Accounting Losses and Investor Protection*

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Abstract

Around the world, more than 30% of listed firms report accounting losses. Firms in countries with stronger investor protection are more likely to report losses. In these countries, profits are less persistent, but losses are more persistent, consistent with strong investor protection resulting in more conservative financial reporting. Dividend payments predict earnings persistence. Relative to non-payers, dividend payers' losses are much less persistent (reversing to profits faster) but their profits are more persistent. This predictive power of dividends is stronger in countries with stronger investor protection.

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1. Introduction

A growing literature in accounting research has documented that country-level institutional factors, in particular investor protection, have a significant impact on accounting practise and properties of accounting numbers.[2] In this study, we extend this literature by examining the effect of investor protection on the prevalence of accounting losses and the degree of earnings persistence. Our baseline results are that firms located in countries with stronger investor protections are more likely to report accounting losses and their losses are more persistent. We then delve deeper and investigate whether conservative financial reporting associated with the strength of investor protection can explain the results, and whether dividends payments can signal the persistence of profits and losses, as suggested by Skinner and Soltes (2011).

Our study is motivated by the well documented evidence that there are an increasing number of firms reporting accounting losses. For example, Skinner and Soltes (2011) show that in the U.S., the percentage of loss firms in Compustat database has steadily increased from about 10% in 1970s to 52% in 2001 before decreasing to about 33% in 2005.[3] Similar evidence is found in Australia (Balkrishna, Coulton and Taylor 2007, and Carvajal, Coulton and Jackson 2015) U.K. Accounting losses have been demonstrated to affect earnings attributes, stock valuation and corporate policies.[4] Given the prevalence and importance of accounting losses, it is important for both investors and researchers to understand the causes

[2] Prior studies have documented that investor protection affects earnings timeliness (Ball, Kothari, Robin 2000), accounting conservatism (Ball, Kothari, Robin 2000, Bushman and Piotroski 2006), earnings smoothness (Leuz, Nanda and Wysocki 2003), information content of earnings announcements (DeFond, Hung, and Trezevant 2007), financial reporting quality (Filip, Labelle and Rousseau 2015), matching between revenues and expenses (He and Shan 2015), among many others. Investor protection also has been show to play an important role in the implementation of International Financial Reporting Standards, and DeGeorge, Li, and Shivakumar (2016) provide a recent review of the this literature.

[3] Givoly and Hayn (2000), Joos and Plesko 2005, Klein and Marquardt (2006) and Li (2011) document similar evidence.

[4] Prior studies have found that accounting losses affect earnings persistence (Brooks and Buckmaster 1976, and Lawrence, Sloan and Sun 2016), relation between accruals and cash flows (Bushman, Lerman and Zhang 2016), stock valuation (Hayn 1995, Joos and Plesko 2005, Li 2011), bankruptcy (Barth, Beaver and Landsman 1998), analysts' earnings forecasts (Brown 2001), dividend policies (DeAngelo, DeAngelo and Skinner 1992, Skinner and Soltes 2011), corporate investments (Pinnuck and Lilis 2007), and financing decisions (Pinnuck and Shekhar 2013), among many others.

of the losses. In particular, Klein and Marquardt (2006) find that many non-accounting factors play an important role in determining losses. Our study aims to extend their inquiry and examine the role played by country-level institutional factors in determining accounting losses.

Our analysis is based on accounting data from a global sample of 425,578 firm-year observations from 40 markets since 1987. We classify a firm-year observation as a loss if the firm reports negative earnings before extraordinary iterms in that year. We also define losses using net income, but obtain essentially same results. The first piece evidence we add to the literature is the wide-spread phoneme of accounting losses around the world. Overall, over 30% of firm-year observations report losses. There is an upward trend in the percentage of firms reporting losses over time, consistent with evidence in the U.S.

More importantly, we find firms located in countries with stronger investors protections are more likely to report accounting losses, where investor protections are measured by the strength of legal system. For example, 24.84% of firm-year observations have accounting losses in code law countries, compared with 29.30% in common law countries and 33.89% in Scandinavia countries. We document a positive association between investor protection and the percentage of loss firms in a country-level multivariate analysis where we control for GDP growth, industry competition and statutory tax rates. Furthermore, using logistic regressions with firm-year observations, we find that firms in countries with strong investor protection have a higher probability to report accounting losses, particularly for those firms having losses in the previous year.

Why are firms in strong investor protection countries more likely to report accounting losses? One possible reason is that financial reporting is more conservative in countries with strong investor protections. Unconditional conservative accounting implies that firms choose to recognize all the expected losses but not expected gains, yielding lower earnings and

equity. Conditional conservatism suggests that firms recognize expected losses in a more timely manner than expect profits, also producing relatively lower earnings. Balkrishna, Coulton and Taylor (2007) argue that "the relatively high frequency of losses is, at least in part, a reflection of conservative reporting". Prior studies have documented that firms in countries with stronger investor protections exhibit stronger conditional conservatism, or more asymmetric timeliness in recognition of bad economic news relative to good news (Ball, Kothari, and Robin 2000, Bushman and Piotroski 2006). He and Shan (2015) provide evidence that in strong investor protection countries, current expenses are less related to current revenues but more related to future revenues, implying that more expenses are recognized in advance of revenues, consistent with the conservative accounting principle (Dichev and Tang 2008).

To explore this possible reason, we examine the association between investor protection and accruals and cash flows. The idea is that financial reporting conservatism requires managers to exercise judgement and discretions, and accruals are more likely to be used to reflect managers' accounting choices than cash flows (Ball and Shivakumar 2005). In multivariate analysis, we find the median total accruals in a country are negatively related to the strength of investor protection. Furthermore, loss firms in strong investor protection countries are more likely to report large negative special items. The evidence suggests accounting discretion does seem to play a role in explaining the effect of investor protection on prevalence of accounting losses. However, we find the median cash flow in a country is also negatively related to the strength of investor protection, implying that factors other than accounting conservatism may play a role as well (Klein and Marquardt 2006).

We then proceed to investigate the earnings persistence for profits and losses, and the effect of investor protection on earnings persistence. Prior studies have documented that in the U.S. losses are less persistent than profits. We confirm this result in our sample of 40

international markets. More importantly, we find that investor protection has an asymmetric effect on the persistence of profits and losses. Specifically, profits are less persistent in countries with strong investor protection, but losses are more persistence in such countries. The differences are economic significant. Relative to those in code law countries, profit persistence is 46% lower and loss persistence is 25% higher in common law and Scandinavia countries. This evidence lends further support to the view that financial reporting is more conservative in countries with strong investor protection.

Finally, we investigate whether dividend payments contain information about earnings persistence in global markets and whether the information content varies with investor protection. The classic work of Lintner (1956) reveals that managers are reluctant to increase dividends unless they are confident that higher level of dividends can be sustained in the future. Based on this insight, Skinner and Soltes (2011) argue that committing a dividend implies that managers believe that their earnings are sustainable and persistent. Consistent with this argument, they find that earnings persistence is much higher for dividend payers than nonpayers. We first try to use the international sample to replicate their results by regressing current earnings on lagged earnings, a dummy variable for dividend payers, and an interaction term between lagged earnings and the dividend dummy. Similar to Skinner and Soltes (2011), we find a statistically positive coefficient for the interaction term. In addition, when we divide the sample into profit and loss firms based on lagged earnings, we find that the interaction term has a significantly positive coefficient in profit firms, but a significantly negative coefficient in the loss firms. The result suggests that relative to those of non-payers, dividend payers' profits are more persistent and their losses are less persistent and are reversing to profits faster. The evidence is essentially consistent with Skinner and Soltes' (2011) argument that paying dividends may reveal manager's belief that their profits are sustainable and their losses are only temporary. Further analysis shows that dividends'

information content about earnings persistence is stronger in countries with stronger investor protection.

Our study makes three contributions to the literature. First, we provide the first comprehensive evidence on the prevalence of accounting losses around the world. This evidence suggests that a substantial portion of public firms reporting losses worldwide. Second, we contribute the literature on investor protection by providing evidence that firms are more likely to report accounting losses and their losses are more persistent in countries with strong investor protection. This evidence provides further support that financial reporting is more conservative in strong investor protection countries. Earlier studies on this issue (e.g., Ball, Kothari and Robin 2000, Bushman and Piotroski 2006) use Basu's (1997) measure of asymmetric timeliness in gain and loss recognition to capture accounting conservatism. Recent studies question the validity and power of Basu's measure.[5] If high frequency of losses partially reflects conservatism reporting (Balkrishna, Coulton and Taylor 2007), our evidence can be viewed as providing corroborating evidence from alternative measure of accounting conservatism.

Third, we extend the results in Skinner and Soltes (2011) to international markets and to profit and loss firms. Our evidence is consistent with their argument that dividends contain information about the persistence of earnings. In global markets where investors are worried about the quality of reported earnings, our evidence implies that dividends can be a signal of persistent profits and temporary losses. This evidence supports some regulators' recommendations[6] and adds to the growing literature on the relation between dividends and earnings quality (e.g., Skinner and Soltes 2011, Caskey and Hallon 2013, He et al. 2016).

