19%*	*-19%*
Middle Tercile *NonZeroIssue*					
Countries	-0.13	0.03	-0.06	-0.04	0.00
	100%	*-19%*	*43%*	*31%*	*-3%*
Bottom Tercile *NonZeroIss*ue					
Countries	-0.15	0.04	-0.06	-0.04	0.00
	100%	*-28%*	*44%*	*27%*	*-3%*

Table 4: Asset Growth and Stock Issuance Restriction

This table reports the cross-sectional regression results of monthly returns on the control variables in Table 3, *AGxCFO*, the interaction term *AGxCFO* × *NonZeroIssue*, and the interaction term *AGxCFO* × a country variable. Each row represents a regression. For brevity the results of the control variables are omitted. We control for country fixed effects, and report the Newey-West robust *t*-statistics in square brackets. ***, **, and * indicate significance at, respectively, 1, 5 and 10 percent levels.

Panel A: Stock Issuance Restrictions and Market Development

Model	Stock market development Measure	Interaction of *AGxCFO* with stock market development	*AGxCFO*	*AGxCFO* × *NonZeroIssue*
(1)	Turnover	-0.003	-0.097	
		[-3.85]***	[-1.56]	

(2)	LogGDP	-0.226	1.922	
		[-3.07]***	[2.59]***	
(3)	ShortD	-0.165	-0.253	
		[-2.15]**	[-4.25]***	
(4)			0.048	-0.007
			[0.76]	[-5.08]***
(5)	Turnover	-0.001	0.064	-0.006
		[-1.25]	[0.90]	[-5.26]***
(6)	LogGDP	-0.054	0.588	-0.007
		[-1.02]	[1.10]	[-4.71]***
(7)	ShortD	0.008	0.044	-0.007
		[0.13]	[0.54]	[-5.02]***

Panel B: Stock Issuance Restrictions and Legal and Information Environment

Model	Legal and information environment measure	Interaction of *AGxCFO* with legal and information environment	*AGxCFO*	*AGxCFO* × *NonZeroIssue*
(1)	Common	-0.307	-0.180	
		[-6.37]***	[-6.64]***	
(2)	Criminal	-0.184	-0.314	
		[-2.47]**	[-8.09]***	
(3)	Liability	-0.443	-0.041	
		[-4.98]***	[-0.76]	

(4)	Protect	-0.496	-0.015	
		[-5.54]***	[-0.32]	
(5)	CIFAR	-0.009	0.235	
		[-3.72]***	[1.31]	
(6)	EM	0.020	-0.571	
		[5.64]***	[-8.47]***	
(7)	Common	-0.035	0.046	-0.006
		[-0.57]	[0.65]	[-3.44]***
(8)	Criminal	0.026	0.036	-0.007
		[0.35]	[0.57]	[-4.92]***
(9)	Liability	0.169	0.025	-0.008
		[1.19]	[0.38]	[-3.52]***
(10)	Protect	0.107	0.049	-0.008
		[0.58]	[0.78]	[-2.74]***
(11)	CIFAR	0.000	0.029	-0.007
		[0.01]	[0.16]	[-3.98]***
(12)	EM	0.005	-0.103	-0.005
		[0.85]	[-0.55]	[-2.21]**

Table 5: Asset Growth and Stock Buyback Restriction

This table reports the cross-sectional regression results of monthly returns on the control variables in Table 3, *AGxCFO*, the interaction term *AGxCFO* × *BuybackD*, and the interaction term *AGxCFO* × a country variable. Each row represents a regression. For brevity the results of the control variables are omitted. We control for country fixed effects, and report the Newey-West robust *t*-statistics in square brackets. ***, **, and * indicate significance at, respectively, 1, 5 and 10 percent levels.

Panel A: Stock Buyback Restriction and Market Development

Model	Stock market development Measure	Interaction of *AGxCFO* with stock market development	*AGxCFO*	*AGxCFO* × *BuybackD*
(1)			-0.227	-0.343
			[-6.09]***	[-5.74]***
(2)	Turnover	-0.002	-0.080	-0.229
		[-2.59]***	[-1.19]	[-4.59]***
(3)	LogGDP	-0.167	1.449	-0.276
		[-2.57]**	[2.19]**	[-4.87]***
(4)	ShortD	-0.056	-0.176	-0.349
		[-0.78]	[-2.86]***	[-5.97]***

Panel B: Stock Buyback Restriction and Legal and Information Environment

	Legal and information	Interaction of *AGxCFO*

Model	environment measure	with legal and information environment	*AGxCFO*	*AGxCFO* × *BuybackD*
(1)	Common	-0.180	-0.161	-0.240
		[-3.33]***	[-5.11]***	[-3.24]***
(2)	Criminal	-0.037	-0.190	-0.383
		[-0.42]	[-4.67]***	[-6.12]***
(3)	Liability	-0.315	-0.073	-0.156
		[-3.17]***	[-1.27]	[-2.19]**
(4)	Protect	-0.414	-0.037	-0.094
		[-4.22]***	[-0.75]	[-1.43]
(5)	CIFAR	-0.001	-0.147	-0.379
		[-0.26]	[-0.52]	[-4.91]***
(6)	EM	0.017	-0.496	-0.114
		[4.18]***	[-6.23]***	[-1.55]

