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How do creditors respond to disclosure quality? Evidence from corporate dividend payouts

Julie Byrne [a], Thomas O'Connor [b,*]

[a] UCD Smurfit Graduate Business School, University College Dublin, Carysfort Avenue, Blackrock, Co. Dublin, Ireland
[b] Department of Economics, Finance and Accounting, Maynooth University, National University of Ireland Maynooth, Maynooth, Co. Kildare, Ireland

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ABSTRACT

Using a sample of 17,544 firms from 28 countries we explore how creditors influence dividend payouts in various disclosure regimes. Poorly-protected creditors do not restrict the practice by firms in opaque regimes of using large dividend payouts to build reputation capital, and place few restrictions on dividend payouts in transparent regimes. In intermediate disclosure regimes creditors place large restrictions on dividend payouts. Dividend payouts are always largest in transparent regimes. Our findings say that the disclosure standards versions of the outcome and substitution agency models of dividends are not mutually-exclusive, and are as effective under weak as they are under strong creditor rights.

1. Introduction

Shleifer and Vishny (1997, pp. 737) define corporate governance as "the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment". Investors can attempt to safeguard their investment by monitoring the firms they invest in. However, effective monitoring is part influenced by the accounting standards which determine the amount and accuracy of corporate disclosures. Where corporations provide abundant, accurate and timely disclosures, agency costs of debt and equity are low (see Botosan, 1997; Sengupta, 1998). In contrast, where disclosure environments are opaque, agency costs arise between corporate insiders and outsiders (see Atanasov et al., 2007).

Creditors modify loan contracts to account for poor enforceability of contracts, weak creditor rights, and information asymmetry. Bae and Goyal (2009) show that banks reduce the loan amount, decrease loan maturity, and increase the cost of debt capital where loan contract violations are poorly enforced. In this paper we examine whether creditors take steps beyond modifying the loan contract and examine if and to what extent they shape corporate dividend payout policies in various disclosure regimes. Brockman and Unlu (2009) explore the relationship between dividend payout and creditor rights. Creditors permit large dividend payouts where their legal rights are strong, yet poorly-protected creditors restrict dividend payouts (the substitution hypothesis). Brockman and Unlu (2011) show that the dividend-disclosure relationship is neither positive (the agency "outcome" model says the dividend-disclosure relationship is positive) nor negative (the agency

* Corresponding author.
E-mail address: Thomas.g.oconnor@nuim.ie (T. O'Connor).

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"substitution" model says the dividend-disclosure is negative), but "u-shaped". In opaque regimes, growth firms substitute poor country-level disclosure standards with "reputation capital", which is achieved by establishing a history of paying large dividends over time to "convince shareholders that it will invest properly and for their benefit" (see Claessens and Yurtoglu, 2013, pp. 21; Gan et al., 2014). In transparent regimes where outsiders can better observe managerial actions and corporate profitability, dividend payouts are an outcome of strong disclosure standards. Where disclosure standards are neither strong nor weak, dividend payouts are much lower, a result which Brockman and Unlu (2011) do not try to explain.[1]

In this paper we seek to provide the answers to three questions which arise in light of the collective findings of Brockman and Unlu (2009, 2011). First, if growth firms in opaque disclosure regimes use large dividend payouts to build trust with outside investors; will they still be able to do so given weak creditor rights? In other words, does the disclosure standards version of the agency substitution model of dividends hold under weak creditor rights?[2] To the best of our knowledge, no study to-date has conclusively tested either version (legal rights or accounting standards) of the agency substitution models of dividends inclusive of the agency costs of debt. Studies which do find a negative dividend–shareholder rights relationship are very often single-country dividend-corporate governance studies (see Jiraporn and Ning, 2006; Chae et al., 2009). These studies make it impossible to test the creditor rights inclusive agency substitution model of dividends, as creditor rights are constant within countries.[3] In an international multi-country setting where creditor rights vary across countries, Brockman and Unlu (2011) present strong evidence in favour of the disclosure standards version of the substitution model, which makes tests of this model inclusive of the agency costs of debt possible.

Second, we examine if the disclosure standards version of the outcome model of dividends holds under weak creditor rights? Byrne and O'Connor (2012) and Shao et al. (2013) show that the shareholder rights version of the outcome model of dividends is most effective under strong shareholder and strong creditor rights; dividend payouts are reduced where shareholder rights are strong (the shareholder rights outcome model of dividends), yet creditor rights weak (the creditor rights substitution model of dividends). Tests of the disclosure standards version of the outcome model of dividends inclusive of the agency costs of debt have yet to be performed.

Finally, we test the dividend-creditor rights relationship in intermediate disclosure regimes to test whether the low dividend payouts which we observe in intermediate regimes are caused by the inclusion of firms from Canada and the U.S., where dividend payouts are low, but crucially, creditor rights weak.

We argue that the answer to the first question is not obvious since there are valid reasons why creditors may not restrict dividend payouts in opaque disclosure regimes. The bonding costs borne by reputation-building firms may be sufficiently large to offset the agency costs of debt associated with poor creditor rights and/or weak disclosure standards and build trust with creditors. Large stable dividend payouts paid over time can built trust with creditors and reduce the agency costs of debt if they; first, reduce the agency costs of free cash flow and the risk of overinvestment which can reduce creditors' claims on firm assets (see Jensen, 1986); second, the issue of new shares expose firms to the additional scrutiny of capital markets (see Easterbrook, 1984); and third, if reputation building increases the market value of the firm and in turn the market value of the firm's debt holdings (see Handjinicolaou and Kalay, 1984). Therefore in opaque regimes creditors may view large dividend payouts as beneficial to their own needs and may not restrict dividends payouts given weak creditor rights.

In relation to the second question, we hypothesize that poorly-protected creditors may not place large restrictions on dividend payouts in transparent regimes as they do in strong shareholder rights regimes. This is because they may view strong disclosure laws as a viable substitute for weak creditor rights. Strong shareholder rights likely benefit shareholders alone, yet strong disclosure laws reduce the agency costs of debt and equity.[4] Therefore, even given weak legal rights, creditors may not restrict dividend payouts to reduce agency costs of debt since abundant disclosures may already serve to do so. In this regard, strong disclosure laws may moderate the dividend–creditor rights relationship and reduce the need for creditors to use dividend payouts to substitute for weak creditor rights.

Finally, the agency models of dividends say that dividend payouts should either increase (the outcome model) or decrease (the substitution model) as disclosure quality improves, resulting in dividend payouts that are lowest in either weak (outcome model) or strong (substitution model) disclosure regimes, respectively. These models, which have yet to consider the strength of creditor rights, offer no reason for why dividend payouts are actually lowest in intermediate disclosure regimes. The asymmetric dividend payout models can offer no explanation either. The theoretical work of Miller and Rock (1985) and others say that dividend payouts have information content under the assumption of an information asymmetry between insiders and outsiders. These models predict that dividend payouts should be lowest in transparent regimes because the information content of dividend payouts is at its lowest here because of the abundant disclosures which enrich the information environment (see Howe and Lin, 1992; Li and Zhao, 2008). Therefore, neither the asymmetric or agency models of dividends can explain why dividend payouts are lowest in intermediate disclosure regimes. In this paper we consider an

[1] Studies prior to Brockman and Unlu (2011), and beginning with La Porta et al. (2000), test the outcome and substitution agency models of dividends by exploring the relationship between dividend payouts and the strength of shareholder rights (legal rights).

[2] The idea that firms can build capital market reputation using dividend payout is not new. Campbell and Turner (2011) find evidence to support the agency substitution model of dividends in Victorian Britain. Agarwal (2013) finds support in favour of the outcome model in early 1900s United States.

[3] Another problem with these single country studies is that their findings appear to be influenced by the corporate governance measured used. Jiraporn and Ning (2006) and Chae et al. (2009) find support in favour of the substitution model. Also using U.S. firms, but different corporate governance measures, Jiraporn et al. (2011) find support in favour of the outcome model of dividends.

[4] Klock et al. (2005) and Cremers et al. (2007) present for evidence from the U.S. which suggests that bondholders frown upon strong shareholder rights. Botosan (1997) and Sengupta (1998) show that the cost of debt and equity capital is inversely related to disclosure standards.

alternative explanation. We explore the possibility that the low dividend payouts that we observe in intermediate regimes are caused by the inclusion of firms from Canada and the U.S., where dividend payouts are low, but crucially, creditor rights weak.

We seek to answer these three questions using a sample of 17,544 firms from 28 countries. Our tests are possible because there is variation in creditor rights and disclosure standards in each disclosure and creditor rights regime, respectively. We use Djankov et al.'s (2007) creditor right index and the CIFAR (1995) disclosure index to capture the strength of creditor rights and accounting standards, respectively. We divide our sample of firms into one of three disclosure regimes, namely, high, medium, and low, and proceed to estimate the dividend-creditor rights relationship in each regime. A priori, if poorly-protected creditors restrict dividend payouts, then we should observe a pronounced positive dividend payout-creditor rights relationship. If they either do not or place few restrictions on dividend payouts, then we should observe that the dividend-creditor rights relationship is much less pronounced, and possibly even negative.