[5] See, for example, Dietrich, Muller, and Riedl (2007), Givoly, Hayn, and Natarajan (2007), and Patatoukas and Thomas (2011, 2016).

[6] After investigating Worldcom scandal, Richard Breeden recommended requiring companies to pay out at 25% of net income as regular cash dividend each year, on the argument that "dividends are another method of gauging the reality of reported earnings" (Breeden 2003).

The rest of the paper proceeds as follows. Section 2 reviews the related studies and discusses our predictions. Section 3 describes our sample selection and Section 4 reports the empirical results. We conclude the paper in Section 5.

2. Related Studies

2.1 Conservative financial reporting and accounting losses

Since the influential work of La Porta et al. (1998), a number of accounting studies have documented that a country's legal system and investor protection can shape firms' financial reporting practise. For example, Ball, Kothari and Robin (2000) argue that in common law countries where investor base is diverse, information asymmetry between investors and insiders is mainly resolved through public disclosure. Investors thus demand high quality disclosure, particularly timely recognition of losses, to monitor firm performance. In contrast, code law countries where investor base is concentrated (i.e., firms are controlled by a few large shareholders and debtholders), information asymmetry is primarily resolved by "insider communication" and thus there is a lower demand for high quality public disclosure. Consistent with this argument, Ball, Kothari and Robin (2000) document that reported accounting earnings in common law countries reflect economic events in a more timely manner. Leuz, Nanda and Wysocki (2003) argue that strong investor protection constrains insiders' consumption of private control benefits and reduces their incentives to manipulate earnings to camouflage their appropriation activities. Supporting this view, the authors find that reported earnings in common law countries exhibit less evidence of earnings management. Similarly, Haw, Ho and Li (2011) show that strong investor protection limits firms' manipulation to increase core earnings through shifting expenses to special items in East Asian economies. DeFond, Hung, and Trezevant (2007) find that annual earnings

announcements are more informative in countries with strong investor protection.[7]

Some studies also find that financial reporting in strong investor protection countries is more conservative, in the sense that bad economic news is recognized in earnings more timely than good news (Basu 1997). This feature of more asymmetric timeliness in bad news recognition in common law countries has been documented by Ball, Kothari and Robin (2000) Bushman and Piotroski (2006), and Ball, Robin and Sadka (2008). The evidence support the view that investors, particularly debt investors, value and demand more timely loss recognition and conservative financial reporting. In a recent study, He and Shan show that in strong investor protection countries, current expenses are more related to future revenues but less related to contemporaneous revenues, implying accelerated expense recognition and more conservative accounting in such countries.

Conservative financial reporting may lead to lower earnings and more accounting losses. Ball and Shivakumar (2005) highlight the differences in unconditional and conditional conservatism. Unconditional conservatism, or *ex ante* conservatism, chooses to use lower valuation for assets and recognize expected losses but not expected gains. One example is the accounting policy mandating expensing all the research and development expenses regardless of expected future economic benefits. This kind of conservative policy surely will lead to lower earnings, compared with policies allowing capitalization of some research and development expenses in recognition of expected gains related to such expenses. Conditional conservatism, or *ex post* conservatism, requires expected losses to be recognized in a more timely manner than expected gains. One example is the accounting policy that requires expected gains to be recognized immediately while expected gains can only be recognized

[7] Filip, Labelle and Rousseau (2015) study Canadian firms located in Québec where French civil laws apply and the rest of Canada where common laws apply. Their results show that firms in Québec have higher financial reporting quality, suggesting common law legal origin does not necessarily result in higher accounting quality. Similarly, Ball, Robin and Wu (2003) find that in four East Asian markets that follow common law legal system, financial reporting is no more conservative than that in code law countries due to the lack of incentives to enforce the accounting standards.

after sufficient evidence to verify them. Compared with accounting policies that subject both expected gains and losses to the same degree of verification, conditional conservative policies will cause more losses and fewer gains to be recognized in earnings, again leading to lower earnings and more accounting losses.

Prior studies have attempted to link reported accounting losses to conservative financial reporting. For example, Givoly and Hayn (2000) argue that accounting in the U.S is becoming more conservative over time and this increasing conservatism explains why more and more U.S. firms report accounting losses in the past decades.[8] Klein and Marquardt (2006) find that accounting conservatism has some explanatory power for the time trend in the percentage of loss firms in the U.S, but this explanatory power disappears once economic variables are controlled for. Balkrishna, Coulton and Taylor (2007) document that firms reporting accounting losses exhibit greater degree of conditional conservatism than firms reporting profits, supporting the view that accounting losses may result from timely recognition of expected losses in current earnings. The authors conclude that "the relatively high frequency of losses is, at least in part, a reflection of conservative reporting".

Following this line of argument, we predict that more conservative financial in countries with strong investor protection leads to a larger number of firms reporting accounting losses. Our first hypothesis is stated in alternative form as follows:

H1: Firms in countries with strong investor protection are more likely to report accounting losses than firms in weak investor protection countries.

2.2 Accounting losses and earnings persistence

It is well documented that losses are less persistent than profits. For example, Lawrence, Sloan and Sun (2016) regress return on assets (ROA) on lagged ROA, a loss

[8] This argument, however, is not supported by the evidence from Australia. Although the number of Australian firms reporting accounting losses has been steadily increasing (Balkrishna, Coulton and Taylor 2007, Carvajal, Coulton and Jackson 2015), Lai, Lu and Shan (2013) find that financial reporting in Australia does not become more conservative.

dummy, and an interaction between lagged ROA and the loss dummy. The coefficient of lagged ROA is 0.923, but the coefficient of the interaction term is -0.349, suggesting that losses are about 38% (=0.349/0.923) less persistent than profits.

However, there is an ongoing debate on why losses are less persistent. One view is that that loss firms have an option to abandon their loss making projects and they are likely to exercise the option and try to reverse to profits as soon as they can (Hayn 1995). Consistent with this view, Pinnuck and Lilis (2007) and Lawrence, Sloan and Sun (2016) find that loss firms are more likely to reduce their employee size and cut investment. Lawrence, Sloan and Sun (2016) further show that firms that curtail their investments have significantly lower persistence in earnings, suggesting abandonment of unprofitable projects results in lower earnings persistence.

Another view is that conditional conservative accounting contributes to the lower persistence in losses. Basu (1997) argues that conservative accounting causes earnings to reflect bad news more quickly than good news, leading to negative earnings changes (or accounting losses) to be less persistent than positive earnings changes (or profits). He finds that the lower persistence of losses is primarily driven by negative accruals or special items, which may result from assets write-down or write-off in anticipation of future losses.

These two views are not mutually exclusive and may coexist. In our context, if conservative accounting leads to less persistent losses, we expect losses to be more transitory in countries with strong investor protection than in countries with weak investor protections. Our second hypothesis is stated in alternative form as follows:

H2: Accounting losses in countries with strong investor protection are less persistent than losses in weak investor protection countries.

2.3 Dividends, losses and earnings persistence

It has been well documented that profitable firms are more likely to pay dividends, both in the U.S. or around the world (e.g., Denis and Osobov 2008). However, a considerable number of firms still choose to pay dividends even when they report accounting losses. For example, Skinner and Soltes (2011) show that more than 10% of loss firms in the U.S pay dividends. Coulton, Ruddock and Taylor (2014) find that 10% of dividend payers in Australia report negative operate profit after tax. However, accounting losses of dividend payers tend to be temporary are largely driven by special items. In the U.S., more than 50% of dividend payers with accounting losses report large negative special items that accounts for over half of the amount of the loss (Skinner and Soltes 2011).

Dividends may contain information about earnings persistence. Miller and Rock (1985) argue that dividends provide information about the extent to which the reported earnings changes are temporary or permanent. Given their reluctance in cutting dividends, managers will increase dividends only when they believe earnings increases are permanent. This argument is consistent with the survey results in Brav et al. (2005) that managers think that two of the three most important factors in determining firms' dividend policies are the "stability of future earnings" and "a sustainable change in earnings".[9] Kormendi and Zarowin (1996) find supporting evidence that firms are reluctant to cut dividends and only increase dividends when they are confident that they can maintain the higher earnings in the long-run.

Skinner and Soltes (2011) provide evidence that dividend payers' earnings are more persistent. They regress ROA on lagged ROA, a dummy variable for dividend payers, and an interaction term between lagged ROA and the dividend dummy. The coefficient of the interaction term is significantly positive, suggesting higher earnings persistence for dividend payers. Similar evidence is documented in Australia by Coulton, Ruddock and Taylor (2014).

[9] The other is 'maintaining consistency with historic dividend policy".