Table 6: Worldwide Size-Adjusted Returns (%) on Portfolio Sorted on *AGxCFO*

At the end of each June in year *t*, we form either equal- or value-weighted portfolios based on the ranked year *t-1* value of *AGxCFO*. The firm-partition on *AGxCFO* depends on how many observations a country has at each month. If the number of observations is between 30 and 50, between 50 and 100, and more than 100 in the month, the "high" ("low") *AGxCFO* firms refer to, respectively, firms in the top (bottom) tercile, quintile, and decile. Monthly returns are then adjusted by returns on matched size portfolios. We hold the portfolio for a year, and rebalance the portfolio next June. Robust *t*-statistics are in square brackets. ***, **, and * indicate significance at, respectively, 1, 5 and 10 percent levels.

	Panel A: Equal Weighted Portfolios						**Panel B: Value Weighted Portfolios**					
	Low AGxCFO		*High AGxCFO*		*High Minus Low*		*Low AGxCFO*		*High AGxCFO*		*High Minus Low*	
Country	Ret	*t*-stat.	Ret	*t*-stat.	Ret	*t*-stat.	Ret	*t*-stat.	Ret	*t*-stat.	Ret	*t*-stat.
Argentina	-0.49	[-2.42]**	0.10	[0.46]	0.59	[1.71]*	-0.49	[-0.90]	0.22	[0.52]	0.71	[1.01]
Australia	0.37	[2.97]***	0.65	4.92]**	1.02	5.02]**	0.27	[1.44]	0.71	3.73]**	0.98	3.40]**
Austria	-0.07	[-0.51]	-0.47	[-3.29]**	-0.39	[-1.74]*	-0.10	[-0.40]	-0.62	[-2.55]*	-0.52	[-1.39]
Belgiu	0.37	[3.41]	-	[-	-	[-	0.27	[1.08	0.07	[0.14]	-	[-

m	6	***	0.23	1.94]*	0.59	3.12]**	3	]	3		0.20	0.62]
Brazil	0.03	[0.21]	-0.52	[-2.94]**	-0.56	[-2.17]*	0.29	[0.97]	-0.76	[-2.39]*	-1.05	[-2.29]*
Canada	-0.18	[1.48]	-0.24	[-1.54]	-0.42	[-1.86]*	-0.17	[0.96]	-0.36	[-1.45]	-0.52	[-1.63]
Chile	-0.11	[0.90]	-0.12	[-0.90]	-0.24	[-1.12]	-0.18	[-0.78]	-0.20	[-0.92]	-0.02	[-0.07]
China	-0.03	[-0.27]	-0.07	[-0.47]	-0.04	[-0.16]	-0.04	[0.24]	-0.11	[-0.60]	-0.15	[-0.55]
Czech	-0.18	[-0.68]	-0.15	[-0.57]	-0.02	[0.05]	-0.92	[-1.46]	-0.41	[0.58]	-1.33	[1.38]
Denmark	-0.29	[2.02]**	-0.61	[-3.99]**	-0.90	[-3.92]**	-0.49	[1.76]*	-0.86	[-2.77]**	-1.35	[-3.05]**
Egypt	-0.05	[-0.17]	-0.11	[-0.34]	-0.07	[-0.12]	-0.06	[0.15]	-0.09	[0.14]	-0.02	[0.03]
Finland	-0.10	[0.68]	-0.40	[-2.45]*	-0.52	[-2.04]*	-0.23	[0.79]	-0.16	[0.46]	-0.00	[-0.15]

			1	*	1	*				7		
			-	[-	-	[-			-	[-	-	[-
	0.0	[-	0.4	3.39]*	0.4	2.38]*	0.5	[2.46	0.5	2.69]*	1.0	3.46]*
France	0	0.01]	0	**	0	*	3	]**	1	**	4	**
			-	[-	-	[-			-		-	[-
German	0.0		0.6	5.35]*	0.7	4.35]*	0.2	[1.06	0.3	[-	0.6	2.09]*
y	6	[0.66]	9	**	5	**	4	]	8	1.87]*	2	*
									-		-	
	0.0		0.1		0.1		0.5	[1.61	0.2	[-	0.7	[-
Greece	9	[0.45]	8	[0.91]	0	[0.30]	5	]	0	0.67]	5	1.67]*
	-	[-	-	[-	-		-	[-	-	[-	-	
Hong	0.3	2.71]*	0.6	3.76]*	0.2	[-	0.4	1.68]	0.5	2.19]*	0.1	[-
Kong	7	**	5	**	8	1.11]	1	*	7	*	6	0.39]
	-		-	[-	-	[-	-		-		-	
	0.0	[-	0.4	3.00]*	0.4	2.02]*	0.1	[-	0.3	[-	0.2	[-
India	2	0.15]	9	**	7	*	3	0.43]	7	1.04]	4	0.47]
			-	[-	-	[-	-		-	[-	-	
Indones	0.0		0.7	3.75]*	0.7	2.29]*	0.2	[-	1.1	3.59]*	0.9	[-
ia	2	[0.09]	6	**	8	*	2	0.51]	4	**	2	1.52]
			-		-				-		-	
	0.2		0.0	[-	0.2	[-	0.2	[0.55	0.2	[-	0.5	[-
Ireland	1	[0.98]	4	0.19]	5	0.67]	4	]	7	0.57]	1	0.73]
			-	[-	-	[-			-		-	
	0.2		0.3	2.99]*	0.5	3.15]*	0.3	[1.48	0.1	[-	0.4	[-
Italy	0	[1.64]	8	**	8	**	0	]	7	0.84]	6	1.58]