Cho et al. (2014, pg. 40) observe that the "literature on the role of creditor protection in corporate financing is in its infancy". We believe our findings advance this literature in a number of important respects. First, we find that in opaque regimes dividend payouts are larger, not smaller, given weak creditor rights, resulting in a negative dividend-creditor rights relationship. For whatever reasons, poorly-protected creditors allow firms to pay large dividends. The result is that the disclosure standards version of the substitution model of dividends holds regardless of the strength of creditor rights. Second, the disclosure standards version of the outcome model of dividends is as effective under weak as it is under strong creditor rights; dividends remain the largest in transparent regimes regardless of the strength of creditor rights. The result is a positive, yet moderate dividend-creditor rights relationship in high disclosure regimes. Rich disclosures appear to moderate the dividend-creditor rights relationship. Byrne and O'Connor (2012) and Shao et al. (2013) find that dividend payouts are large under strong creditor and shareholder rights, yet are much reduced given weak creditor rights. The findings from this paper, together with those of Byrne and O'Connor (2012) and Shao et al. (2013), suggest that creditors view strong disclosure standards, but not strong shareholder rights, as beneficial to their own interests. Third, and in line with our prior expectations, it is only in intermediate disclosure regimes where poorly-protected creditors place large restrictions on dividend payouts. The substitution model of dividends espoused by Brockman and Unlu (2009) is most evident in intermediate disclosure regimes since it is here that we observe the strongest dividend-creditor rights relationship. Where creditor rights are strong, dividend payouts in intermediate disclosure regimes are larger than they are under weak creditor rights.

Finally, the dividend-creditor rights relationships have important implications for the relationship between dividends and disclosure quality. Our findings show that the "u-shaped" dividend payout-disclosure relationship manifests in weak creditor rights regimes alone. Where creditor rights are strong, the dividend payout is an outcome of strong disclosure standards; we observe a positive monotonic relationship between dividend payouts and disclosure standards. However, dividend payouts remain sufficiently large in opaque regimes, so that the agency substitution model continues to hold. Therefore, under both strong and weak creditor rights, the disclosure standards versions of the outcome and substitution models of dividends hold.

The remainder of the paper is organised as follows. The next section describes the sample and variables used in the study. Section 3 analyses our findings, while Section 4 concludes.

2. Data and variable descriptions

We collect firm-level data from Worldscope over the period from 1996 to 2007. Brockman and Unlu (2011) use the same sampling period. Our sample of firms consists of 17,544 firms from 28 countries. We arrive at this final sample after eliminating all firms trading in socialist countries i.e., China, Poland, and Hungary, firms trading in Luxembourg, and firms from countries with mandatory dividend policies i.e., Brazil, Chile, Colombia, Greece, and Venezuela. We exclude all firms from the financial and utility industries using the general industry classification codes from Worldscope, and all firm-years with missing or abnormal data i.e. firms with negative net income (earnings), negative total assets, and negative cash flow. To be included in our final sample we require all firms to have at least three years of financial data.

Our two main variables of interest are country-level measures of creditor rights and accounting/disclosure standards. We source creditor rights from Djankov et al. (2007) and use values for the year 2002.[5] The creditor rights measure is constructed by summing four dummy variables. These are; "no automatic stay on assets", which is 1 if there is no automatic stay on assets; "secured first" which is 1 if secured creditors are given priority during the bankruptcy process; "restrict reorganization" which is 1 if management cannot file for reorganization unilaterally, and "management no stay" equals 1 if either creditors or the courts have the option to change the incumbent management team during bankruptcy proceedings. Creditor rights ranges from zero to four with higher values representing greater levels of legal creditor protection. We use the CIFAR (1995) country-level disclosure index which we source from Hope et al. (2007). This disclosure index is formed by examining and rating companies' annual reports for their inclusion and exclusion of 85 items and ranges from 0 to 100 with 100 being the highest standard.

Creditor rights and disclosure standards are reported for each country in Table 1. Legal protection of creditors is particularly strong in Hong Kong and New Zealand, but much less so in France, and Mexico. Country-level disclosure ranges from a low of 58 in Turkey to a high of 85 in the United Kingdom. Crucial to our analysis is that there is variation in the strength of

[5] We find that our main findings remain qualitatively unchanged when we use creditor rights from different years in our regressions.

Table 1
Sample description. This table reports the final sample by country. Average dividend payout is reported for each country. Dividend payout is dividends-to-cash flow (Div-CF), dividends-to-earnings (Div-E), dividends-to-assets (Div-A), and dividends-to-net sales (Div-S), as indicated. Payout data is sourced from Worldscope. Creditor rights are an index aggregating creditor rights, following La Porta et al. (2000), and ranges from 0 (weak creditor rights) to 4 (strong creditor rights). Disclosure is a country-level accounting disclosure score assigned by Center for International Financial Analysis and Research (CIFAR). It ranges from 0 to 100, where higher values correspond to more disclosures. Rank denotes high, medium, or low disclosure. We use uncertainty avoidance (UA) to capture cultural influences on dividend payout. DTA is dividend tax advantage, SMD is stock market development, "Div Prem" is dividend premium, and Rev ADR is the (revised) anti-director rights index. All country-level variables are defined in Appendix A.

	Sample		Dividend payout measures				Creditor rights	Disclosure		Culture	Additional country-level variables				
	# Obs	# Firms	Div-CF	Div-E	Div-A	Div-S		Score	Rank	UA	DTA	SMD	Div prem	Rev ADR	Labor rights
Argentina	324	47	0.07	0.12	0.015	0.013	1	68	Low	86	1.000	38.58	1.24	2	0.344
Australia	4486	778	0.19	0.28	0.021	0.017	3	80	High	51	0.837	110.06	0.95	4	0.352
Austria	406	54	0.13	0.28	0.014	0.013	3	62	Low	70	0.750	23.30	0.79	2.5	0.501
Belgium	566	81	0.12	0.25	0.017	0.015	2	68	Low	94	0.850	68.27	0.95	3.0	0.513
Canada	5286	828	0.05	0.08	0.010	0.006	1	75	Medium	48	0.791	107.40	0.81	4	0.262
Denmark	838	101	0.12	0.21	0.013	0.010	3	75	Medium	23	0.639	57.90	0.90	4	0.573
Finland	563	88	0.23	0.39	0.027	0.020	1	83	High	59	1.078	130.08	1.06	3.5	0.737
France	3957	590	0.12	0.22	0.012	0.011	0	78	High	86	0.657	79.47	0.99	3.5	0.744
Germany	4054	595	0.11	0.22	0.013	0.010	3	67	Low	65	0.728	47.11	1.07	3.5	0.702
Hong Kong	4988	739	0.15	0.20	0.017	0.016	4	73	Medium	29	1.000	339.12	0.83	5	0.170
India	3597	510	0.16	0.23	0.020	0.019	2	61	Low	40	0.744	47.40	1.49	5	0.443
Ireland	394	46	0.14	0.19	0.012	0.011	1	81	High	35	0.611	59.74	0.75	5	0.343
Italy	1259	176	0.12	0.26	0.013	0.015	2	66	Low	75	0.873	44.62	1.07	2	0.650
Japan	24,276	3333	0.12	0.26	0.010	0.007	1	71	Low	92	0.580	78.06	0.92	4.5	0.164
Korea	5031	783	0.08	0.16	0.010	0.008	3	68	Low	85	0.690	55.46	0.82	4.5	0.446
Malaysia	4846	748	0.13	0.20	0.012	0.015	3	79	High	36	1.000	141.56	0.96	5	0.189
Mexico	713	96	0.08	0.14	0.011	0.011	0	71	Low	82	1.000	23.41	1.24	3	0.594
Netherlands	1141	136	0.18	0.30	0.016	0.011	3	74	Medium	53	0.700	113.96	0.82	2.5	0.726
Norway	799	120	0.11	0.18	0.014	0.013	2	75	Medium	50	1.075	44.73	0.89	3.5	0.685
New Zealand	479	72	0.32	0.48	0.039	0.028	4	85	High	49	1.009	39.54	1.07	4	0.161
Singapore	3223	516	0.17	0.24	0.016	0.016	3	79	High	8	0.971	185.63	0.94	5	0.312
Spain	795	101	0.16	0.28	0.021	0.018	2	72	Medium	86	0.851	71.37	0.94	5	0.745
Sweden	1491	239	0.17	0.24	0.019	0.014	1	83	High	29	0.757	104.83	0.87	3.5	0.741
Switzerland	1454	174	0.13	0.24	0.014	0.014	1	80	High	58	0.585	229.64	1.04	3	0.452
Thailand	2535	347	0.18	0.28	0.023	0.020	2	66	Low	64	1.029	51.56	0.99	4	0.410
Turkey	920	165	0.11	0.19	0.016	0.012	2	58	Low	85	0.617	22.40	1.13	3	0.403
Utd Kingdom	9702	1369	0.16	0.25	0.018	0.015	4	85	High	35	0.857	141.99	0.82	5	0.282
United States	36,726	4712	0.04	0.06	0.005	0.004	1	76	Medium	46	0.703	135.07	0.85	3	0.218
	124,849	17,544													

creditor rights within each disclosure regime. If we classify three disclosure regimes as follows: low disclosure with disclosure scores ranging from 58 to 71, medium disclosure (72 to 76), and high disclosure (78 and above), creditor rights range from 0 to 4, 1 to 4, and 0 to 3, in each of these regimes, respectively.

We use five dividend payout ratios; dividends-to-cash flow, dividends-to-earnings, dividends-to-assets, dividends-to-sales, and dividend-payer. Dividend-payer equals 1 if the firm pays a dividend in year t and zero otherwise. Dividends vary across countries. They are large in New Zealand and Finland, yet much smaller in the United States and Canada. Table 1 also reports the number of firm-years and the number of firms by country. The United States, Japan, and the United Kingdom contribute the largest number of firms which is common in these types of studies.