These studies, however, do not consider the differential persistence in profits and losses. For profitable firms, paying dividends may suggest that their profits are sustainable in the future and thus more persistent. But for loss firms, paying dividends may imply that their losses are only temporary and can be reverted to profits soon. Therefore, dividend payers' losses will be much less persistent than non-payers'. Following this argument, we state our third hypothesis in alternative form as follows:

H3a: Profits of dividend payers are more persistent than profits of non-payers.

H3b: losses of dividend payers are less persistent than losses of non-payers.

The argument that dividends may signal earnings persistence relies on the assumption that managers are reluctant to change dividends and prefer to smooth dividends. Prior studies find that there are large cross-country variations in the practice of dividend smoothing (e.g., Chemmanur et al. 2010, Javakhadze, Ferris and Sen 2014). However, there is little theory on why firms smooth earnings. Using U.S. data, Leary and Michaely (2011) find firms that face lower information asymmetry and are most susceptible to agency conflicts tend to smooth dividends more. In a study of 24 countries, Javakhadze, Ferris and Sen (2014) show that dividends are smoothed less for firms with highly-concentrated ownership structure and strong corporate governance. They also find that dividend smoothing is more prevalent in code law countries than in common law countries, consistent with that investor may affect dividend policies (La Porta et al 2000).[10]

In our setting, it is unclear how investor protection will affect the information content of dividends about earnings persistence. On one hand, if dividend smoothing results from agency conflicts, then in countries with strong investor protection where firms face less agency problems and thus have less incentives to smooth dividends, dividends will be less

[10] The sample in Javakhadze, Ferris and Sen (2014) does not include the U.S. It is well known that U.S. firms tend to smooth dividends more than firms in other countries (Chemmanur et al. 2010), but U.S. also has strong investor protection and low information asymmetry. So it is unclear how to interpret the result in Javakhadze, Ferris and Sen (2014).

informative about the persistence of future earnings as managers face less pressure to maintain dividends in the future. On the other hand, agency conflicts between managers and shareholders is possible less a problem in weak investor protection countries where investor base is more concentrated and a few large investors have strong control over the managers. In these countries, agency conflicts are resolved through direct monitoring and intervention by large investors, rather than through the legal system. So it is possible that dividends are smoothed more and thus have more information content about the earnings persistence in countries with strong investor protection. One example supporting this possibility is the U.S. where dividend smoothing is very common but investor protection is very strong. Following this argument, we state our fourth hypothesis in alternative form as follows:

H4: The effect of dividends on earnings persistence is stronger in countries with strong investor protection than in countries with weak investor protection.

3. Research design and Sample

3.1 Research design

To test hypothesis 1, we specify the following regressions at both country and firm level:

$$LOSS\%_t/LOSS_t=\alpha_0+\alpha_1\times IP+X\mathrm{B}+\varepsilon \quad (1)$$

where $LOSS\%_t$ represents the percentage of firms reporting negative income before extraordinary items for each country in year *t*. $LOSS_t$ equals 1 if a company reports losses in year *t*, otherwise 0. Following prior studies, we use three measures to capture the strength of investor protection (*IP*) in a country based on the legal and judicial system. As argued by Ball, Kothari and Robin (2000) and Bushman and Piotroski (2006), strong legal and judicial system ensures the enforcement of contracts and increases the demand for conservative accounting for contracting purpose**:** 1) The first measure is the legal origin, which has been

widely used in prior studies. Countries with a common law legal origin have been shown to provide stronger protection to outside investors (La Porta et al. 1998) and more conservative accounting practice (Ball, Kothari and Robin 2000, Bushman and Piotroski 2006). Regarding accounting conservatism, the results in Ball, Robin and Sadka (2008) show that Scandinavia countries, although follow a code law (German law) legal origin, have more conservative accounting than other countries.[11] Based on their results, we create a dummy variable, *Good Law*, that equals to 1 for Scandinavia countries and countries with a common law legal origin, and 0 otherwise; 2) The second measure is *Rule of Law*, an index developed by the country-risk agency *International Country Risk* to assess the law and order tradition in a country. Following Porta et al. (2000), we use the average monthly index score in April and October between 1982 and 1995; 3)The third measure is the Judiciary Effectiveness, *EFF_JUD*, developed by the country risk rating agency *Business International Corporation* to assess the efficiency and integrity of legal environment that affects business. Following La Porta et al. (2000), we use the average annual score between 1980 and1983.

X collects several control variables: 1) We use annual GDP growth rates (*GDP GROWTH*) to capture the business cycles and macroeconomic performance; 2) Product market competition is likely to affect firm performance and firms facing fierce competition are more likely to suffer losses. To capture the degree of market competition, we use the Herfindahl index (*H_INDEX*), constructed using firm-level sales in a country-year; 3) It is possible that a country's tax rates affect firms' incentives to report profits and loss, so we include the statutory tax rats to control for tax incentives; 4) We control for the natural logarithm of the number of firms in a country-year for two reasons. First, over time the number of public firms is increasing and the coverage of Compustat Global Vantage is improving. Second, number of firms may capture the degree of competition for customers

[11] Table 5 and 7 in Ball, Robin and Sadka (2008) show that Scandinavia countries have the highest coefficients for the incremental timeliness in loss recognition and the highest estimates of unconditional conservatism.

and competition for capital, both of which may affect firms' profitability. Finally, we control for year fixed effects to mitigate the effects of time invariant factors on firms' loss reporting. In the firm level regression, we also control for firm size (*R_AT*), the decile rank of firms' total asset for each country year and industry fixed effects (two-digit SIC code). All t-statistics are calculated based on two-way clustered standard errors (firm and year). H1 predicts positive loadings on *IP*.

To investigate H2, the following models are employed:

$$LOSS_{t+1}=\alpha_0+\alpha_1\times IP+ \alpha_2\times LOSS_t+ \alpha_3\times LOSS_t \times IP+X\mathrm{B}+\varepsilon \quad (2)$$

$$IB_{t+1}= \alpha_0+\beta_1\times IB_t+ \varepsilon \quad (3)$$

$$IB_{t+1}= \alpha_0+\beta_1\times IB_t+ \beta_2\times IB_t \times IP + \beta_3\times IP + \varepsilon \quad (4)$$

where $LOSS_{t+1}$ is one year ahead $LOSS_t$. IB_{t+1} and IB_t *are IB* in year $t+1$ and t, deflated by total assets (AT) at the end of year *t.* All variables are defined as previously. We estimate cross-sectional regressions of model (2) using all firm year observations. For model (3), we first estimate the coefficients on IB_t for each country. Then for the whole sample, *Goodlaw*=1 and *Goodlaw*=0 subsamples, we calculate the average of these coefficients for each group.[12] Model (4) presents cross-sectional regressions for the whole, profit and loss samples, which allow us to use other two continuous IP proxies. Positive α_3 in model (2), higher β_1 in model (3)/ positive β_2 in model (4) for loss firms are consistent with the prediction of H2.

To disentangle the association between dividends and earnings persistence in profit and losses firms, we use model (5):

$$IB_{t+1}= \alpha_0+\beta_1\times IB_t+ \beta_2\times IB_t \times DIV_t + \beta_3\times DIV_t + \varepsilon \quad (5)$$

where DIV_t equals 1 if a firm pays dividends in year *t*, otherwise 0. All other variables are defined as previously. We estimate cross-sectional regressions for model (5) in the whole,

[12] One advantage of this Fama-Macbeth estimate is to avoid that large markets drive the results.

profit and loss sample. H3(a) and H3(b) predict that β_2s are positive and negative for the profit and loss sample respectively.

Model (6) is used to examine whether the signalling effects of dividends are stronger in countries with good investor protection environment than other countries.

$$IB_{t+1} = \alpha_0 + \beta_1 \times IB_t + \beta_2 \times IB_t \times DIV_t + \beta_3 \times DIV_t + \beta_4 \times IP + \beta_5 \times DIV_t \times IP + \beta_6 \times DIV_t \times IB_t + \beta_6 \times DIV_t \times IB_t \times IP + \varepsilon \quad (6)$$

where all variables are defined as previously. Cross-sectional regressions are estimated for model (6) in the whole sample as a benchmark, where the sign of β_6 depends on composition of the sample (profit vs loss firms). However, when we split the whole sample into profit and loss firms and re-estimate the model, H4 predicts positive (negative) β_6s for profit (loss) firms.

3.2. Sample

We retrieve observations from Compustat North America (for Canada and the U.S.) and Compustat Global Vantage. For each firm-year observation with missing SIC code, we merge the most recent year SIC code for the observation. Firms with missing SIC code or financial firms are deleted.[13] We identify a firm's nationality by the exchange in which the firm is listed. For firms cross-listed in multiple exchanges, we identify its nationality according to its headquarter.[14] Regarding the firm level variables, We collect income before extraordinary items (*IB*), net income (Compustat item *NI*), total assets (*AT*) and dividends (*DVC*) . We require sample firms to have non-missing NI/*IB* and AT for two consecutive years so that earnings persistence can be estimated crosssectionally. To mitigate the effects of extreme values, we follow Skinner and Soltes (2011) winsorize return on assets (defined as *IB* divided by *AT*) at -100% and 100%.[15] We also collect other accounting variables including sales, special items and components of total accruals, but we do not require firms to have

[13] Financial firms are identified by SIC code between 6000 and 6999.