			-0.29	[-3.14]***	-0.29	[-2.27]**	-0.28	[-1.73]*	-0.16	[-1.03]	-0.13	[-0.56]
Malasyia	0.08	[0.66]	-0.34	[-2.93]***	-0.42	[-2.32]**	-0.26	[1.45]	-0.42	[-2.63]***	-0.68	[-2.63]***
Mexico	-0.42	[-2.61]***	-0.37	[-2.45]**	0.05	[0.22]	-0.04	[-0.17]	-0.55	[-1.66]*	-0.51	[-1.26]
Netherlands	0.14	[1.16]	-0.45	[-3.24]***	-0.59	[-2.97]***	-0.23	[0.81]	-0.16	[0.62]	-0.06	[-0.16]
New Zealand	-0.22	[1.38]	-0.37	[-2.23]**	-0.59	[-2.22]**	-0.09	[-0.32]	-0.19	[-0.89]	-0.11	[-0.28]
Norway	-0.13	[-0.76]	-0.36	[-1.72]*	-0.23	[-0.80]	-0.30	[-1.27]	-0.08	[0.25]	-0.38	[0.96]
Pakistan	-0.05	[0.26]	-0.17	[-0.91]	-0.22	[-0.78]	-0.12	[-0.37]	-0.06	[-0.19]	-0.06	[0.12]
Peru	-0.50	[2.35]**	-0.35	[-1.53]	-0.86	[-2.65]***	-0.15	[0.31]	-0.41	[-0.89]	-0.56	[-0.81]
Phillipi	0.0	[0.27]	-	[-	-	[-	-	[-	-	[-	0.2	[0.38]

nes	7		0.06	0.23]	0.14	0.32]	0.49	1.40]	0.27	0.66]	2	
	-0.10	[-0.32]	-0.88	[-2.91]**	-0.78	[-1.65]*	0.43	[0.71]	0.07	[0.13]	-0.36	[-0.41]
Portugal	0.13	[1.02]	-0.20	[-1.53]	-0.32	[-1.50]	0.51	[2.00]**	-0.08	[-0.32]	-0.59	[-1.59]
Singapore	-0.12	[-0.80]	-0.18	[-1.13]	-0.05	[-0.22]	-0.14	[-0.56]	-0.09	[-0.35]	-0.05	[0.13]
South Africa	0.02	[0.09]	-0.40	[-2.30]**	-0.42	[-1.52]	0.16	[0.64]	-0.40	[-1.55]	-0.56	[-1.49]
South Korea	-0.01	[-0.08]	-0.73	[-5.35]***	-0.72	[-3.29]***	0.43	[1.14]	-0.64	[-2.29]**	-1.07	[-2.13]**
Spain	0.09	[0.77]	-0.13	[-1.09]	-0.22	[-1.16]	0.23	[1.08]	-0.14	[-0.70]	-0.37	[-1.21]
Sweden	0.36	[2.62]***	-0.86	[-5.05]**	-1.22	[-5.15]**	0.31	[1.44]	-0.70	[-2.72]**	-1.01	[-2.72]**

Table 6 cont'd

Panel A: Equal Weighted Portfolios	**Panel B: Value Weighted Portfolios**

	Low AGxCFO		*High AGxCFO*		*High Minus Low*		*Low AGxCFO*		*High AGxCFO*		*High Minus Low*	
Country	Ret	*t*-stat.	Ret	*t*-stat.	Ret	*t*-stat.	Ret	*t*-stat.	Ret	*t*-stat.	Ret	*t*-stat.
Switzerland	0.05	[0.45]	-0.61	[-5.60]***	0.67	[3.95]***	0.31	[-1.37]	-0.55	[-3.01]***	0.23	[-0.78]
Taiwan	-0.05	[-0.34]	-0.12	[-0.63]	0.08	[0.29]	-0.09	[-0.34]	-0.08	[-0.30]	0.01	[0.01]
Thailand	0.11	[0.72]	-0.53	[-3.02]***	0.64	[2.45]**	0.02	[0.04]	-0.28	[-0.95]	0.29	[-0.59]
Turkey	0.26	[1.23]	-0.11	[-0.53]	0.37	[1.14]	0.15	[0.35]	-0.33	[-0.82]	0.49	[-0.77]
U.K.	0.09	[1.27]	-0.83	[-9.24]***	0.92	[7.73]***	0.08	[0.48]	-0.40	[-2.02]**	0.48	[-1.92]*
U.S.	0.40	[5.38]***	-1.11	[-6.43]***	1.51	[7.43]***	0.19	[1.51]	-0.91	[-4.61]***	1.10	[-4.04]***
Worldwide	0.20	[5.60]***	-0.89	[-8.96]***	1.09	[9.66]***	0.19	[2.35]**	-0.64	[-5.40]***	0.83	[-5.18]***