3. Empirical analysis

In this section we first examine the relationship between dividend payout, creditor rights, and disclosure quality. Then having confirmed the findings from Brockman and Unlu (2009, 2011), we proceed to explore the dividend-creditor rights relationship in low, medium, and high disclosure regimes, and the dividend-disclosure relationship by strength of creditor rights regimes, respectively. We begin by estimating Eq. (1) using pooled ordinary least squares:

$$\begin{aligned} DIV-PAYOUT_{it} = {} & \alpha_1 + \alpha_2 CREDITOR_{it} + \alpha_3 DISCLOSURE_{it} + \alpha_4 DISCLOSURE_{it}^2 + \alpha_5 CULTURE_{it} + \alpha_6 DIV \\ & - PREMIUM_{it} + \beta X_{it} + Year_t + Industry_i + e_{it} \end{aligned} \quad (1)$$

Like Brockman and Unlu (2011), in Eq. (1) we include disclosure together with its square (disclosure^2). The inclusion of the disclosure-square term by Brockman and Unlu (2011) appears not to be motivated by theory, but rather by the existence of a "u-shaped" relationship between dividend payout and disclosure quality which is evident from the summary measures which they present in their paper. Eq. (1) is estimated using dividends-to-cash flow and dividends-to-earnings, as indicated.

We include firm-level controls, namely size, growth opportunities, leverage, and profitability in all regressions.[6] We also include a proxy for the dividend premium which captures investor's appetite for dividend paying stocks.[7] Each regression also includes a single country-level culture measure, namely uncertainty avoidance which we expect to be negatively related to dividend payout (see Hofstede, 1980, 2001).[8] Time and industry dummies are included but not reported. In all regressions, the standard errors are clustered by firm (see Petersen, 2009).[9]

Table 2 presents our coefficient estimates. Here we present three separate regressions. First, we explore the relationship between dividend payout and creditor rights alone. Next, we replace creditor rights with disclosure and disclosure-squared. In the third regression, creditor rights, disclosure, disclosure-squared are included simultaneously along with a full set of firm- and country-level controls, industry and time dummies. In all three regressions, the estimated coefficients on the creditor rights variable are positive and significant coefficient. They range from 0.028*** to 0.031*** using dividends-to-cash flow and 0.031*** to 0.046*** using dividends-to-earnings, and confirm the (creditor) substitution hypothesis of Brockman and Unlu (2009).

Brockman and Unlu (2011) find that the dividend-disclosure relationship is "u-shaped". We confirm that finding here. The estimated coefficient for disclosure is negative (−0.086*** and −0.021*** using dividends-to-cash flow) and positive on the disclosure-squared variable (0.001*** and 0.001***) indicating that large dividends are paid in the most opaque and transparent regimes. Dividend payouts are much lower in intermediate disclosure regimes, a finding which we attempt to explain in the next section.

In the bottom rows of Table 2 we replace disclosure and disclosure-squared with a series of dummy variables which capture low (reference-dummy), medium, and high disclosure regimes, respectively.[10] When we use these disclosure dummy variables the same "u-shaped" relationship between dividend payout and disclosure standards emerges. The coefficient estimates on the "Medium disclosure" dummy are always statistically negative. In contrast, the coefficient estimates on the "High disclosure" dummy is positive and statistically significant which suggests that dividend payouts are largest in the most-transparent regimes.[11]

With respect to the firm-level control variables, all are statistically significant and of the expected sign. Large, profitable firms, with low leverage and low growth opportunities pay large dividends. The coefficient estimates for dividend premium are positive, as expected. We do not find that dividend payout is negatively related to uncertainty avoidance as others do.[12]

3.1. Summary measures

In this section we take a first look at how creditors influence corporate dividend payouts in the different disclosure regimes. Consider Fig. 1. The top panel presents the average dividend payout ratio in each disclosure regime where creditor rights are weak and strong. The bottom panel presents each disclosure regime separately, and outlines the average dividend payout in each regime also by strength of creditor rights. Creditor rights are deemed weak one if the creditor right score is at or below the sample median of 2.

In low disclosure regimes average dividend payouts are actually larger, not smaller, where creditor rights are weak. Average dividends-to-cash flow is 12% and 9% under weak and strong creditor rights, respectively. These summary payout measures suggest that creditors do not restrict firms in opaque regimes from using large dividends to build trust with outside investors.

Dividends payouts are larger, but only marginally so, in transparent regimes where creditor rights are strong. The average dividend paid is 25% of earnings where creditor rights strong and 24% where creditor rights are weak. Poorly-protected creditors place fewer restrictions on dividend payouts in transparent disclosure regimes than they do where shareholder rights are strong (see Byrne and O'Connor, 2012; Shao et al., 2013). As a result, dividend payouts are always larger in transparent regimes, irrespective of the strength of creditor rights.

Finally, poorly-creditors place the largest restrictions on dividend payouts in intermediate disclosure regimes; the average firm pays out 22% of its earnings where creditor rights are strong, yet only 7% where creditor rights are weak. These summary measures lend support to our contention that the low dividend payouts which we observe in intermediate disclosure regimes are the result of poorly-protected creditors placing large restrictions on dividend payouts in these regimes.

[6] We use log assets to proxy for firm size in all dividend regressions where dividends to earnings or dividends to cashflow are the dependent variables. Where we use dividends to assets (sales), we use sales (assets) as the firm size proxy.

[7] The dividend premium is measured on an annual basis for each country and is computed as the ratio of the average market-to-book ratio of dividend paying firms to the average market-to-book ratio of non-paying firms. We expect the coefficient for dividend premium to be positive (see Baker and Wurgler, 2004).

[8] Our findings remain qualitatively the same if we include other culture measures e.g., individualism.

[9] A detailed description of each of these firm- and country-level control variables is provided in Appendix A.

[10] The "low disclosure" dummy includes firms from countries whose disclosure scores are less than 71; "medium disclosure" uses disclosure scores between 72 and 76, and "high disclosure" includes all firms from countries with a disclosure score of 78 and over. We classify the disclosure regimes as we do because it results in us to having roughly the same number of countries in each disclosure regime (11 in the low disclosure regime, 7 in the middle, and 10 in the high regime), and secondly, have sufficient variation in creditor rights within each disclosure regime.

[11] Along similar lines, Masters et al. (2016) show that contrary to conventional wisdom, financially constrained firms pay dividends to increase external financing capacity since larger dividends reduce the costs associated with raising equity in a seasoned offering.

[12] Bae et al. (2012) and Fidrmuc and Jacob (2010) show that low uncertainty avoidance is significantly associated with higher dividend payouts.

Table 2
Dividend payout, creditor rights and disclosure quality. This table reports coefficient estimates from pooled ordinary least squares regressions with t-stats adjusted for clustering at the firm level presented underneath in parenthesis. The sample period is 1996–2007. The dependent variable is either dividends-to-cash flow or dividends-to-earnings, as indicated. Creditor rights are an index aggregating creditor rights, following La Porta et al. (2000), and ranges from 0 (weak creditor rights) to 4 (strong creditor rights). Creditor rights data is sourced from Djankov et al. (2007). Disclosure is a country-level accounting disclosure score assigned by Center for International Financial Analysis and Research (CIFAR). It ranges from 0 to 100, where higher values correspond to more disclosures. In the top panel, "Disclosure" and "Disclosure^2" are included in each regression. In the bottom panel, we create separate dummy variables for each disclosure regime, where the reference group is the "Low disclosure" regime. Uncertainty avoidance measures culture and is sourced from Hofstede (2001). All other variables are defined in the main text and summarized in Appendix A. A full set of year and industry fixed effects are included but not reported, and ***, **, and * denotes statistical significance at the 1, 5, and 10% levels, respectively.

	Dependent variable is					
	Dividends-to-cash flow			Dividends-to-earnings		
Creditor rights	0.028***		0.031***	0.031***		0.046***
	(29.20)		(26.19)	(22.73)		(28.36)
Disclosure		−0.086***	−0.021***		−0.112***	−0.034***
		(24.90)	(4.99)		(22.06)	(5.73)
Disclosure^2		0.001***	0.001***		0.001***	0.001***
		(25.00)	(5.63)		(21.65)	(6.55)
Size			0.013***			0.025***
			(26.99)			(36.84)
Growth			−0.016***			−0.020***
			(15.11)			(13.82)
Leverage			−0.078***			−0.089***
			(27.91)			(20.92)
Profitability			0.031***			0.027***
			(17.43)			(11.52)
Tobin's *q*			0.010***			−0.001
			(9.43)			(0.41)
Uncertainty avoidance			0.001***			0.002***
			(14.59)			(30.79)
Dividend premium			0.104***			0.157***
			(17.15)			(17.72)
Industry and time dummies	Included	Included	Included	Included	Included	Included
# firm-year observations	124,849	124,849	124,849	124,849	124,849	124,849
R-squared	0.053	0.040	0.147	0.032	0.030	0.172
Medium disclosure dummy		−0.061***	−0.041***		−0.150***	−0.086***
		(30.82)	(8.29)		(48.62)	(12.48)
High disclosure dummy		0.042***	0.032***		0.010*	0.034***
		(15.01)	(7.60)		(1.85)	(5.68)
Industry and time dummies		Included	Included		Included	Included
Controls		Included	Included		Included	Included
Average div in low disclosure		0.12			0.24	

The differing reactions of poorly-protected creditors' in each disclosure regime results in different dividend–creditor rights relationships in each, and also different dividend–disclosure relationships in weak and strong creditor rights regimes, respectively. The dividend–creditor rights relationship is positive in intermediate and high disclosure regimes, yet dividends are much more sensitive to creditor rights in the former. The dividend–creditor rights relationship is negative in low disclosure regimes. In opaque disclosure regimes, creditors do not restrict dividend payouts given weak legal standing. Rather, dividend payouts are larger under weak creditor rights giving rise to a negative dividend–creditor rights relationship.