[14] For a firm headquartered in Japan and cross-listed in both US and Japanese exchanges, we identify this firm as a Japanese firm.

[15] We obtain qualitatively similar results if we replace the -1 and 1 filter with top and bottom 1% of the distribution of return on assets.

non-missing value for these variables to be included in the sample. Our sample period starts from 1987 when Compustat Global Vantage has a reasonably large coverage of non-U.S. firms. Finally, we require each country-year to have at least 50 firm-year observations to ensure the power of country-specific regressions and 10-year time span for each country These data requirements lead to a sample of 425,578 firm-year observations from 40 markets.

Table 1 reports the sample distribution across countries. Reflecting their large size of equity markets, Australia, China, India, Japan, UK and the U.S. each contributes more than 2,000 unique firms to the sample. Smaller markets including Argentina and Peru also present in the sample.

[Insert Table about here]

Table 1 reports these measures for each country in our sample.

4. Empirical Results

4.1 Accounting losses and investor protection

Table 1 provides initial evidence on the prevalence of accounting losses around the world. For each country, we report the mean income before extraordinary items and net income deflated by total assets (*IB and NI*) and proportion of firms-year observations with negative *IB/NI*.[16] It appears that around 30% of observations around the world report accounting losses. There is wide cross-country variation in the percentage of loss firms. Australia has the largest portion of loss firms with 62.92% firm-years having losses.[17] In contrast, only 8.49% of firms-year observations in China are loss years.[18]

[16] It indicates that in most countries, *IB* is very similar to *NI.* As a result, we rely on IB based ratios to conduct subsequent analyses.

[17] This number is consistent with the evidence in Australian studies. For example, Carvajal, Coulton and Jackson (2015) report that from 1994 to 2012, 59.7% of firm-years in Australia are loss years.

[18] One reason for the low percentage of loss firms in China is the regulatory requirement that firms reporting negative net income for three consecutive years will be mandatorily delisted in Shanghai and Shenzhen Stock Exchanges.

To examine the effect of investor protection on accounting losses, we divide the sample countries into three groups based on their legal origin: Code Law (without Scandinavia countries), Common Law and Scandinavia Law. Table 1 reports the percentage of firm-year observations with accounting losses is 24.84% in code law countries, 29.30% in common law countries, and 33.89% in Scandinavia countries. The differences in the percentage of loss firms between Scandinavia and code law countries are statistically significant at 5% level.

In Figure 1, we plot the percentage of loss firms for code law countries, common law and Scandinavia countries. In every year since 1987, code law countries report a lower percentage of loss firms. The evidence that common law and Scandinavia countries have higher percentage of loss firms is supportive of our H1 that countries with stronger investor protection and more conservative financial reporting are more likely to have loss firms.

Table 2 documents the results of estimating model (1). The coefficient of *GOODLAW* is positive and statistically significant at 5% level, reinforcing the evidence from Table 1 that common law and Scandinavia countries have more firms reporting losses. When we fit model (1) using *RULE OF LAW* and *EFF_JUD*, the loadings on these two variables are both statistically significant (at 10% level). [19]

[Insert Table 2 about here]

In Table 3, we use firm-level observations and logistic regressions to estimate the probability of a firm reporting accounting losses. The results show that all the three measures of investor protection have negative coefficients that are statistically significant at 1% level.

[19] In unreported results, we examine whether there is a time trend in the percentage of loss firms around the world. We regress the dependent variable on *YEAR*, a time trend variable equal to the year of observation minus 1988 (our first year of observation in the sample), controlling for country-fixed effects. The result shows that *YEAR* has a positive and statistically significant coefficient, suggesting the presence of an upward time trend in the percentage of loss firms in the world. However, the positive coefficient of YEAR becomes statistically insignificant once we control for country-level determinants of loss firms.

This result further supports H1 that firms in strong investor protection countries are more likely to report accounting losses than firms in weak investor protection countries.

[Insert Table 3 about here]

4.2 Accounting losses and earnings persistence

Table 3 reports the results of estimating model (2). The coefficients on the two-way interactions between *IP* proxies and current year loss dummy variable are all positive and two of them are statistically significant (1%), suggesting that loss firms in countries with strong investor protections are more likely to persist into the next year.

Table 4 presents the results of estimating model (3). For the whole sample, the earnings persistence coefficient is positive and statistically in every country (at least at 10% level). The average coefficient for the code law countries is 0.503, while the average coefficient for common law and Scandinavia countries is 0.83. The result suggests that overall earnings are more persistent in countries with strong investor protection.

When we partition the whole sample into profit and loss firms, a different pattern in earnings persistence emerges. For profit firms, the average coefficient of earnings persistence is 0.587 in code law countries and 0.494 in common law and Scandinavia countries. The evidence suggests that profits are more persistent in code law countries than the rest of the sample. In contrast, loss firms' earnings persistence coefficient is 0.307 in code law countries versus 0.61 in common law and Scandinavia law countries, suggesting that losses are more persistent in countries with strong investor protection.

[Insert Table 4 about here]

While a number of prior studies have documented that accounting losses are less persistent than profits, results in Table 4 show that losses can be more persistent than profits in a number of countries including Australia, Belgium, Brazil, Canada, Finland, Germany,

Hong Kong, Israel, Netherlands, Norway, Sweden, Sri Lanka, , the UK and the US. For example, in Australia, the persistence coefficient for profits is 0.007 (t-stat=0.13) while the persistent coefficient for losses is 0.515 (t-stat = 41.83). In the US, profits have a persistence coefficient of 0.611 (t-stat = 23.80) but losses have a persistence coefficient of 0.683 (t-stat = 88.69).[20] The large persistence coefficient of losses is consistent with the prior evidence that accounting losses can be surprisingly persistent. For example, Joos and Plesko (2005) show that about 53% loss firms in the U.S continue to report accounting losses in the next year, and 11.6% of loss firms continue their streak of accounting loss in next five years. Balkrishna, Coulton and Taylor (2007) report that in Australia 63% of firms reporting an initial loss will continue to report losses for at least one more year in the future. Lawrence, Sloan and Sun (2016, Figure 1) show that for the U.S. firms reporting a loss in year t, the median return-on-asset remains negative in each of the next five years.

Table 5 shows the statistics of estimating model (4). Model 1 to 3 use *GOODLAW* to measure the strength of investor protection. Using the pooled sample, Model 1 reports a positive coefficient for the interaction term, consistent with the result in Table 4 that overall earnings appear more persistent in common law and Scandinavia countries. In Model 2 where we focus on profit firms, the interaction term has a positive and significant coefficient, suggesting profits are more persistent in countries with strong investor protection. However, the coefficient of the interaction term turns negative and statistically significant at 1% level in Model 3 where we examine loss firms, implying losses are more persistent in strong investor

[20] This result for the U.S. firms appears different from prior studies that find lower persistence for losses (e.g., Lawrence, Sloan and Sun 2016). One reason is the difference in the sample period and loss persistence changes over time. For example, Lawrence, Sloan and Sun (2016) regress return on assets (ROA) on lagged ROA, a loss dummy, and the interaction term between lagged ROA and the loss dummy, using a sample from 1974 to 2011. They find a significantly negative coefficient for the interaction term. Skinner and Soltes (2011) estimate the same regression model for each 10-year period starting form 1974. Their results (Table 8, p.23-24) show that the coefficient of the interaction term is significantly negative only in the period from 1984 – 1995. In the periods from 1974 to 1983 and from 1984 to 2005, the coefficient of the interaction term is insignificantly differently from zero. We estimate Lawrence, Sloan and Sun (2016)'s model for the period from 2011-2014 and find that the coefficient on the two-way interaction is significantly positive.

protection countries. Using *Judiciary Efficiency* and *Rule of Law* to measure investor protection produces essentially the same results, as reported in Model 4 to 9.

[Insert Table 5 about here]

The effect of investor protection on the persistence of profits and losses is also economically significant. For example, Model 2 reports a coefficient of 0.773 for *IB* and -0.256 for the interaction term, implying that in common law and Scandinavia countries, profits are 33% (=0.256/0.773) less persistent than profits in code law countries. Similarly, the result in Model 3 suggests that losses in common law and Scandinavia countries are 66% (=0.246/0.370) more persistent than losses in code law countries.