Table 7: Regressions of Portfolio Size-Adjusted Returns on Country Characteristics

Each row in each subpanel (e.g. Panel A1) represents a regression. In Panel A, we regress the country-wise, monthly size-adjusted returns of the high minus low hedge portfolio, on the single variable of either financing restriction (i.e. *NonZeroIssue* or *BuybackD*) or other country characteristic. In Panels B and C, we include a country characteristic in addition to financing restrictions in the hedge portfolio return regressions. The Newey-West robust *t*-statistics in square brackets. ***, **, and * indicate significance at, respectively, 1, 5 and 10 percent levels.

Panel A: Univariate Regression of Monthly Portfolio Return (366 months)

	Panel A1		Panel A2	
	Equal-Weighted Portfolios		**Value-Weighted Portfolios**	
	Estimate	*t*-stat.	Estimate	*t*-stat.
NonZeroIssue	-0.010	[-4.40]***	-0.008	[-2.29]**
BuybackD	-0.264	[-2.95]***	-0.223	[-2.10]**
Turnover	-0.003	[-1.83]*	-0.001	[-0.89]
LogGDP	-0.247	[-2.37]**	-0.167	[-1.09]
ShortD	-0.111	[-0.84]	0.029	[0.15]
Common	-0.211	[-2.21]**	-0.117	[-0.73]
Criminal	-0.017	[-0.10]	0.083	[0.29]
Liability	-0.380	[-2.15]**	-0.065	[-0.30]
Protect	-0.339	[-1.86]*	-0.124	[-0.41]
CIFAR	-0.014	[-2.86]***	-0.013	[-1.90]*
EM	0.026	[3.64]***	0.017	[1.61]

Panel B: Multivariate Regression of Monthly Equal-weighted Portfolio Returns

	Panel B1			Panel B2	
Country Characteristic	Country Characteristic	*NonZeroIssue*		Country Characteristic	*BuybackD*
Turnover	-0.002	-0.010		-0.002	-0.222
	[-1.42]	[-4.26]***		[-1.26]	[-2.43]**
LogGDP	-0.159	-0.009		-0.226	-0.242
	[-1.57]	[-4.02]***		[-2.24]**	[-2.94]***
ShortD	-0.050	-0.010		-0.193	-0.304
	[-0.37]	[-4.12]***		[-1.17]	[-3.11]***
Common	0.118	-0.013		-0.125	-0.205
	[0.81]	[-3.43]***		[-1.12]	[-2.04]**
Criminal	0.263	-0.012		0.083	-0.260
	[1.51]	[-5.24]***		[0.45]	[-2.84]***
Liability	0.157	-0.013		-0.259	-0.173
	[0.58]	[-3.19]***		[-1.22]	[-1.54]
Protect	0.594	-0.019		-0.189	-0.168
	[1.67]*	[-3.45]***		[-0.83]	[-1.54]
CIFAR	-0.004	-0.010		-0.012	-0.264
	[-0.61]	[-3.47]***		[-2.05]**	[-2.78]***
EM	0.015	-0.006		0.026	-0.174
	[1.37]	[-1.37]		[3.23]***	[-1.72]*

Table 7 cont'd

Panel C: Multivariate Regression of Monthly Value-weighted Portfolio Returns

	Panel C1			Panel C2	
Country Characteristic	Country Characteristic	*NonZeroIssue*		Country Characteristic	*BuybackD*
Turnover	-0.001	-0.006		0.000	-0.229
	[-0.61]	[-1.67]*		[-0.29]	[-2.03]**
LogGDP	-0.091	-0.006		-0.161	-0.208
	[-0.55]	[-1.75]*		[-0.97]	[-1.93]*
ShortD	0.080	-0.007		0.013	-0.221
	[0.40]	[-2.14]**		[0.05]	[-1.88]*
Common	0.199	-0.012		-0.082	-0.173
	[0.87]	[-2.38]**		[-0.44]	[-1.31]
Criminal	0.266	-0.008		0.102	-0.209
	[0.97]	[-2.97]***		[0.34]	[-1.91]*
Liability	0.500	-0.013		-0.068	-0.153
	[1.57]	[-2.45]**		[-0.26]	[-1.01]
Protect	0.718	-0.016		-0.145	-0.140
	[1.56]	[-2.67]***		[-0.42]	[-0.92]
CIFAR	-0.007	-0.005		-0.014	-0.203
	[-0.97]	[-1.43]		[-1.80]*	[-1.78]*
EM	0.016	-0.001		0.024	-0.079
	[1.12]	[-0.24]		[1.95]*	[-0.57]

Table 8: The Asset Growth Effect of Asia, China, Korea vs. the World and the U.S.