The dividend–disclosure relationship is "u-shaped" but only under weak creditor rights; dividends are large in opaque and transparent regimes, yet much lower in intermediate disclosure regimes. Where creditor rights are strong the dividend–disclosure relationship is positive as dividend payouts increase with disclosure standards. Where creditor rights are strong, dividend payouts are much larger in intermediate disclosure regimes. Finally, dividend payouts are the largest in high disclosure regimes where creditor rights are strong.

In the next section we examine if these same relations persist once we control for firm- and country-level determinants of corporate dividend payouts.

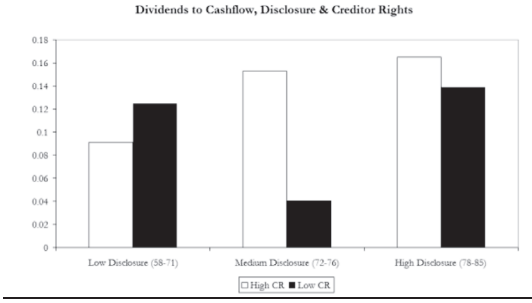
3.2. The "dividend payout–creditor rights" relation in each disclosure regime

In Table 3 we estimate the dividend–creditor rights relationship in each disclosure regime. The top panel uses the creditor rights index. The bottom panel uses a low creditor rights dummy which is one if the country-level creditor right score is at or below the sample median of 2. The analysis presented in Table 3 largely confirms what we found in Fig. 1. First, the dividend–creditor rights relationship is positive in high and intermediate disclosure regimes, yet the relationship is much more pronounced in intermediate disclosure regimes. For example, using dividends-to-cash flow the coefficient estimate on the

Dividend payout, disclosure standards and the strength of creditor rights

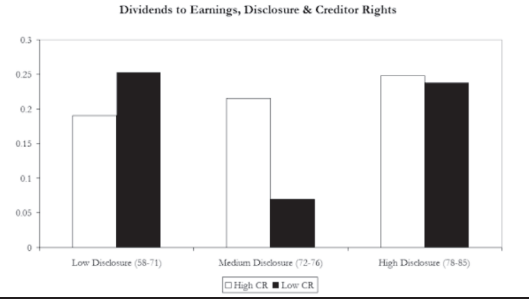
Panel A: Dividend payout, disclosure standards and the strength of creditor rights

Dividends-to-cash flow



	Disclosure level		
	Low	Medium	High
High CR	0.09	0.15	0.16
Low CR	0.12	0.04	0.14
Difference	***	***	***

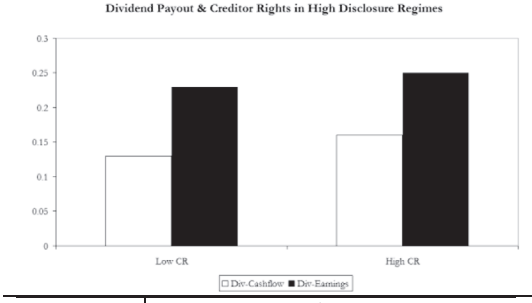
Dividends-to-earnings



	Disclosure level		
	Low	Medium	High
High CR	0.19	0.22	0.25
Low CR	0.25	0.07	0.24
Difference	***	***	**

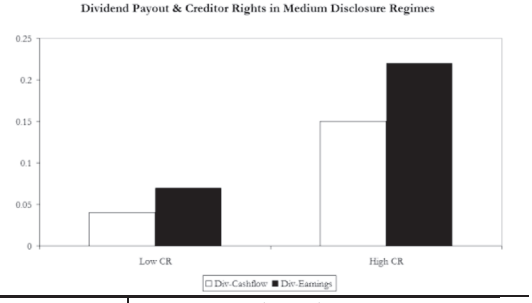
Panel B: Dividend payout and creditor rights by disclosure level

High disclosure



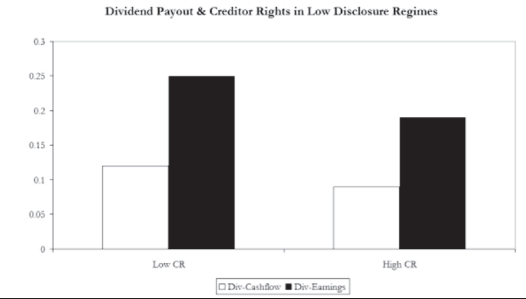
	High disclosure		
	High CR	Low CR	Difference
Div-CF	0.16	0.14	***
Div-Earn	0.25	0.24	***

Medium disclosure



	Medium disclosure		
	High CR	Low CR	Difference
Div-CF	0.15	0.04	***
Div-Earn	0.22	0.07	***

Low disclosure



	Low disclosure		
	High CR	Low CR	Difference
Div-CF	0.09	0.12	***
Div-Earn	0.19	0.25	***

Notes: This figure reports the average dividend payout in countries classified by high, medium and low disclosure and high and low creditor rights. Panel A reports the average dividend payout by disclosure level and strength of creditor rights. Panel B reports the average dividend payout by strength of creditor rights for each disclosure level (i.e., high, medium and low disclosure). Dividend payout is measured as either dividends-to-cash flow or dividends-to-earnings. Low (Medium) disclosure ranges from 58 to 71 (72 to 76). High disclosure corresponds to disclosure values between 78 and 85. Firms belong in high (low) creditor rights regimes if their country level score is above (below or equal to) the country sample median, which is 2. Disclosure is from CIFAR (2005), and creditor rights from Djankov et al. (2007) and correspond to values in 2002.

Fig. 1. Dividend payout, disclosure standards and the strength of creditor rights.

Table 3
Dividend payout and creditor rights by disclosure quality. This table reports coefficient estimates from pooled ordinary least squares regressions with t-stats adjusted for clustering at the firm level presented underneath in parenthesis. Separate regressions are estimated by level of disclosure quality. Disclosure is a country-level accounting disclosure score assigned by Center for International Financial Analysis and Research (CIFAR). The sample period is 1996–2007. The dependent variable is either dividends-to-cash flow or dividends-to-earnings, as indicated. Creditor rights are an index aggregating creditor rights, following La Porta et al. (2000), and ranges from 0 (weak creditor rights) to 4 (strong creditor rights). Creditor rights data is sourced from Djankov et al. (2007). In the top panel, the creditor rights index is employed to measure creditor rights. In the bottom panel, the creditor rights index is replaced with a "Low creditor rights dummy" variable which is one if creditor rights are less than or equal to the sample median (2) and zero otherwise. Uncertainty avoidance is a country-level culture measure from Hofstede (2001). All other variables are defined in the main text and summarized in Appendix A. A full set of year and industry fixed effects are included but not reported, and ***, **, and * denotes statistical significance at the 1, 5, and 10% levels, respectively.

	Dependent variable is					
	Dividends-to-cash flow			Dividends-to-earnings		
	Disclosure levels					
	High	Medium	Low	High	Medium	Low
Creditor rights	0.018***	0.051***	−0.020***	0.028***	0.069***	−0.034***
	(7.84)	(22.00)	(11.05)	(8.90)	(22.25)	(11.03)
Size	0.025***	0.014***	0.002***	0.042***	0.024***	0.015***
	(23.08)	(21.59)	(2.98)	(27.84)	(26.39)	(12.05)
Growth	−0.025***	−0.011***	−0.033***	−0.027***	−0.017***	−0.030***
	(10.20)	(10.79)	(9.87)	(8.44)	(12.31)	(6.18)
Leverage	−0.123***	−0.021***	−0.179***	−0.131***	−0.019***	−0.245***
	(14.60)	(7.91)	(37.06)	(11.42)	(4.72)	(28.12)
Profitability	0.101***	0.004***	0.156***	0.127***	−0.001	0.174***
	(17.23)	(2.94)	(13.89)	(16.76)	(0.16)	(12.49)
Tobin's *q*	0.019***	0.010***	0.010**	0.014***	0.010***	−0.021***
	(9.80)	(7.11)	(2.38)	(5.67)	(3.79)	(8.09)
Uncertainty avoidance	−0.001	0.002***	−0.002***	0.001***	0.003***	−0.002***
	(0.38)	(6.06)	(14.23)	(3.04)	(8.14)	(9.51)
Dividend premium	0.087***	−0.011	−0.057***	0.114***	−0.022	−0.108***
	(5.36)	(0.81)	(6.99)	(5.48)	(1.20)	(8.02)
Industry and time dummies	Included	Included	Included	Included	Included	Included
# firm-year observations	30,595	50,573	43,681	30,595	50,573	43,681
R-squared	0.178	0.198	0.148	0.189	0.203	0.104
Low creditor rights dummy	−0.059***	−0.145***	0.046***	−0.079***	−0.204***	0.074***
	(8.65)	(21.24)	(14.23)	(8.53)	(22.31)	(13.63)
Industry and time dummies	Included	Included	Included	Included	Included	Included
Controls	Included	Included	Included	Included	Included	Included

creditor rights index is 0.051*** in medium disclosure regimes yet only 0.018*** in high disclosure environments. The different dividend-creditor rights relationships come about because poorly-protected creditors place many (few) restrictions on dividend payouts in intermediate (high) disclosure regimes. Shao et al. (2013) examine the dividend-creditor rights relationship in strong and weak shareholder rights regimes. They show that dividend payouts are most sensitive to creditor rights where shareholder rights are strong. Creditors accept large dividends under strong creditor and strong shareholder rights yet restrict dividends where creditor rights are weak yet shareholder rights strong. Where shareholder rights are weak, well-protected creditors do not mandate large dividend payouts given the norm of low dividend payouts under weak shareholder rights. In this paper, we find that dividend payouts are much less sensitive to creditor rights in strong disclosure regimes because creditors place fewer restrictions on dividend payouts in these regimes. The dividend-creditor rights relationship is at its strongest in intermediate disclosure regimes.