Table 6 uses pooled regressions to investigate the effect of investor protection on the persistence of profits and losses. We regress *IB* on lagged *IB*, a dummy variable for lagged loss (*LOSS*), measure of investor protection (*IP*), and both two-way and three-way interaction terms between these three variables. The first variable of interest is the interaction term between lagged *IB* and *IP*, which captures the difference in profit persistence between strong and weak investor protection countries. We find this interaction term has significantly negative coefficients in all the three models with different measures of *IP*, suggesting profits are less persistent in countries with strong investor protection. Consistent with prior studies, we find the interaction term between lagged *IB* and *LOSS* has negative coefficients, suggesting that on average losses are less persistent than profits. More importantly, our second variable of interest, the three-way interaction between lagged *B, LOSS* and *IP*, has significant positive coefficients in all the models. The magnitude of the coefficient of the three-way interaction is larger than the magnitude of the coefficient of the two-way interaction of lagged *IB* and *LOSS*, resulting in a net positive effect on the loss persistence in strong investor protection countries. For example, based on the estimated coefficients in Model 1 where *IP* is measure by an indicator variable *GOODLAW*, we calculate that the

persistence coefficient for losses is 0.390 when *GOODLAW* = 0 and 0.642 when *GOODLAW* = 1, suggesting losses are more persistent in countries with strong investor protection.

[Insert Table 6 about here]

The results in Table 4, 5 and 6 present consistent evidence that profits are less persistent while losses are more persistent in countries with strong investor protection. The results are not supportive to our H2. But the results are consistent with the evidence in Table 1 that firms report lower earnings and more losses in countries with strong investor protection. This may suggest that financial reporting is more unconditionally conservative in countries with strong investor protection.

4.3 Dividends and earnings persistence

In this subsection, we examine the signalling effect of paying dividends on earnings persistence. Table 7 reports the results of estimating model (5).

[Insert Table 7 about here]

Column 1 reports that the interaction term has a positive and statistically significant coefficient, implying that overall dividends are associated with more persistent earnings. Model 2 focuses on profit firms and reports a significantly positive coefficient for the interaction term (coefficient = 0.412, t-stat = 11.50), implying dividend payers' profits are more persistent than non-payers. In Model 3, we examine loss firms and find a significantly negative coefficient for the interaction term (coefficient = -0.418, t-stat = -16.34), suggesting that losses of dividend payers are less persistent.

We note that less persistent losses indicate that these losses are more likely to revert to profits next year. The negative coefficient thus suggests that loss firms that pay dividends will be more likely to witness loss reversal in future than loss firms that do not pay dividends. Therefore, although the estimate coefficients have opposite signs for profit and loss firms, the evidence is actually consistent the argument in Skinner and Soltes (2011) that dividends may

signal earnings persistence since managers will pay dividends only when they are confident that their profits are sustainable and their losses can be quickly revert to profits in the future.[21] Taken together, the results in Model 2 and 3 are supportive to our H3a and H3b.

Table 8 presents results of estimating model (6) where we test H4 that the effect of dividends on earnings persistence is stronger in countries with better investor protection. The loadings on the three-way interaction terms for the whole sample are negative (at the 1% statistical level). When we split the full sample into profit and loss firms, the loadings on the three-way interaction terms have opposite signs between profit and loss firms. In particular, positive coefficients on the three-way interaction term for profit firms suggest that incremental persistence in profits of dividend payers (relative to non-payers) is stronger in countries with stronger investor protection. For loss firms, the three-way interaction term has negative and statistically significant coefficients, implying that dividend payers' losses are less persistent, particularly in strong investor protection countries. These results are supportive to our H4 that the effect of dividends on earnings persistence is stronger in countries with strong investor protection.

[insert Table 8 about here]

5. Conclusion

We investigate the effect of investor protection on accounting losses and earnings persistence around the world. Using a large sample of firms from 40 countries, we find that firms located in countries with strong investor protection are more likely to report accounting losses, after controlling for economic growth and industry competition. Firms in strong investor protection countries not only have lower total accruals but also lower cash flows. We document that the strength of investor protection has a differential effect on the persistence of

[21] The result in Model 2 and 3 also explain why the coefficient of the interaction term in Model 1 is insignificant. The positive coefficient for profit firms may be dampened by the negative coefficient for loss firms, resulting in an insignificant coefficient in the pooled regression.

profits and losses. In countries with strong investor protection, profits are less persistent but losses are more persistent, resulting in overall lower earnings and more losses. Finally, we extend the evidence in Skinner and Soltes (2011) and find that relative to non-payers, dividend payers have more persistent profits but less persistent losses. The evidence support Skinner and Soltes (2011)'s argument that dividends contain information about earnigns persistence. Specifically, managers choose to pay dividends only when they are confident that their profits are sustainable or their losses are temporary in the future.

Our results that firms report more accounting losses and their losses are more persistent in strong investor protection countries are consistent with the view that financial report is more conservative in these countries (Ball, Skinner and Robin 2000, Bushman and Piotroski 2006). Our study contributes to the literature on investor protection by demonstrating that investor protection has a significant effect on accounting losses around the world. This evidence also adds to the findings in Klein and Marquardt (2006) who find non-accounting factors have the first-order effect on the prevalence of accounting losses in an economy.

Our study makes two extensions to Skinner and Soltes (2011) who show that dividend payers have more persistent earnings in the U.S. First, our study extends their evidence to a global setting and shows that the information content of dividends varies with the strength of investor protection in a country. Second, we differentiate profits and losses and find that dividend payers' profits are more persistent, but their losses are less persistent. These extensions help us better understand dividends' information about earnings persistence.

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Appendix A
Definition of variables

Variables	Definition
Firm level variables	
NI_t	Net income deflated by total assets in year t
IB_t	Earnings before extraordinary items deflated by total assets in year t
$LOSS_t$	An indicator variable equal to 1 for firms reporting negative net income in year t, and 0 otherwise
DIV_t	An indicator variable equal to 1 for firms paying dividends in year t, and 0 otherwise
Country level variables	
$LOSS\%_t$	The percentage of firms reporting negative net income in a country in year t
YEAR	Year of observation minus 1987
ACC_AT_t	The median ratio of total accruals deflated by total assets in a country in year t, where total accruals are calculated using balance sheet items
CFO_AT_t	The median ratio of cash flow from operations deflated by total assets in a country in year t, where cash flow from operations are calculated as net income minus total accruals
SI_t	The percentage of firms reporting both negative net income and special items that account for more than 50% of the loss in a county in year t
N_FIRMS_t	The number of listed firms in a country in year t
$GDP\ GROWTH_t$	The annual GDP growth rate for a country in year t
H_INDEX_t	The Herfindahl index calculated based on firm-level sales revenue for a country in year t
GOODLAW	An indicator variable equal to 1 for countries with a common law or Scandinavia law legal origin, and 0 for countries with a code law legal origin
RULEOFLAW	Rule of law
LAW	The index for law enforcement

Table 1 Descriptive Statistics

This table reports the sample distribution by country and descriptive statistics of key variables. Variables are defined in Appendix A.

Country	Legal Origin	#Year	Unique Firms	Firm years	IB	Negative IB	NI	Negative NI	Dividend payers	Rule of Law	eff_jud
Argentina	Code law	11	67	629	0.036	25.44%	0.036	25.44%	18.60%	0.535	0.600
Belgium	Code law	13	128	1,057	0.009	25.83%	0.009	25.92%	47.02%	1.000	0.950
Brazil	Code law	19	382	4,382	-0.016	32.77%	-0.016	32.70%	39.02%	0.632	0.575
Chile	Code law	14	163	1,496	0.038	17.65%	0.038	17.38%	8.49%	0.702	0.725
China	Code law	23	2,616	32,655	0.049	7.74%	0.050	7.73%	20.43%	.	.
France	Code law	21	881	8,046	0.005	24.72%	0.006	24.70%	23.10%	0.898	0.800
Germany	Code law	17	894	7,924	-0.020	32.55%	-0.020	32.69%	31.30%	0.923	0.900
Greece	Code law	12	232	2,057	-0.009	42.63%	-0.009	42.63%	26.35%	0.618	0.700
Indonesia	Code law	19	406	4,266	0.019	26.00%	0.021	25.48%	14.18%	0.398	0.250
Italy	Code law	10	278	2,113	0.001	32.56%	0.000	32.51%	30.38%	0.833	0.675
Japan	Code law	28	4,020	49,462	0.012	19.62%	0.012	19.66%	84.23%	0.898	1.000
Jordan	Code law	12	122	1,056	0.025	27.27%	0.025	27.27%	15.15%	0.435	0.866
Kuwait	Code law	10	98	830	0.038	20.48%	0.038	20.48%	10.36%	.	.
Mexico	Code law	16	113	1,176	0.037	19.56%	0.038	19.30%	15.56%	0.535	0.600
Netherlands	Code law	16	171	1,521	0.000	26.23%	0.002	26.17%	47.99%	1.000	1.000
Peru	Code law	15	89	1,006	0.062	16.00%	0.061	15.90%	12.62%	0.250	0.675
Philippines	Code law	18	192	2,243	0.002	33.13%	0.004	32.99%	22.29%	0.273	0.475
Poland	Code law	17	528	4,222	0.015	23.38%	0.014	23.50%	7.56%	.	.
Spain	Code law	10	132	1,022	0.015	24.17%	0.016	23.78%	41.39%	0.780	0.625
Switzerland	Code law	16	219	2,240	0.014	20.09%	0.016	20.18%	53.13%	1.000	1.000
Taiwan	Code law	18	1,917	18,739	0.029	22.85%	0.029	22.88%	7.17%	0.852	0.675
Turkey	Code law	12	298	2,036	0.032	25.79%	0.032	25.83%	13.26%	0.518	0.400
Code law countries					***0.018***	***24.84%***	***0.018***	***24.78%***	***26.80%***	***0.689***	***0.710***
Australia	Common law	22	2,208	22,177	-0.187	62.92%	-0.186	62.83%	23.20%	1.000	1.000
Canada	Common law	28	1,071	6,007	-0.068	41.20%	-0.069	41.93%	28.22%	1.000	0.925
Hong Kong	Common law	24	1,456	16,155	-0.006	28.65%	-0.006	28.57%	48.36%	0.822	1.000
India	Common law	20	2,783	31,787	0.034	21.68%	0.034	21.82%	48.12%	0.417	0.800