This table shows the Fama-MacBeth (1973) cross-sectional regressions of one-month-ahead returns *AGxCFO* and its interaction with regional dummy variables. The regional dummy variables are: (1) Asia, which equals 1 if the firm is an Asian firm and 0 otherwise; (2) China, which equals 1 if the firm is a Chinese firm and 0 otherwise; (3) Korea, which equals 1 if the firm is located in the South Korea and 0 otherwise; (4) China&Korea, which equals 1 if the firm is either a Chinese or a Korean firm and 0 otherwise. *AGxCFO* are ranked and then scaled to between -1 and 1. All other variables are defined in the Appendix. In "World vs. Asia", all countries are included. In the remaining cases, such as "US vs. Korea," only US and the country in question are included in the sample. In each regression, we control for country fixed effects. Each column represents a separate regression. Newey-West robust *t*-statistics with autocorrelation lag adjustment of 12 are in square brackets. ***, **, and * indicate significance at, respectively, 1, 5 and 10 percent levels.

	World vs. Asia	**US vs. Korea**	**US vs. China**	**U.S. vs. Korea & China**	**U.S. vs. Korea & China**
AGxCFO	-0.401 [-5.10]***	-0.517 [-4.13]***	-0.535 [-4.34]***	-0.521 [-4.15]***	-0.521 [-4.16]***
AGxCFO*Asia	0.189 [2.32]**				
AGxCFO*Korea		0.026 [0.19]		0.033 [0.24]	

AGxCFO*China			0.416	0.404	
			[3.26]***	[3.12]***	
AGxCFO*China&Korea		0.026		0.033	0.201
		[0.19]		[0.24]	[1.79]*
Vol	-4.526	-4.429	-3.05	-5.288	-5.223
	[-0.57]	[-0.38]	[-0.26]	[-0.45]	[-0.44]
Mom	0.001	-0.002	-0.002	-0.001	-0.001
	[1.30]	[-1.04]	[-1.32]	[-1.04]	[-1.05]
LogSize	0.004	-0.078	-0.11	-0.093	-0.093
	[0.12]	[-1.38]	[-1.94]*	[-1.73]*	[-1.73]*
ROA	0.698	0.26	0.318	0.269	0.277
	[2.22]**	[0.58]	[0.70]	[0.60]	[0.62]
BM	0.123	0.204	0.207	0.203	0.201
	[8.64]***	[4.07]***	[2.94]***	[3.88]***	[3.80]***
DEBTP	-0.074	-0.148	-0.159	-0.137	-0.138
	[-5.92]***	[-3.12]***	[-2.85]***	[-3.31]***	[-3.35]***
SP	0.016	0.006	-0.016	0.005	0.005
	[1.85]*	[0.20]	[-0.47]	[0.17]	[0.18]

Table 9: Financing Restrictions and the Effect of Debt-Financing-Excluded Asset Growth

This table reports the cross-sectional regression results of monthly returns on the control variables as in Equation (6), a country institutional factor, the interaction term of *AGxCFOxDebt* × the institutional factor, *AGxCFOxDebt*, and the interaction term of *AGxCFOxDebt* × financing restriction. *AGxCFOxDebt* is asset growth excluding operating cash flows and debt financing. Each row represents a regression. For brevity the results of the control variables are omitted. We control for country fixed effects, and report the Newey-West robust *t*-statistics in square brackets. ***, **, and * indicate significance at, respectively, 1, 5 and 10 percent levels.

Panel A: Return Regressions on Stock Issuance Restrictions and Institutional Factors

Model	Institutional Factor	Interaction of *AGxCFOxDebt* with Institutional Factor	*AGxCFOxDebt*	*AGxCFOxDebt* × *NonZeroIssue*
(1)			0.020	-0.006
			[0.31]	[-4.16]***
(2)	Turnover	-0.001	0.037	-0.004
		[-1.54]	[0.54]	[-3.72]***
(3)	LogGDP	-0.114	1.141	-0.005
		[-1.96]*	[1.92]*	[-3.63]***
(4)	ShortD	-0.017	0.031	-0.006
		[-0.27]	[0.34]	[-4.12]***
(5)	Common	0.020	0.030	-0.006
		[0.38]	[0.43]	[-3.38]***
(6)	Criminal	0.097	-0.017	-0.006
		[1.24]	[-0.27]	[-4.07]***
(7)	Liability	0.117	-0.002	-0.007
		[0.85]	[-0.02]	[-2.98]***
(8)	Protect	0.153	0.014	-0.007
		[0.95]	[0.22]	[-2.77]***
(9)	CIFAR	0.001	-0.094	-0.005
		[0.41]	[-0.52]	[-3.43]***
(10)	EM	-0.000	-0.005	-0.005
		[-0.04]	[-0.03]	[-2.49]**

Panel B: Return Regression on Buyback Restrictions and Institutional Factors

Model	Institutional Factors	Interaction of *AGxCFOxDebt* with Institutional Factors	*AGxCFOxDebt*	*AGxCFOxDebt* × *BuybackD*
(1)			-0.199	-0.302
			[-5.06]***	[-4.48]***
(2)	Turnover	-0.002	-0.071	-0.204
		[-2.59]**	[-1.16]	[-3.46]***
(3)	LogGDP	-0.176	1.575	-0.236
		[-2.63]***	[2.30]**	[-3.81]***
(4)	ShortD	-0.030	-0.174	-0.302