Second, dividend payouts and creditor rights are negatively related in opaque regimes. Using the "Low creditor rights dummy" the same patterns in dividends payouts emerge; dividend payouts are smaller where creditor rights are weak in medium and high disclosure regimes, yet larger in opaque regimes.[13]

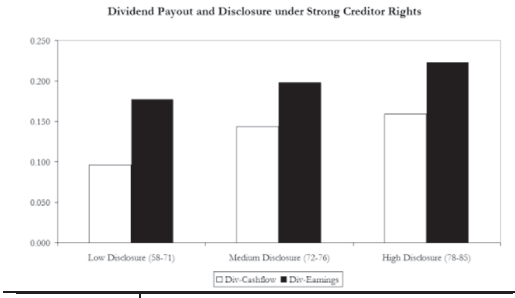
In Fig. 2 (see Panel B) we depict the predicted relationship between dividend payout and creditor rights in each disclosure regime using the estimated coefficient estimates in Table 3. The independent variables are evaluated at their sample means and the fixed effects evaluated for industrial firms in the year 2005. Our findings possess economic as well as statistical significance. In opaque regimes average dividends-to-earnings is 22.9% under weak creditor rights and 17.7% where creditor rights are strong. In transparent disclosure regimes poorly-protected creditors place fewer restrictions on dividend payouts; using dividends-to-earnings, the difference in dividend payouts is zero. In medium disclosure regimes, poorly-protected creditors place the largest restrictions on dividend payout; average dividends-to-cash flow is 19.5% under strong creditor rights, yet only 8.7% under weak creditor rights, which suggests a 2.24-fold (i.e., 19.5/8.7) increase in dividend payouts when creditor rights changes from weak to strong. Using dividends-to-sales, Brockman and Unlu (2009) find that dividends are

[13] Shao et al. (2013) find that the dividend payout - creditor rights relationship is much less pronounced and sometimes negative under weak shareholder rights.

Predicted dividend payout by disclosure standard and strength of creditor rights

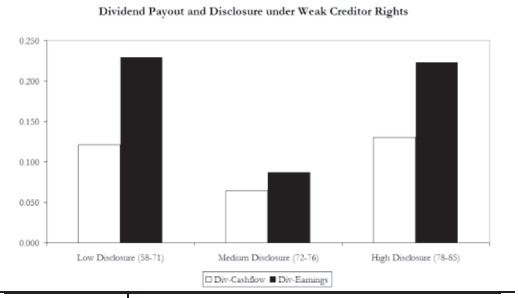
Panel A: Dividend payout, disclosure levels and the strength of creditor rights

Strong creditor rights



	Disclosure level		
	Low	Medium	High
Div-CF	0.096	0.144	0.159
Div-Earn	0.177	0.198	0.223

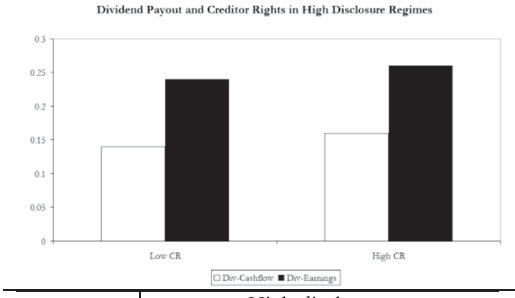
Weak creditor rights



	Disclosure level		
	Low	Medium	High
Div-CF	0.121	0.064	0.130
Div-Earn	0.229	0.087	0.223

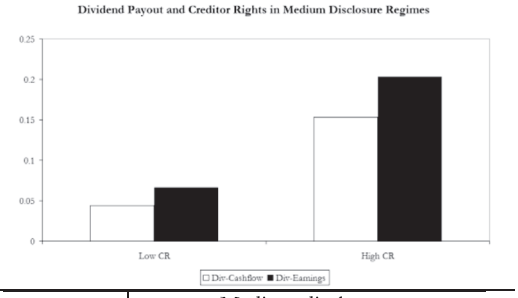
Panel B: Dividend payout and creditor rights by disclosure level

High disclosure



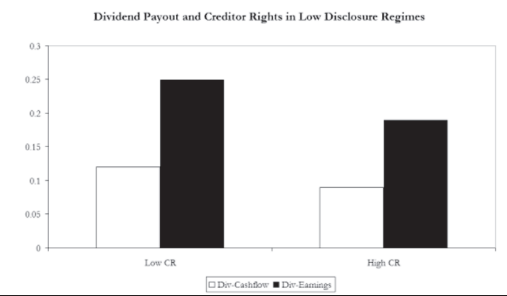
	High disclosure		
	High CR	Low CR	Difference
Div-CF	0.159	0.130	0.029
Div-Earn	0.223	0.223	0.000

Medium disclosure



	Medium disclosure		
	High CR	Low CR	Difference
Div-CF	0.144	0.064	0.080
Div-Earn	0.198	0.087	0.111

Low Disclosure



	Low disclosure		
	High CR	Low CR	Difference
Div-CF	0.096	0.121	(0.025)
Div-Earn	0.229	0.177	(0.052)

Notes: This figure reports the in-sample predicted dividends-to-cash flow (Div-CF) and dividends-to-earnings (Div-Earn) for alternative creditor rights and disclosure levels using the ordinary least squares estimates provided in Tables 3 and 4. The independent variables are evaluated at the sample means, and the fixed effects evaluated for industrial firms for the year 2005. Panel A reports the predicted relationship between dividend payout and disclosure by strength of creditor rights (i.e., high and low creditor rights). Panel B reports the predicted relationship between dividend payout and creditor rights for each disclosure level (i.e., high, medium and low disclosure). Low (Medium) disclosure ranges from 58 to 71 (72 to 76). High disclosure corresponds to disclosure values between 78 and 85. Firms belong in high (low) creditor rights regimes if their country level score is above (below and equal to) the country sample median, which is 2. Disclosure is from CIFAR (2005), and creditor rights from Djankov et al. (2007) and corresponds to values in 2002.

Fig. 2. Predicted dividend payout by disclosure standard and strength of creditor rights.

1.82 times larger under strong creditor rights compared to weak creditor rights (i.e., 1.64/0.90).[14] Our findings say that dividend payouts are most sensitive to creditor rights in intermediate disclosure regimes.

Finally, across disclosure regimes, the firm- and country-level determinants of corporate dividend payouts are almost always signed "correctly" and consistently signed the same. Using dividends-to-cash flow, size, growth, leverage, profitability, and growth opportunities are signed the same in each disclosure regime. However, their economic significance differs across regimes; dividend payouts are most sensitive to size in high disclosure regimes, yet most sensitive to growth, leverage, and profitability in opaque regimes. In medium disclosure regimes, dividend payouts are less sensitive to measures of growth, leverage, profitability, growth opportunities, and the dividend premium, when compared to dividend payouts in the other two disclosure regimes. The relationship between dividend payout and uncertainty avoidance is negative in high and medium disclosure regimes. Finally, it is only in high disclosure regimes that the estimated coefficient estimate on the dividend premium variable is positive. In opaque regimes, the estimated coefficient is negative.

3.3. The "dividend payout–disclosure" relation by strength of creditor rights

In Table 4 we show that our findings in Table 3 have important implications for the dividend–disclosure relationship. Here we estimate Eq. (1) but now by strength of creditor rights. The dividend-disclosure relation is "u-shaped", but only where creditor rights are weak. Using dividends-to-cash flow the coefficient estimate for "Medium disclosure" is negative (-0.103^{***}), and effectively zero for the "High disclosure" regime. The "u-shaped" dividend-disclosure relationship says that the outcome and substitution models are not mutually-exclusive; the substitution model is evident in opaque regimes, the outcome model manifests in transparent disclosure regimes. So too does the dividend-disclosure relationship under strong creditor rights. Where creditor rights are strong the dividend payout-disclosure relationship is positive; the coefficient estimates on the medium and high disclosure dummies are positive, larger in the high disclosure regime, and always statistically significant. Dividend payouts increase monotonically with disclosure quality. The positive dividend-disclosure relationship, which is evidence in support of the "outcome" model, does not automatically rule against the "substitution" model. Rather, it says that dividend payouts are an "outcome" of disclosure standards; dividend payouts increase as disclosure standards improve, yet dividend payouts remain sufficiently large in opaque regimes so that firms can use dividend payouts to build reputation capital. Under strong and weak creditor rights, dividend payouts are always larger in transparent regimes. The "outcome" and "substitution" models are not mutually-exclusive, and the collective findings from Tables 3 and 4 say that both models hold regardless of the strength of creditor rights. Shao et al. (2013) show that the dividend-creditor rights relationship is positive, and negative under weak shareholder rights. Our findings are consistent with theirs if firms in weak shareholder rights regimes use dividend payouts to build trust with outside investors.

In Fig. 2 (see Panel A) we outline the predicted relationship between dividend payout and disclosure by strength of creditor rights as implied by the estimated coefficients in Table 4. It is clear from Fig. 2 that the relationship between dividend payouts and disclosure standards is "u-shaped" under weak creditor rights alone, yet positive under strong creditor rights. In intermediate disclosure regimes, dividend payouts under strong creditor rights are more than double dividends paid under weak creditor rights (i.e., compare 19.8% under strong creditor rights to 8.7% under weak creditor rights). In opaque disclosure regimes firms' pay out on average 26% more of their cash flow (compare 0.096 under strong creditor rights to 0.121 under weak creditor rights) in the form of a dividend under weak creditor rights when compared to similar firms in countries where creditor rights are strong. In transparent regimes, dividend payouts are not very different under strong and weak creditor rights.