Israel	Common law	16	358	2,819	-0.031	32.95%	-0.031	32.85%	28.17%	0.482	1.000
Malaysia	Common law	26	1,065	13,954	0.018	24.60%	0.018	24.57%	51.46%	0.678	0.900
New Zealand	Common law	13	146	1,139	-0.030	27.92%	-0.029	27.92%	34.68%	1.000	1.000
Pakistan	Common law	19	292	3,077	0.049	22.20%	0.049	22.33%	48.85%	0.303	0.500
Singapore	Common law	26	856	9,841	0.022	22.83%	0.022	22.73%	49.02%	0.857	1.000
South Africa	Common law	19	357	3,744	0.056	16.37%	0.056	16.67%	33.97%	0.442	0.600
Sri Lanka	Common law	11	199	1,627	0.049	18.62%	0.049	18.62%	45.42%	0.190	0.700
Thailand	Common law	21	555	6,247	0.039	21.23%	0.041	21.10%	20.81%	0.625	0.325
United Kingdom	Common law	27	2,994	28,811	-0.046	35.15%	-0.047	35.25%	52.35%	0.857	1.000
United States	Common law	28	11,779	117,651	-0.041	33.93%	-0.041	34.26%	32.78%	1.000	1.000
Common law countries					***-0.010***	***29.30%***	***-0.010***	***29.39%***	***38.96%***	***0.691***	***0.839***
Denmark	Scandinavia	15	162	1,316	-0.018	31.99%	-0.018	32.14%	44.22%	1.000	1.000
Finland	Scandinavia	15	145	1,460	0.019	24.86%	0.019	24.79%	63.77%	1.000	1.000
Norway	Scandinavia	18	307	2,426	-0.032	38.71%	-0.032	38.17%	35.45%	1.000	1.000
Sweden	Scandinavia	19	609	5,162	-0.063	40.00%	-0.063	40.04%	42.13%	1.000	1.000
Scandinavia countries					***-0.024***	***33.89%***	***-0.023***	***33.79%***	***46.39%***	***1.000***	***1.000***

T-stats of Difference	Common vs Code law countries				-1.57	1.26	-1.57	1.29	2.41	0.03	1.70
	Scandinavia vs Code law countries				-3.32	2.31	-3.34	2.30	1.97	5.52	6.01
	Scandinavia vs Common law countries				-0.39	0.72	-0.39	0.69	1.15	4.09	2.69

Table 2 Country-level Determinants of Loss Firms

This table uses OLS regressions and country-year observations to examine the country-level determinants of the percentage of loss firms in a country. Dependent variables in Model 1, 2 and 3 are *LOSS%*. The dependent variable in Model 4 is *ACC_AT*. The dependent variable in Model 5 is *CFO_AT*. The dependent variable in Model 6 is *SI*. All the variables are defined in Appendix A. Reported in brackets are the t-statistics based on standard errors adjusted for two-way clustering at both country and year level. ***, ** and * indicate the coefficient is statistically significant at 1%, 5% and 10% level, respectively.
Panel A:

VARIABLES	$LOSS\%_t$	$LOSS\%_t$	$LOSS\%_t$
	(1)	(2)	(3)
GOODLAW	0.069**		
	(2.27)		
RULE OF LAW		0.131*	
		(1.77)	
EFF_JUD			0.110*
			(1.68)
N_FIRMS_t	-0.009	-0.027	-0.021
	(-0.31)	(-1.08)	(-0.80)
$GDP\ GROWTH_t$	-0.017***	-0.010**	-0.013***
	(-6.68)	(-2.46)	(-4.39)
H_INDEX_t	-0.175	-0.394**	-0.350*
	(-0.79)	(-2.05)	(-1.73)
TAX_t	0.329	0.317	0.284
	(1.35)	(1.25)	(1.08)
Constant	0.166	0.219	0.220
	(0.97)	(1.64)	(1.51)
YEAR FE	YES	YES	YES
Obs	648	610	610
R^2	0.417	0.379	0.364

Panel B: Determinants of accrual/cfo and special items

VARIABLES	(1) ACC_AT_t	(2) CFO_AT_t	(3) SI_t	(4) ACC_AT_t	(5) CFO_AT_t	(6) SI_t	(7) ACC_AT_t	(8) CFO_AT_t	(9) SI_t
GOODLAW	-0.027**	-0.032**	0.021***						
	(-2.45)	(-2.25)	(2.80)						
LAW				-0.088***	-0.102***	0.065***			
				(-4.00)	(-3.09)	(5.38)			
EFF_JUD							-0.070***	-0.090***	0.061***
							(-3.37)	(-2.83)	(4.37)
N_FIRMS_t	-0.013	-0.011	0.010	0.001	0.005	0.000	-0.004	0.001	0.003
	(-1.13)	(-0.86)	(1.24)	(0.17)	(0.50)	(0.05)	(-0.35)	(0.10)	(0.33)
CFO_AT_t	-0.665***	.	-0.016	-0.655***	.	-0.006	-0.651***	.	-0.005
	(-6.60)	(.)	(-1.07)	(-7.04)	(.)	(-0.36)	(-6.34)	(.)	(-0.22)
$GDP\ GROWTH_t$	0.005***	0.004***	-0.004***	0.001	0.001	-0.002*	0.003***	0.003*	-0.003***
	(4.82)	(4.61)	(-4.34)	(1.10)	(0.32)	(-1.95)	(2.92)	(1.96)	(-3.56)
H_INDEX_t	-0.088	-0.040	0.097	0.048	0.105	0.007	0.011	0.077	0.024
	(-0.93)	(-0.41)	(1.44)	(0.70)	(1.33)	(0.12)	(0.14)	(0.88)	(0.40)
TAX_t	-0.140	-0.161	0.047	-0.165*	-0.190*	0.063	-0.140	-0.164	0.050
	(-1.37)	(-1.39)	(0.72)	(-1.79)	(-1.74)	(0.88)	(-1.39)	(-1.43)	(0.67)
ACC_AT_t		-0.880***			-0.918***			-0.878***	
		(-17.97)			(-18.01)			(-18.62)	
Constant	0.277***	0.107	-0.077	0.261***	0.105	-0.063	0.266***	0.091	-0.066
	(3.58)	(1.15)	(-1.44)	(4.78)	(1.20)	(-1.31)	(4.04)	(0.97)	(-1.23)
Observations	683	683	683	643	643	643	643	643	643
R-squared	0.772	0.705	0.325	0.784	0.723	0.369	0.762	0.706	0.338
YEAR FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Table 3 Persistence of Accounting Losses

This table uses logistic regressions and firm-year observations to examine the persistence of firm-level accounting loss. The dependent variable, $LOSS_t$, is an indicator variable taking value of 1 for firms reporting negative net income in year t, and 0 otherwise. All the variables are defined in Appendix A. Country-, industry- and year-fixed effects are included in the models. Reported in brackets are the t-statistics based on standard errors adjusted for two-way clustering at both firm and year level. ***, ** and * indicate the coefficient is statistically significant at 1%, 5% and 10% level, respectively.