		[-0.39]	[-2.40]**	[-4.40]***
(5)	Common	-0.077	-0.161	-0.297
		[-1.52]	[-4.73]***	[-4.21]***
(6)	Criminal	0.047	-0.196	-0.352
		[0.52]	[-4.63]***	[-4.99]***
(7)	Liability	-0.251	-0.076	-0.148
		[-2.38]**	[-1.25]	[-1.91]*
(8)	Protect	-0.292	-0.063	-0.136
		[-2.95]***	[-1.26]	[-1.99]**
(9)	CIFAR	0.001	-0.236	-0.344
		[0.15]	[-0.84]	[-4.33]***
(10)	EM	0.012	-0.382	-0.152
		[3.04]***	[-4.85]***	[-2.10]**

Table 10: Financing Restrictions on the Plain Vanilla Asset Growth Measure

This table reports the cross-sectional regression results of monthly returns on the control variables as in Equation (6), a country institutional factor, the interaction term of *AG* × the institutional factor, *AG*, and the interaction term of *AG* × financing restriction. *AG* is the year-over-year asset growth. Each row represents a regression. For brevity the results of the control variables are omitted. We control for country fixed effects, and report the Newey-West robust *t*-statistics in square brackets. ***, **, and * indicate significance at, respectively, 1, 5 and 10 percent levels.

Panel A: Return Regressions on Stock Issuance Restrictions and Institutional

Model	Institutional Factor	Interaction of *AG* with Institutional Factor	*AG*	*AG* × *NonZeroIssue*
(1)	Turnover	-0.001	0.208	-0.008
		[-0.94]	[1.98]**	[-5.09]***
(2)	LogGDP	0.026	-0.031	-0.009
		[0.42]	[-0.05]	[-4.98]***
(3)	ShortD	0.047	0.184	-0.009
		[0.67]	[1.66]*	[-5.05]***
(4)	Common	-0.034	0.189	-0.008
		[-0.49]	[1.82]*	[-3.55]***
(5)	Criminal	0.058	0.184	-0.009
		[0.64]	[1.92]*	[-4.84]***
(6)	Liability	0.205	0.189	-0.011
		[1.17]	[2.00]**	[-3.69]***
(7)	Protect	0.033	0.218	-0.009
		[0.16]	[2.29]**	[-2.73]***
(8)	CIFAR	0.003	0.034	-0.009
		[0.76]	[0.18]	[-4.32]***
(9)	EM	0.007	0.020	-0.007
		[1.19]	[0.10]	[-2.64]***

Panel B: Return Regression on Buyback Restrictions and Institutional

Model	Institutional Factor	Interaction of *AG* with Institutional Factor	*AG*	*AG* × *BuybackD*
(1)	Turnover	-0.002	0.009	-0.256
		[-2.61]***	[0.10]	[-4.20]***
(2)	LogGDP	-0.107	0.890	-0.304
		[-1.47]	[1.21]	[-5.56]***
(3)	ShortD	-0.103	-0.072	-0.354
		[-1.23]	[-0.92]	[-6.28]***
(4)	Common	-0.209	-0.070	-0.291
		[-2.94]***	[-1.56]	[-3.84]***
(5)	Criminal	-0.046	-0.115	-0.402
		[-0.44]	[-1.95]*	[-6.19]***
(6)	Liability	-0.392	0.061	-0.244

		[-2.73]***	[0.68]	[-2.94]***
(7)	Protect	-0.527	0.107	-0.151
		[-3.77]***	[1.33]	[-1.85]*
(8)	CIFAR	-0.003	0.072	-0.365
		[-0.82]	[0.26]	[-4.88]***
(9)	EM	0.021	-0.494	-0.112
		[3.99]***	[-5.75]***	[-1.39]

Table 11: Accruals and Asset Growth

This table adds accruals to Equation (6). It reports the cross-sectional regression results of monthly returns on the control variables as in Equation (6), the interaction term of *AGxCFO* × one institutional factor, accruals, and the interaction term of *AGxCFO* × financing restriction. Each row represents a regression. For brevity the results of the control variables are omitted. We control for country fixed effects, and report the Newey-West robust *t*-statistics in square brackets. ***, **, and * indicate significance at, respectively, 1, 5 and 10 percent levels.