Byrne and O'Connor (2012) and Shao et al. (2013) test the shareholder rights version of the outcome model under strong and weak creditor rights. Both find that poorly-protected creditors place restrictions on dividend payouts even where shareholder rights are strong. In this paper we find that dividend payouts are lower in transparent regimes under weak creditor rights, yet the extent of dividend restrictions is much lower in transparent regimes under weak creditor rights than they are where shareholder rights are strong. Our findings say that disclosure standards, and not shareholder rights, serve to moderate the dividend-creditor rights relationship.

In summary Tables 3 and 4 together say that; the substitution model of dividends holds under strong and weak creditor rights; poorly-protected creditors place few restrictions on dividend payouts in transparent regimes; yet place much larger restrictions on dividend payouts in intermediate disclosure regimes. The "u-shaped" dividend-disclosure relationship uncovered by Brockman and Unlu (2011) is evident only under weak creditor rights. Otherwise, the relationship is positive.

In Table 5 we turn our attention towards the propensity to pay a dividend by presenting a series of marginal effects from pooled logit regressions. The dependent variable is a binary indicator which is 1 if the firm pays a dividend in a given year and zero otherwise. When we use dividend payer instead of the dividend amount ratios, we still conclude the same as we did in Tables 3 and 4. The relationship between the likelihood of paying a dividend and disclosure remains "u-shaped" under weak creditor rights, yet mostly positive under strong creditor rights. The relation between the dividend payer and creditor rights is positive in intermediate disclosure regimes, negative in opaque regimes, and effectively zero in transparent regimes. Interestingly, using dividend payer, dividend payout is now most sensitive to creditor rights in opaque regimes.

[14] Brockman and Unlu (2009) present the predicted dividend-to-sales ratio by creditor rights score. The average of the predicted dividend-to-sales in weak creditor rights regimes is 0.90% (an average of 0.78% (where CR is 1) and 1.02% (where CR is 2)) and 1.64% where creditor rights are strong (1.31% (CR is 3), 1.63% (CR is 4), and 1.98% where CR is 5).

Table 4
Dividend payout and disclosure quality by strength of creditor rights. This table reports coefficient estimates from pooled ordinary least squares regressions with t-stats adjusted for clustering at the firm level presented underneath in parenthesis. Separate regressions are estimated by level of creditor rights. Firms belong in high (low) creditor rights regimes if their country level score is above (below and equal to) the country sample median, which is 2. Creditor rights are an index aggregating creditor rights, following La Porta et al. (2000), and ranges from 0 (weak creditor rights) to 4 (strong creditor rights). Creditor rights data is sourced from Djankov et al. (2007). The sample period is 1996–2007. The dependent variable is either dividends-to-cash flow or dividends-to-earnings, as indicated. Disclosure is a country-level accounting disclosure score assigned by Center for International Financial Analysis and Research (CIFAR). It ranges from 0 to 100, where higher values correspond to more disclosures. Uncertainty Avoidance is a country-level culture measure from Hofstede (2001). In the top panel, "Disclosure" and "Disclosure^2" are included in each regression. In the bottom panel, we create separate dummy variables for each disclosure regime, namely, low, medium, and high disclosure. The reference group is the low disclosure regime. All other variables are defined in the main text and summarized in Appendix A. A full set of year and industry fixed effects are included but not reported, and ***, **, and * denotes statistical significance at the 1, 5, and 10% levels, respectively.

	Dependent variable is			
	Dividends-to-cash flow		Dividends-to-earnings	
	Strength of creditor rights (CR)			
	High CR	Low CR	High CR	Low CR
Disclosure	0.085***	−0.111***	0.068***	−0.150***
	(8.78)	(14.42)	(4.83)	(13.07)
Disclosure^2	−0.001***	0.001***	−0.004***	0.001***
	(8.45)	(14.22)	(4.47)	(12.95)
Size	0.026***	0.010***	0.041***	0.021***
	(23.96)	(17.51)	(29.25)	(25.83)
Growth	−0.020***	−0.018***	−0.019***	−0.026***
	(9.72)	(16.08)	(6.95)	(16.46)
Leverage	−0.138***	−0.069***	−0.158***	−0.079***
	(20.04)	(25.36)	(16.73)	(17.88)
Profitability	0.088***	0.013***	0.111***	0.001
	(17.95)	(8.89)	(17.55)	(0.59)
Tobin's *q*	0.020***	0.010***	0.015***	−0.003**
	(10.75)	(6.61)	(6.52)	(2.21)
Uncertainty avoidance	0.001	0.001***	0.001***	0.003***
	(0.32)	(22.16)	(3.06)	(33.88)
Dividend premium	0.052***	0.028***	0.086***	0.051***
	(4.61)	(3.47)	(5.50)	(4.10)
Industry and time dummies	Included	Included	Included	Included
# firm-year observations	39,194	85,655	39,194	85,655
R-squared	0.187	0.149	0.180	0.206
Medium disclosure dummy	0.105***	−0.103***	0.099***	−0.162***
	(10.38)	(18.30)	(7.22)	(20.40)
High disclosure dummy	0.122***	0.001	0.145***	−0.010
	(13.83)	(0.10)	(11.64)	(1.50)
Industry and time dummies	Included	Included	Included	Included
Controls	Included	Included	Included	Included
Average div payout in low disclosure	0.09	0.12	0.19	0.25

Our findings thus far appear to highlight three distinct substitution effects. First, creditors substitute weak legal standing with low dividends to a much greater extent in intermediate disclosure regimes. In transparent disclosure regimes dividend payouts are not always lower given weak creditor rights. In turn, this latter finding highlights a second distinct substitution effect; rich disclosures appear to moderate the dividend–creditor rights relationship. Rich disclosures reduce the agency costs of debt which further appears to reduce the need for creditors to restrict dividends given weak creditor rights. In this regard, disclosure quality appears to substitute for poor creditor rights. Finally, in opaque regimes large dividend payouts appear to substitute for weak creditor rights and/or weak disclosure. We posit that this substitution effect is practiced by firms and creditors alike. Firms are financially-constrained in opaque regimes, and pay large dividends to relax these constraints by building trust with investors (see Gan et al., 2014). Our findings also suggest that creditors do not restrict large dividend payouts which suggest that reputation building may be effective in building trust with creditors. For whatever reason(s), creditors do not appear to restrict large dividends in opaque regimes.

In the next section, we study the behaviour of firms and creditors alike in opaque regimes in more detail. If poorly-protected creditors exhibit a preference for large dividends in opaque regimes, then dividends should remain large and unrestricted in growth and mature firms alike. An alternative view is that creditors restrict large dividends in mature firms who have little need to use large dividend payouts to build trust, yet continue to allow growth firms to pay large dividends. Also, we try to uncover the motivations for firms in opaque regimes to pay even larger dividends where creditor rights are weak. We believe that these firms are most financially constrained of all firms in our sample and the large dividends that they pay are commensurate with the severity of the financing constraints that they face.

Table 5
Dividend payer regressions. This table reports marginal effects from pooled fixed-effect logit regressions. The marginal effects are evaluated at the sample mean of each variable. Separate regressions are estimated by level of creditor rights and disclosure, as indicated. Firms belong in high (low) creditor rights regimes if their country level score is above (below or equal to) the country sample median, which is 2. Creditor rights are an index aggregating creditor rights, following La Porta et al. (2000), and ranges from 0 (weak creditor rights) to 4 (strong creditor rights). "Low creditor rights dummy" is a dummy variable which is one if creditor rights are less than the sample median (2) and zero otherwise. Creditor rights data is sourced from Djankov et al. (2007). Disclosure is a country-level accounting disclosure score assigned by Center for International Financial Analysis and Research (CIFAR). It ranges from 0 to 100, where higher values correspond to more disclosures. In the bottom panel, we create separate dummy variables for each disclosure regime, namely, low, medium, and high disclosure. The reference group is the low disclosure regime. All other variables are defined in the main text and summarized in Appendix A. The sample period is 1996–2007. A full set of year and industry fixed effects are included but not reported, and ∗∗∗, ∗∗, and ∗ denotes statistical significance at the 1, 5, and 10% levels, respectively.

	Creditor rights (CR)		Disclosure levels		
	High CR	Low CR	High	Medium	Low
Disclosure	0.043*	−0.205***			
	(1.67)	(8.77)			
Disclosure^2	−0.002	0.001***			
	(1.42)	(8.76)			
Creditor rights			0.005	0.011***	−0.149***
			(0.76)	(12.19)	(17.45)
Size	0.106***	0.050***	0.105***	0.010***	0.100***
	(22.68)	(25.41)	(19.15)	(13.26)	(24.01)
Growth	0.017*	−0.053***	0.001	−0.010***	0.002
	(1.91)	(9.90)	(0.14)	(9.57)	(0.11)
Leverage	−0.536***	−0.261***	−0.418***	−0.022***	−0.802***
	(17.50)	(19.31)	(11.51)	(8.75)	(30.58)
Profitability	3.493***	1.283***	3.760***	0.146***	3.875***
	(59.88)	(51.12)	(55.98)	(16.33)	(29.99)
Tobin's q	−0.113***	−0.055***	−0.113***	−0.010***	−0.112***
	(19.39)	(25.35)	(19.17)	(12.49)	(14.39)
Uncertainty avoidance	−0.001	0.005***	−0.001***	0.001***	−0.004***
	(1.14)	(25.81)	(3.66)	(6.53)	(7.01)
Dividend premium	−0.111***	0.038	0.048	−0.010***	−0.392***
	(3.51)	(1.62)	(1.07)	(3.22)	(11.50)
Industry and time dummies	Included	Included	Included	Included	Included
R-squared	0.439	0.429	0.476	0.408	0.362
Medium disclosure dummy	−0.036	−0.273***			
	(1.56)	(21.08)			
High disclosure dummy	0.082***	−0.034***			
	(3.82)	(7.34)			
Low creditor rights dummy			−0.024	−0.117***	0.277***
			(1.33)	(9.32)	(17.80)
Industry and time dummies	Included	Included	Included	Included	Included
Controls	Included	Included	Included	Included	Included

3.4. Why do firms pay large dividends in opaque disclosure regimes?

In Table 6 we present the average dividend payout for firms classified by growth opportunities in each disclosure regime. Growth opportunities are captured using the previous three years market-to-book of assets. We classify firms into growth deciles, where decile one contains firms with the least growth opportunities (e.g., mature firms) and decile ten contains firms with abundant growth opportunities (i.e., growth firms). It is clear that in opaque regimes poorly-protected creditors do not restrict dividend payouts in mature firms. Rather, dividend payouts are always larger all across the growth spectrum where creditor rights weak when compared to dividend payouts in the same disclosure regime where creditor rights are strong.[15] The fact that we observe that both growth and mature firms pay large dividends in opaque regimes lends support to the view that creditors view large dividend payouts as beneficial to their own interests. There does not appear to be any other reason to allow mature firms to pay large dividends given weak creditor rights, since it is unlikely that these firms are paying large dividends to build trust with investors in the first instance.