	(1)	(2)	(3)
VARIABLES	$LOSS_{t+1}$	$LOSS_{t+1}$	$LOSS_{t+1}$
$LOSS_t$	1.327***	1.404***	1.512***
	(38.14)	(19.90)	(31.26)
GOODLAW	**0.149*** **		
	(5.20)		
$LOSS_t \times$ *GOODLAW*	**0.262*** **		
	(9.06)		
EFF_JUD		**0.284*** **	
		(5.36)	
$LOSS_t \times$ *EFF_JUD*		**0.143** **	
		(2.33)	
LAW			**0.472*** **
			(5.74)
$LOSS_t \times$ *LAW*			**0.011**
			(0.22)
H_INDEX_t	-0.536**	-0.418**	-0.762***
	(-2.25)	(-2.02)	(-3.51)
$GDP\ GROWTH_t$	-0.027***	-0.001	0.009*
	(-5.12)	(-0.23)	(1.83)
TAX	0.165	-0.258*	-0.105
	(0.89)	(-1.87)	(-0.77)
N_FIRMS_t	-0.059***	-0.031	-0.066***
	(-2.73)	(-1.51)	(-2.98)
r_size	-0.059***	-0.063***	-0.064***
	(-14.87)	(-16.73)	(-16.82)
Constant	-0.167	-0.437***	-0.349**
	(-0.91)	(-3.04)	(-2.51)
Observations	425,578	387,871	387,871
Country FE	NO	NO	NO
Industry FE	YES	YES	YES
Year FE	YES	YES	YES

Table 4: Earning Persistence across Countries

This table reports the results from the regressions: $IB_{t+1} = \alpha + \beta NI_t + \varepsilon_t$ where *NI* is the net income deflated by total assets in year t. The model is estimated for each country using pooled firm-year observations. Then firms are divided into two groups (profitable firms and loss firms) based on the sign of IB_t in year t, and the model is re-estimated for each group. Reported in brackets are the t-statistics based on standard errors adjusted for two-way clustering at both firm and year level. ***, ** and * indicate the coefficient is statistically significant at 1%, 5% and 10% level, respectively.

		The whole sample		Profitable firms		Loss firms	
Country	_NAME_	α	β	α	β	α	β
Argentina	Coeff	0.031	0.462	0.029	0.569	-0.014	0.352
	tValue	1.48	4.28	1.23	2.28	-0.26	7.00
Belgium	Coeff	0.015	0.625	0.031	0.529	0.097	0.567
	tValue	1.02	5.66	2.40	2.60	1.42	4.10
Brazil	Coeff	-0.025	0.674	-0.051	0.361	0.004	0.661
	tValue	-1.80	13.17	-2.34	3.30	0.06	11.82
Chile	Coeff	0.004	0.367	-0.012	0.591	-0.032	0.180
	tValue	0.20	3.69	-0.87	4.92	-0.51	1.79
China	Coeff	0.009	0.451	-0.012	0.869	-0.011	-0.145
	tValue	2.09	13.22	-1.66	19.46	-0.47	-3.99
France	Coeff	-0.002	0.560	0.007	0.661	-0.030	0.399
	tValue	-0.16	14.50	0.61	8.76	-1.37	7.21
Germany	Coeff	-0.017	0.502	0.014	0.529	-0.101	0.388
	tValue	-0.94	16.17	0.93	5.07	-3.16	9.77
Greece	Coeff	-0.015	0.512	-0.031	0.713	-0.021	0.334
	tValue	-0.41	8.36	-3.17	4.24	-0.35	5.32
Indonesia	Coeff	0.054	0.461	0.045	0.591	-0.023	0.226
	tValue	7.36	10.75	4.09	6.81	-0.46	3.16
Italy	Coeff	0.005	0.532	0.007	0.459	0.001	0.409
	tValue	0.93	6.80	1.13	2.86	0.09	5.09
Japan	Coeff	0.001	0.477	-0.003	0.711	-0.039	0.351
	tValue	0.14	18.19	-0.61	14.91	-1.80	8.45
Jordan	Coeff	-0.018	0.467	-0.021	0.694	-0.043	0.189
	tValue	-0.58	7.99	-0.48	6.25	-2.36	3.33
Kuwait	Coeff	-0.005	0.322	-0.038	0.411	0.017	0.127
	tValue	-0.28	5.94	-1.40	3.36	0.50	1.90
Mexico	Coeff	0.006	0.484	0.012	0.514	-0.022	0.212
	tValue	0.32	4.95	0.61	2.78	-1.25	2.68
Netherlands	Coeff	-0.073	0.649	0.023	0.464	-0.251	0.572
	tValue	-1.02	10.00	1.62	1.92	-2.29	6.04
Peru	Coeff	-0.026	0.805	-0.030	0.851	0.012	0.420
	tValue	-3.42	15.41	-3.52	12.75	0.55	2.49
Philippines	Coeff	0.019	0.438	0.013	0.331	0.030	0.331
	tValue	0.85	7.45	1.10	3.31	0.35	3.34
Poland	Coeff	0.002	0.373	-0.026	0.672	0.027	0.185
	tValue	0.16	9.28	-2.16	7.75	0.88	3.26
Spain	Coeff	-0.002	0.247	0.001	0.374	-0.033	0.054
	tValue	-0.14	1.84	0.09	1.37	-0.70	0.25

Switzerland	Coeff	-0.068	0.649	-0.310	0.834	-0.001	0.521
	tValue	-2.89	11.97	-2.61	12.07	-0.01	6.38
Taiwan	Coeff	0.008	0.603	0.001	0.877	-0.055	0.323
	tValue	0.81	30.36	0.18	22.26	-2.50	9.53
Turkey	Coeff	0.027	0.408	0.027	0.303	0.008	0.108
	tValue	2.24	3.13	1.87	1.67	0.18	0.75
Code Law countries	***Coeff***	***-0.003***	***0.503***	***-0.015***	***0.587***	***-0.022***	***0.307***
	tValue	***-0.53***	***18.33***	***-0.98***	***15.44***	***-1.61***	***7.61***
Australia	Coeff	-0.077	0.560	0.018	0.007	-0.178	0.515
	tValue	-1.64	45.82	1.05	0.13	-2.18	41.83
Canada	Coeff	-0.131	0.577	-0.272	0.261	-0.082	0.518
	tValue	-2.38	20.19	-2.18	2.22	-1.39	15.68
Denmark	Coeff	0.003	0.627	-0.030	0.725	0.018	0.499
	tValue	0.19	11.24	-0.94	5.87	0.44	7.16
Finland	Coeff	0.017	0.553	0.038	0.228	0.000	0.522
	tValue	1.72	7.52	1.69	0.69	0.01	6.15
Hong Kong	Coeff	0.004	0.469	0.011	0.469	-0.064	0.302
	tValue	0.37	22.11	1.44	8.98	-1.53	11.24
India	Coeff	0.010	0.590	0.004	0.654	-0.022	0.304
	tValue	0.75	28.23	0.19	18.08	-1.33	8.09
Israel	Coeff	-0.012	0.615	0.005	0.066	-0.013	0.604
	tValue	-0.99	13.08	0.56	0.44	-0.51	10.87
Malaysia	Coeff	0.011	0.479	-0.003	0.715	-0.001	0.279
	tValue	1.49	19.77	-0.42	11.82	-0.05	7.71
New Zealand	Coeff	0.123	0.759	0.007	0.787	0.178	0.713
	tValue	7.79	12.54	0.73	5.99	3.68	10.05
Norway	Coeff	-0.003	0.521	0.035	0.208	-0.050	0.509
	tValue	-0.23	8.73	2.15	1.06	-1.73	6.96
Pakistan	Coeff	0.025	0.683	0.025	0.797	0.026	0.349
	tValue	4.57	14.67	3.78	12.25	1.74	3.32
Singapore	Coeff	-0.019	0.504	-0.027	0.761	-0.067	0.295
	tValue	-1.45	16.32	-3.03	12.68	-2.09	5.90
South Africa	Coeff	0.054	0.290	0.067	0.306	-0.060	0.058
	tValue	2.95	6.43	4.12	3.46	-0.81	0.66
Sri Lanka	Coeff	0.026	0.707	0.032	0.713	-0.040	0.768
	tValue	2.25	11.47	2.42	7.26	-1.87	3.79
Sweden	Coeff	0.029	0.644	0.030	0.457	0.075	0.535
	tValue	1.91	22.02	1.33	3.27	1.21	14.36
Thailand	Coeff	-0.006	0.493	-0.013	0.629	-0.064	0.259
	tValue	-1.10	14.51	-2.26	11.28	-3.14	5.63
United Kingdom	Coeff	-0.043	0.668	-0.017	0.492	-0.086	0.587
	tValue	-2.06	51.41	-0.81	8.08	-2.04	36.31
United States	Coeff	-0.072	0.747	-0.053	0.611	-0.108	0.683
	tValue	-6.78	124.67	-3.75	23.80	-5.99	88.69
Scandinavia+Common law	***Coeff***	***-0.003***	***0.583***	***-0.008***	***0.494***	***-0.030***	***0.461***
	tValue	***-0.26***	***21.40***	***-0.46***	***8.15***	***-1.65***	***10.51***

Table 5 Investor Protection and Earnings Persistence

This table reports the results from the regressions: $NI_t = \alpha + \beta_1 NI_{t-1} + \beta_2 IP + \beta_3 NI_{t-1} \times IP + \varepsilon_t$ where *NI* is the net income deflated by total assets in year t, and IP is the measure of investor protection. Specifically, IP is measured by GOODLAW in Model 1, 2, and 3, by Rule of Law in Model 4, 5 and 6, and by Law Enforcement in Model 7, 8 and 9. All the variables are defined in Appendix A. The model is estimated for each country using pooled firm-year observations. Then firms are divided into two groups (profitable firms and loss firms) based on the sign of *NI* in year t-1, and the model is re-estimated for each group. Country-, industry- and year-fixed effects are included in the models. Reported in brackets are the t-statistics based on standard errors adjusted for two-way clustering at both firm and year level. ***, ** and * indicate the coefficient is statistically significant at 1%, 5% and 10% level, respectively.