Panel A: Return Regressions on Stock Issuance Restrictions and Institutional Factors

Model	Institutional Factor	AGxCFO	Accruals	Interaction of AGxCFO with institutional factor	AGxCFO × NonZeroIssue
(1)	Turnover	0.088	-0.488	-0.001	-0.006
		[1.30]	[-3.71]***	[-1.08]	[-5.21]***
(2)	LogGDP	0.595	-0.496	-0.053	-0.006
		[1.15]	[-3.89]***	[-1.03]	[-4.50]***
(3)	ShortD	0.067	-0.494	0.011	-0.007
		[0.83]	[-3.90]***	[0.18]	[-4.90]***
(4)	Common	0.073	-0.495	-0.030	-0.006
		[1.09]	[-3.87]***	[-0.49]	[-3.42]***
(5)	Criminal	0.058	-0.497	0.038	-0.007

		[0.97]	[-3.85]***	[0.51]	[-4.86]***
(6)	Liability	0.055	-0.490	0.154	-0.008
		[0.90]	[-3.67]***	[1.06]	[-3.32]***
(7)	Protect	0.074	-0.488	0.104	-0.008
		[1.25]	[-3.69]***	[0.57]	[-2.65]***
(8)	CIFAR	0.074	-0.494	0.000	-0.006
		[0.41]	[-3.75]***	[0.08]	[-3.90]***
(9)	EM	-0.078	-0.507	0.005	-0.005
		[-0.43]	[-3.86]***	[0.89]	[-2.15]**

Panel B: Return Regression on Buyback Restrictions and Institutional Factors

Model	Institutional Factor	AGxCFO	Accruals	Interaction of AGxCFO with institutional factor	AGxCFO × BuybackD
(1)	Turnover	-0.053	-0.492	-0.002	-0.225
		[-0.81]	[-3.71]***	[-2.43]**	[-4.48]***
(2)	LogGDP	1.423	-0.528	-0.160	-0.264
		[2.24]**	[-4.19]***	[-2.57]**	[-4.68]***
(3)	ShortD	-0.141	-0.536	-0.053	-0.333
		[-2.30]**	[-4.34]***	[-0.74]	[-5.79]***
(4)	Common	-0.128	-0.524	-0.172	-0.225
		[-4.25]***	[-4.20]***	[-3.19]***	[-3.17]***
(5)	Criminal	-0.160	-0.527	-0.025	-0.365
		[-4.11]***	[-4.21]***	[-0.28]	[-5.98]***

(6)	Liability	-0.037	-0.534	-0.307	-0.149
		[-0.68]	[-4.30]***	[-3.14]***	[-2.10]**
(7)	Protect	-0.008	-0.522	-0.396	-0.089
		[-0.18]	[-4.16]***	[-4.06]***	[-1.35]
(8)	CIFAR	-0.082	-0.523	-0.002	-0.360
		[-0.29]	[-4.09]***	[-0.36]	[-4.75]***
(9)	EM	-0.450	-0.530	0.017	-0.107
		[-5.49]***	[-4.07]***	[4.01]***	[-1.45]

Highlights

- Asset growth excluding operational cash flows strongly predicts stock returns.
- Institutional constraints on stock issuance/buyback negatively relates to AG effect.
- These constraints subsume other country factors in explaining asset growth effect.
- Asian countries have more restrictions and hence weaker asset growth effect.
- International financial regulations dampen certain sources of risks in asset prices.