Next we examine whether the large dividend payouts that we observe in opaque regimes reflect the severity of the financing constraints that these firms likely face. A priori, constrained firms are the most-likely firms to use dividends to build "reputation capital", especially if other bonding mechanisms, say improved governance, may be too expensive for these firms to implement in the first instance (see Doidge et al., 2007). Also, dividends paid may increase with the severity of financing constraints, which may explain why dividend payouts are largest in opaque regimes where creditor rights are

[15] In intermediate and transparent disclosure regimes the opposite is the case, as across the growth spectrum dividend payouts are always lower where creditor rights are weak.

Table 6
Financing, creditor rights and disclosure standards. This table outlines the average dividend payout for firms sorted by growth in countries with different levels of disclosure and creditor rights (Panel A), and average book debt, long-term debt to assets, and equity to long-term capital for firms in the each disclosure regime (Panels B and C). Market-to-book (M/B) decile is rank decile for market-to-book of assets over the past 3 years. Disclosure is a country-level accounting disclosure score assigned by Center for International Financial Analysis and Research (CIFAR). Firms belong in high (low) creditor rights regimes if their country level score is above (below and equal to) the country sample median, which is 2. Creditor rights are an index aggregating creditor rights, following La Porta et al. (2000), and ranges from 0 (weak creditor rights) to 4 (strong creditor rights). Dividend payout is dividends-to-cash flow. ***, **, and * signifies that the differences in mean dividend payouts are statistical significance at the 1, 5, and 10% levels, respectively.

Panel A: Dividend payouts (dividends-to-cash flow) by growth decile in each disclosure regime

	Dividend payout is dividends-to-cash flow								
	Low disclosure			Medium disclosure			High disclosure		
M/B decile	High CR	Low CR	Difference	High CR	Low CR	Difference	High CR	Low CR	Difference
1	0.08	0.11	(0.04)***	0.16	0.03	0.13***	0.15	0.10	0.04***
2	0.08	0.12	(0.05)***	0.14	0.06	0.08***	0.14	0.13	0.02***
3	0.09	0.13	(0.04)***	0.14	0.07	0.07***	0.16	0.12	0.04***
4	0.10	0.13	(0.02)***	0.15	0.06	0.09***	0.17	0.13	0.05***
5	0.11	0.13	(0.02)***	0.16	0.05	0.10***	0.17	0.13	0.04***
6	0.12	0.13	(0.01)***	0.15	0.05	0.10***	0.17	0.15	0.02***
7	0.12	0.14	(0.02)***	0.16	0.04	0.11***	0.18	0.15	0.03***
8	0.14	0.15	(0.01)***	0.18	0.04	0.14***	0.17	0.16	0.01***
9	0.13	0.16	(0.03)***	0.17	0.04	0.13***	0.16	0.18	(0.02)***
10	0.15	0.18	(0.04)***	0.25	0.03	0.22***	0.18	0.19	(0.01)

Panel B: Financing in low disclosure regimes

	Book debt			Long-term debt to assets			Equity to long-term capital		
M/B decile	High CR	Low CR	Difference	High CR	Low CR	Difference	High CR	Low CR	Difference
1	0.30	0.28	0.02***	0.13	0.12	0.01*	0.74	0.75	(0.01)
2	0.28	0.26	0.02**	0.12	0.12	0.00	0.75	0.76	(0.01)
3	0.24	0.26	(0.02)*	0.11	0.12	(0.01)	0.76	0.77	(0.01)
4	0.22	0.25	(0.03)***	0.12	0.11	0.01	0.77	0.78	(0.01)
5	0.22	0.24	(0.02)***	0.11	0.12	(0.01)	0.77	0.78	(0.01)
6	0.21	0.23	(0.02)***	0.11	0.12	(0.01)	0.77	0.78	(0.01)
7	0.20	0.24	(0.04)***	0.11	0.13	(0.02)***	0.79	0.77	0.02
8	0.19	0.23	(0.04)**	0.10	0.13	(0.03)	0.78	0.78	0.00
9	0.17	0.22	(0.05)**	0.09	0.12	(0.03)	0.80	0.80	0.00
10	0.17	0.20	(0.03)	0.08	0.10	(0.02)	0.85	0.84	0.01

Panel C: Financing in low, medium and high disclosure regimes

	Book debt		Long-term debt to assets		Equity to long-term capital	
	High CR	Low CR	High CR	Low CR	High CR	Low CR
Low disclosure						
High growth	0.20	0.23	0.11	0.12	0.78	0.78
Low growth	0.26	0.26	0.12	0.12	0.76	0.77
Medium disclosure						
High growth	0.23	0.26	0.11	0.17	0.83	0.76
Low growth	0.22	0.27	0.10	0.20	0.84	0.70
High disclosure						
High growth	0.19	0.21	0.12	0.14	0.83	0.77
Low growth	0.23	0.23	0.11	0.14	0.83	0.73

weak. We adopt two approaches to capture firm-level financing constraints. First, we explore the financing choices of firms by estimating leverage-creditor rights regressions in each disclosure regime. Where disclosure standards and creditor rights are weak, one might expect that firms' use of debt and equity capital be constrained. Our second approach is to quantify the severity of financing constraints at the firm-level in each disclosure regime using the "constrained" growth rates of Demirguc-Kunt and Maksimovic (1998).

In Table 7 we estimate a series of leverage-creditor rights regressions in each disclosure regime. Cho et al. (2014) estimate leverage–creditor rights regressions and find in favour of the demand-side view i.e., strong creditor rights has a negative effect on firms' use of debt finance. Where creditor rights are (too) strong, firms voluntarily choose to use more equity, and less debt, so that control can be maintained in times of financial distress. Presumably, this substitution away from debt to equity financing is made possible where the cost of equity financing is not prohibitively high. The opposite view, the supply-side view, says that the leverage-creditor rights relationship is positive. Firms benefit from cheap debt capital where creditor rights are strong, but must pay more for debt financing where creditor rights are weak. We estimate separate leverage-creditor rights regressions in each disclosure regime, using book debt (total debt to book assets), long-term debt to assets, and equity to long-term capital (where long-term capital is the sum of equity and long-term debt), as our

Table 7
The leverage-creditor rights relationship in each disclosure regime. The table reports coefficient estimates from pooled least squares regressions with t-stats adjusted for firm-level clustering presented underneath in parentheses. Separate regressions are estimated by level of disclosure quality. Disclosure is a country-level accounting disclosure score assigned by Center for International Financial Analysis and Research (CIFAR). The sample period is 1996–2007. The dependent variable is either book debt, long-term debt to assets (LTD), or common equity to long-term capital (E/LTC), as indicated. Book debt is total debt to total assets. Long term capital (LTC) is the sum of common equity and long-term debt. Creditor rights are an index aggregating creditor rights, following La Porta et al. (2000), and ranges from 0 (weak creditor rights) to 4 (strong creditor rights). Creditor rights data is sourced from Djankov et al. (2007). All other variables are defined in the main text. Time and industry dummies are included, but not reported. Statistical significance is denoted by ***, **, * for the 1%, 5, and 10% levels, respectively.