	GOODLAW			*Judiciary Efficiency*			*Rule of Law*		
Variables	All Firms	Profit Firms	Loss Firms	All Firms	Profit Firms	Loss Firms	All Firms	Profit Firms	Loss Firms
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
IB_t	0.560***	0.773***	0.370***	0.377***	0.783***	0.076	0.382***	0.753***	0.088
	(30.77)	(25.90)	(16.03)	(8.62)	(12.46)	(1.03)	(10.26)	(14.18)	(1.49)
IP	-0.016***	0.017***	-0.009**	-0.057***	-0.010*	-0.026**	-0.061***	-0.012*	-0.029***
	(-7.58)	(5.74)	(-2.18)	(-17.91)	(-1.70)	(-2.29)	(-13.77)	(-1.87)	(-2.90)
$IB_t \times IP$	0.132***	-0.256***	0.246***	0.310***	-0.252***	0.542***	0.316***	-0.238***	0.546***
	(7.98)	(-7.19)	(9.75)	(6.32)	(-3.00)	(6.73)	(6.85)	(-2.96)	(7.81)
Constant	0.002*	0.002	-0.059***	0.039***	0.021***	-0.045***	0.040***	0.022***	-0.044***
	(1.65)	(0.80)	(-12.58)	(13.11)	(4.54)	(-4.37)	(10.07)	(5.45)	(-4.87)
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Obs	425,578	303,856	121,722	387,871	269,832	118,039	387,871	269,832	118,039
R^2	0.453	0.160	0.375	0.459	0.143	0.381	0.460	0.144	0.384

Table 6 Investor Protection, Accounting Losses and Earnings Persistence

This table examines the effect of investor protections and accounting losses on the persistence of net income. Dependent variables are NI_t, the net income deflated by total assets in year t. *IP* is the measure of investor protection. Specifically, IP is measured by GOODLAW in Model 1, by Rule of Law in Model 2, and by Law Enforcement in Model 3. All the variables are defined in Appendix A. The model is estimated for each country using pooled firm-year observations. Country-, industry- and year-fixed effects are included in the models. Reported in brackets are the t-statistics based on standard errors adjusted for two-way clustering at both firm and year level. ***, ** and * indicate the coefficient is statistically significant at 1%, 5% and 10% level, respectively.

VARIABLES	Legal Origin (1)	*Judiciary Efficiency* (2)	*Rule of Law* (3)
IB_t	0.789***	0.793***	0.767***
	(26.27)	(12.61)	(14.18)
IP	0.016***	-0.009	-0.013**
	(5.23)	(-1.51)	(-1.98)
$LOSS_t$	-0.025***	-0.018*	-0.024***
	(-9.31)	(-1.92)	(-4.07)
$IB_t \times IP$	-0.256***	-0.245***	-0.236***
	(-7.18)	(-11.13)	(-10.77)
$IB_t \times LOSS_t$	-0.399***	-0.737***	-0.694***
	(-10.08)	(-9.58)	(-9.19)
$IP \times LOSS_t$	-0.033***	-0.032***	-0.029***
	(-8.05)	(-2.75)	(-3.32)
$IB_t \times IP \times LOSS_t$	0.508***	0.832***	0.823***
	(12.08)	(8.61)	(8.38)
Constant	-0.007**	0.009**	0.013***
	(-2.42)	(2.11)	(2.79)
Country FE	YES	YES	YES
Industry FE	YES	YES	YES
Year FE	YES	YES	YES
Obs	425,578	387,871	387,871
R^2	0.461	0.465	0.467

Table 7 Dividends and Earnings Persistence

This table reports the effect of dividend payments on the persistence of earnings. The dependent variables are the net income deflated by total assets in year t (NI_t). All the variables are defined in Appendix A. The model is estimated for each country using pooled firm-year observations. Then firms are divided into two groups (profitable firms and loss firms) based on the sign of *NI* in year t-1, and the model is re-estimated for each group. Country-, industry- and year-fixed effects are included in the models. Reported in brackets are the t-statistics based on standard errors adjusted for two-way clustering at both firm and year level. ***, ** and * indicate the coefficient is statistically significant at 1%, 5% and 10% level, respectively.

	All firms	Profit firms	Loss firms
VARIABLES	(1)	(2)	(3)
IB_t	0.638***	0.444***	0.570***
	(37.62)	(12.60)	(33.97)
DIV_t	0.029***	-0.009***	0.023***
	(15.89)	(-3.55)	(7.40)
$IB_t \times DIV_t$	0.068***	0.412***	-0.418***
	(3.59)	(11.50)	(-16.34)
Constant	-0.034***	0.012***	-0.096***
	(-12.97)	(4.33)	(-19.48)
Country FE	YES	YES	YES
Industry FE	YES	YES	YES
Year FE	YES	YES	YES
Obs	425,578	303,856	121,722
R^2	0.460	0.182	0.382

Table 8 Investor Protection, Dividends and Earnings Persistence

This table examines the effect of investor protections and dividends on the persistence of net income. Dependent variables are NI_t, the net income deflated by total assets in year t. *IP* is the measure of investor protection. Specifically, IP is measured by GOODLAW in Model 1, 2, and 3, by Rule of Law in Model 4, 5 and 6, and by Law Enforcement in Model 7, 8 and 9. All the variables are defined in Appendix A. The model is estimated for each country using pooled firm-year observations. Then firms are divided into two groups (profitable firms and loss firms) based on the sign of *NI* in year t-1, and the model is re-estimated for each group. Country-, industry- and year-fixed effects are included in the models. Reported in brackets are the t-statistics based on standard errors adjusted for two-way clustering at both firm and year level. ***, ** and * indicate the coefficient is statistically significant at 1%, 5% and 10% level, respectively.

	GOODLAW			*Judiciary Efficiency*			Law Enforcement		
	All firms	Profit firms	Loss firms	All firms	Profit firms	Loss firms	All firms	Profit firms	Loss firms
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
IB_t	0.543***	0.716***	0.370***	0.305***	0.791***	0.080	0.265***	0.629***	0.093
	(29.99)	(22.44)	(15.47)	(6.59)	(11.43)	(1.06)	(6.08)	(9.37)	(1.54)
IP	-0.034***	0.013***	-0.012***	-0.086***	-0.003	-0.046***	-0.070***	-0.003	-0.043***
	(-14.13)	(3.90)	(-2.81)	(-20.28)	(-0.46)	(-3.97)	(-12.90)	(-0.46)	(-4.07)
DIV_t	-0.012***	-0.015***	0.008**	-0.043***	0.006	0.034**	-0.030***	-0.002	0.013
	(-6.10)	(-7.34)	(2.40)	(-6.05)	(0.97)	(1.98)	(-6.09)	(-0.31)	(1.01)
$IB_t \times DIV_t$	0.238***	0.221***	-0.145***	0.798***	0.096	0.614	0.729***	0.238***	0.423
	(6.70)	(6.79)	(-3.10)	(9.59)	(1.21)	(0.96)	(10.53)	(2.89)	(1.19)
$DIV_t \times IP$	0.049***	-0.002	0.022***	0.078***	-0.025***	-0.009	0.065***	-0.020***	0.014
	(24.86)	(-0.65)	(4.72)	(9.80)	(-3.46)	(-0.45)	(11.22)	(-2.71)	(0.83)
$IB_t \times IP$	0.125***	-0.389***	0.245***	0.358***	-0.462***	0.534***	0.415***	-0.297***	0.537***
	(6.78)	(-8.49)	(9.35)	(6.78)	(-4.61)	(6.51)	(7.86)	(-2.92)	(7.57)
$IB_t \times DIV_t \times IP$	-0.209***	0.301***	-0.293***	-0.767***	0.440***	-1.055	-0.742***	0.296***	-0.899**
	(-5.92)	(6.39)	(-4.85)	(-8.29)	(4.25)	(-1.63)	(-8.39)	(2.62)	(-2.31)
Constant	0.003**	0.007***	-0.061***	0.049***	0.017***	-0.032***	0.033***	0.019***	-0.037***
	(2.41)	(3.22)	(-12.78)	(14.71)	(3.28)	(-3.04)	(6.99)	(4.18)	(-4.05)
Country FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Obs	425,578	303,856	121,722	387,871	269,832	118,039	387,871	269,832	118,039
R^2	0.457	0.184	0.380	0.464	0.171	0.386	0.465	0.170	0.388

Figure 1 Percentage of Loss Firms over Time

This figure reports the time-series of the percentage of firms reporting negative net income in countries divided by their legal origin.