Panel A: Descriptive Statistics of Institutional Variables

Country	Average # of Firms	Average *AG*	Average *AGxCFO*	Mean of Stdev *AGxCFO*	*NonZero Issue*	Buyback	Liquidity	Turnover	LogGDP	Short	*Common*	*Criminal*	*Liability*	*Protect*	*CIFAR*	*EM*
Argentina	53	0.15	0.07	0.33	24	Full	5.83	14.42	8.95	1999	0	0.17	0.22	0.479	45	
Australia	445	0.20	0.19	0.55	60.85	1996	45.16	48.16	9.89	Before 1990	1	0.83	0.66	0.784	75	4.8
Austria	52	0.09	0.03	0.32	13.81	2000	6.71	49.52	10.05	Before 1990	0	0.5	0.11	0.104	54	28.3
Belgium	70	0.14	0.06	0.42	18.35	2000	16.83	24.68	10.02	Before 1990	0	0.5	0.44	0.068	61	19.5
Brazil	325	0.36	0.33	0.35	24.09	Full	18.29	61.14	8.14	Before 1990	0	0.33	0.33	0.442	54	
Canada	431	0.22	0.16	0.54	64.95	Full	57.86	65.64	10.05	Before 1990	1	0.83	1	0.959	74	5.3
Chile	108	0.14	0.05	0.30	11.06	Full	9.14	10	8.44	Before 1990	0	0.5	0.33	0.61	52	
China	966	0.20	0.15	0.39	32.98		9.14	10	8.44	Not Allowed	0					
Czech	38	0.05	-0.05	0.20	6.06					Before 1990	0					
Denmark	112	0.10	0.04	0.38	22.23	2001	36.27	64.23	10.31	Before 1990	0	0	0.55	0.363	62	16
Egypt	67	0.15	0.01	0.38	8.31		7.76	32.81	7.28		0	0.42	0.22	0.202	24	
Finland	93	0.10	0.02	0.33	36.04	1998	70.97	51.34	10.06	1998	0	0.5	0.66	0.465	77	12
France	359	0.15	0.08	0.37	39.66	1999	44.9	63.82	9.99	Before 1990	0	0.33	0.22	0.473	69	13.5
Germany	305	0.10	0.04	0.37	20.15	1999	37.8	118.46	10.03	Before 1990	0	0.5	0	0	62	21.5
Greece	179	0.20	0.16	0.43	28.96	Full	60.84	78.79	9.27	Not Allowed	0	0.5	0.5	0.319	55	28.3
Hong Kong	385	0.22	0.15	0.53	52.88	1992	179.05	64.94	10.1	1996	1	1	0.66	0.851	69	19.5
India	686	0.21	0.15	0.40	26.18	2000	54.65	63.72	6.16		1	0.83	0.66	0.769	57	19.1
Indonesia	175	0.19	0.12	0.40	26.2		13.78	65.2	6.59	Not Allowed	0	0.5	0.66	0.507		18.3
Ireland	34	0.18	0.12	0.47	70.44	Full	30.79	59.96	10.14	Before 1990	1	0.83	0.44	0.478		5.1
Italy	157	0.13	0.07	0.34	38.14	Full	36.58	80.08	9.84	Before 1990	0	0.5	0.22	0.197	62	24.8
Japan	1355	0.06	0.01	0.17	41.9	1996	35.5	49.4	10.54	Before 1990	0	0	0.66	0.42	65	20.5
Malasyia	324	0.13	0.07	0.35	34.88	1998	98.54	50.77	8.25	1997	1	1	0.66	0.73	76	14.8
Mexico	94	0.19	0.10	0.25	44.85		9.89	34.42	8.67	Before 1990	0	0.5	0.11	0.1	60	
Netherlands	103	0.13	0.05	0.42	45.23	2002	113.49	95.36	10.06	Before 1990	0	0.5	0.89	0.54	64	16.5
New Zealand	66	0.13	0.06	0.48	52.62	2000	17.82	42.68	9.48	1992	1	0.33	0.44	0.46	70	
Norway	117	0.21	0.17	0.54	43.58	2000	30.15	79.64	10.49	1992	0	1	0.39	0.44	74	5.8
Pakistan	77	0.16	0.06	0.29	21.91	Full	26.5	220.97	6.1	Not Allowed	1	0.08	0.39	0.63		17.8
Peru	76	0.13	0.01	0.30	38.07		5.19	21.65	7.64	Not Allowed	0	0.5	0.66	0.66	38	
Phillipines	99	0.16	0.10	0.43	27.6		21.45	39.52	6.83	1998	0	0.5	1	0.81	65	8.8
Poland	155	0.30	0.28	0.63	16.53	1998				2000	0					
Portugal	47	0.11	0.06	0.30	16.18		30.98	68.18	9.27	Before 1990	0	0	0.66	0.57	36	25.1
Singapore	245	0.16	0.09	0.36	42.11	1999	79.15	49.62	10.05	Not Allowed	1	1	0.66	0.77	78	21.6
South Africa	156	0.18	0.07	0.40	39.5	2001	41.77	27.74	7.98	Before 1990	1	0.42	0.66	0.6	70	5.6
South Korea	370	0.15	0.11	0.36	37.95	Full	110.16	204.92	9.18	Not Allowed	0	0.33	0.66	0.36	62	26.8
Spain	88	0.15	0.07	0.37	37.49	Full	107.98	174.82	9.56	1992	0	0.5	0.66	0.55	64	18.6
Sweden	186	0.18	0.15	0.49	39.73	2001	92.22	78.08	10.15	1991	0	0.58	0.28	0.39	83	6.8
Switzerland	157	0.09	0.01	0.31	24.77	1998	206.27	91.22	10.41	Before 1990	0	0.33	0.44	0.3	38	22
Taiwan	442	0.14	0.06	0.28	72.05	2001	320.69	314.74	9.54	Before 1990	0	0.83	0.66	0.55	65	22.5
Thailand	257	0.12	0.04	0.33	45.08	2002	22.55	62.51	7.58	1997	1	0.58	0.22	0.37	64	18.3
Turkey	152	0.46	0.36	0.44	48.75	Full	43.68	148	8.02	Before 1990	0	0.5	0.22	0.338	51	
U.K.	870	0.20	0.14	0.54	55.35	Full	83.02	50.62	10.08	Before 1990	1	0.42	0.78	0.77	78	7
U.S.	3847	0.23	0.21	0.68	87.48	1982	178.88	125.3	10.46	Before 1990	1	0.5	1	1	71	2

Panel B: Correlations of Institutional Variables

Greyed cells are not significant at 10% level.

	NonZeroIssue	Turnover	LogGDP	Common	Criminal	Liability	Protect	CIFAR	EM
NonZeroIssue	1.00	0.29	0.37	0.51	0.42	0.43	0.48	0.58	-0.57
Turnover		1.00	0.02	-0.05	0.00	0.09	0.01	0.10	0.27
LogGDP			1.00	-0.08	0.08	0.04	-0.12	0.40	-0.08
Common				1.00	0.41	0.34	0.61	0.47	-0.45
Criminal					1.00	0.17	0.33	0.45	-0.26
Liability						1.00	0.78	0.32	-0.37
Protect							1.00	0.36	-0.54
CIFAR								1.00	-0.65
EM									1.00

Figure 1