	Disclosure levels								
	High			Medium			Low		
	Book Debt	LTD	E/LTC	Book Debt	LTD	E/LTC	Book Debt	LTD	E/LTC
Creditor rights	−0.010***	−0.010***	0.021***	−0.010**	−0.026***	0.035***	0.011***	0.011***	−0.022***
	(5.42)	(6.45)	(10.05)	(2.55)	(16.99)	(17.86)	(4.16)	(7.31)	(7.24)
CR range	0–4			1–4			0–3		
Ind dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included
Time dummies	Included	Included	Included	Included	Included	Included	Included	Included	Included
Controls	Included	Included	Included	Included	Included	Included	Included	Included	Included
# Observations	30,595	30,595	30,595	50,573	50,573	50,573	43,681	43,681	43,681
R-squared	0.107	0.151	0.192	0.183	0.111	0.169	0.171	0.183	0.171
	Predicted leverage by strength of creditor rights								
Lowest CR	0.228	0.136	0.746	0.250	0.180	0.747	0.207	0.103	0.809
Highest CR	0.198	0.118	0.824	0.215	0.095	0.844	0.255	0.129	0.757

leverage/financing variables of choice. Interestingly, we find in favour of the demand-side view in medium and high disclosure regimes, yet the supply-side view prevails in low disclosure regimes. The estimated coefficients on the debt and long-term debt variables are negative in medium and high disclosure regimes, yet positive in low disclosure regimes. In medium and high disclosure regimes, as creditor rights improve, equity as proportion of long-term capital increases, as firms substitute away from risky debt financing towards safe equity financing. We argue that in medium and high disclosure regimes, substituting debt for equity is feasible, since disclosure levels are sufficiently large enough so that the cost of equity capital is not prohibitively high making equity a viable alternative to debt financing. In low disclosure regimes, as creditor rights improve, equity as proportion of long-term capital decreases. Where disclosure quality is low, the cost of equity capital is high, which may leave debt finance as the only viable source of capital for firms. Presumably, for many firms, substituting debt for equity is not feasible. Thus, our leverage-creditor rights regressions suggest that in opaque regimes, firms rely mostly on short-term debt financing where creditor rights are weak, and debt finance predominantly (short- and long-term debt), where creditor rights are strong. Reputation building would appear to be practiced by firms in opaque regimes so that they can attain better access to long-term funding (long-term debt and equity).[16]

In Table 8 we try and quantify the severity of financing constraints at the firm-level in each disclosure regime. We calculate the proportion of firms in each regime whose actual growth rate exceeds their internally-financed growth rate (IG), their short-term financed growth rate (SFG), and their maximum sustainable growth rate (SG), respectively (see Demirguc-Kunt and Maksimovic, 1998). These three growth rates are measures of a firms "constrained growth". Financially-unconstrained firms can grow at a rate greater than their constrained growth rate. As expected, it is firms in opaque regimes where creditor rights are weak that are the most constrained of all firms in our sample since we observe that the proportion of firms which exceed their constrained rate is lowest here. Since we know that country-level institutional factors can partly explain firm-level financing constraints, it is plausible that a combination of weak disclosure and poor creditor rights, contribute to firm-level financing obstacles in these regimes (see Demirguc-Kunt and Maksimovic, 1998; Beck et al., 2006). The large dividend payouts which we observe in these regimes likely represent the attempts on the part of these firms to overcome severe financing constraints by paying the largest dividends of all firms in opaque regimes. If this is the case, and there is evidence to say that this bonding approach is successful, poorly-protected creditors do not restrict the practice by firms of using large dividend payouts to build trust with outside investors.

3.5. Robustness tests

In Table 9 we show that our findings are robust to a number of additional tests. Panel A says that our findings are robust to the use of dividends-to-assets and dividends-to-sales in place of dividends-to-cash flow, dividends-to-earnings, and

[16] In the remaining rows of Table 7 we report the average financing ratios for growth and mature firms in each disclosure regime. These summary measures would appear to suggest that reputation building is effective, in that growth firms in opaque regimes use roughly the same amount of long-term financing (debt and equity) when compared to firms in medium and high disclosure regimes. Also, in opaque regimes, growth firms where creditor rights are weak use more long-term debt (although the differences are not statistically significant), and the same amount of equity to long-term capital compared to the same firms where creditor rights are strong. Firms have better access to equity financing as a result of reputation building using large dividend payouts (see Gan et al., 2014).

Table 8
Disclosure levels, creditor rights and the proportion of firms which exceed their constrained growth rates. This table presents the proportion of firms whose actual growth rate exceeds their constrained growth rate. Actual growth is measured as one-year annual sales growth. We use three constrained growth rates from Demirguc-Kunt and Maksimovic (1998), namely IG, SFG, and SG. IG is the maximum growth that a firm can achieve if it relies on internal funds alone and maintains it dividend. SFG is the maximum growth rate that a firm can attain by using both internal cash-flows and short-term debt. SG is the maximum growth rate achievable using internal funds, short and long-term debt to maintain a constant book leverage ratio (i.e. total debt to assets). Low (Medium) disclosure ranges from 58 to 71 (72 to 76). High disclosure corresponds to disclosure values between 78 and 85. Firms belong in high (low) creditor rights regimes if their country level score is above (below and equal to) the country sample median, which is 2. Disclosure is from CIFAR (1995), and creditor rights from Djankov et al. (2007).

	Constrained growth rates					
	Internally-financed growth rate (IG) Proportion of firms which exceed their internally-financed growth rate (IG)		Short-term financed growth rate (SFG) Proportion of firms which exceed their short-term financed growth rate (SFG)		Maximum attainable growth rate (SG) Proportion of firms which exceed their maximum attainable growth rate (SG)	
Disclosure:	High CR	Low CR	High CR	Low CR	High CR	Low CR
Low	0.54	0.50	0.46	0.40	0.44	0.38
Medium	0.55	0.57	0.47	0.56	0.39	0.45
High	0.60	0.57	0.50	0.47	0.43	0.42

Table 9
Robustness tests. This table reports coefficient estimates from a series of robustness tests. Panel A reports the coefficient estimates from a series of pooled ordinary least squares estimates using dividends-to-assets and dividends-to-sales, as indicated. In Panel B we account for the censored nature of the dependent variable by estimating a series of tobit regressions. In all regressions, dividends to cash flow are used to measure dividend payout. In Panel C we include a number of additional country-level variables in a series of pooled ordinary least squares regressions. Panel D excludes firms from Japan, the U.K., and the U.S. In all dividends to cash flow is used to measure dividend payout. Dividend tax advantage is the after-tax value of one dollar paid out in dividends divided by the after-tax value of one dollar paid out in capital gains and are values corresponding to the year 2001. Dividend tax advantage is sourced from Bartram et al. (2012) and Fidrmuc and Jacob (2010). The (Revised) anti-director rights index is an index capturing the strength of shareholder rights. The index is sourced from Djankov et al. (2007). Stock market development is calculated in each year from 1996 to 2007 as stock market capitalization to GDP. This data is sourced from an updated version of Beck et al. (2001). Labor rights are from Botero et al. (2004) and capture the strength of labor (employment) rights in each country. A full set of year and industry fixed effects are included but not reported, and ***, **, and * denotes statistical significance at the 1, 5, and 10% levels, respectively.

	Coefficient estimates for creditor rights variable in various disclosure regimes			Coefficient estimates for "low creditor rights dummy" in various disclosure regimes			Coefficient estimates for "medium disclosure dummy" in high and low creditor rights regimes		Coefficient estimates for "high disclosure dummy" in high and low creditor rights regimes	
	Disclosure levels						Creditor rights (CR)			
	High	Medium	Low	High	Medium	Low	High CR	Low CR	High CR	Low CR
Panel A: Alternative dividend payout variables										
Dividends-to-assets	0.0002	0.005***	0.0002	−0.006***	−0.014***	0.002***	0.009***	−0.010***	0.010***	0.001**
Dividends-to-sales	0.002***	0.005***	−0.002**	−0.007***	−0.010***	0.003***	0.008***	−0.010***	0.010***	0.001
Panel B: Censored dependent variable estimation										
Tobit estimation using dividends-to-cash flow	0.016***	0.124***	−0.040***	−0.055***	−0.342***	0.081***	0.112***	−0.221***	0.148***	−0.003
Panel C: Additional controls using dividends-to-cash flow										
Dividend tax advantage	0.018***	0.051***	−0.018***	−0.059***	−0.145***	0.044***	0.106***	−0.101***	0.124***	0.004
(Revised) anti-director rights index	0.033***	0.051***	−0.019***	−0.119***	−0.124***	0.046***	0.099***	−0.088***	0.121***	0.012**
Stock market development	0.018***	0.053***	−0.017***	−0.057***	−0.135***	0.044***	0.090***	−0.094***	0.122***	0.010**
Labor rights	0.028***	0.047***	−0.010***	−0.107***	−0.143***	0.042***	0.102***	−0.108***	0.118***	−0.047***
Panel D: Excl. firms from Japan, the U.K., and the U.S										
Coefficient estimate using dividends-to-cash flow	0.037**	0.044***	−0.019***	−0.074***	−0.116***	0.051***	0.098***	−0.090***	0.126***	−0.019***
Coefficient estimate using dividends-to-earnings	0.049***	0.057***	−0.014***	−0.091***	−0.163***	0.059***	0.092***	−0.130***	0.147***	−0.020**
Coefficient estimate using dividend payer	0.011	0.074***	0.045***	−0.030	−0.236***	0.031	−0.042	−0.256***	0.109***	0.070***

dividend-payer to measure corporate dividend payouts. In Panel B, we present coefficient estimates from a series of Tobit regressions which accounts for the censored nature of our dividend payout variable.[17] Accounting for the censored nature

[17] In a series of unreported regressions, we show that our Tobit regressions are robust to the use of dividends-to-earnings, dividends-to-sales and dividends-to-assets as the payout measure.

of corporate dividend payout fails to materially affect our main conclusions. Next, a potential criticism is that our findings are biased because of omitted country-level variables, which are correlated with creditor rights, disclosure, and dividend payouts. In Panel C we include a number of additional country-level determinants of dividend payouts. These measures are dividend tax advantage, the revised anti-director rights index, stock market development, and labor rights. We find that our conclusions remain unaltered when we include these additional variables either individually in turn, or collectively. In Panel D we exclude all firms from Japan, the U.K., and the U.S. Collectively these countries contribute more than half (53.66%) of the total number of firms in our sample. A potential concern then is that our findings are driven by the inclusion of firms from these countries. By and large, they are not.[18] However, when we exclude firms from the U.K., dividends paid under weak creditor rights in transparent regimes are now lower.

4. Concluding remarks

In the beginning of this paper we pose three questions. To answer each of these questions we observe the actions of poorly-protected creditors in various disclosure regimes. First, we examine whether creditors restrict the practice by firms in opaque regimes of using large dividend payouts to build reputation capital? Second, are the low dividend payouts which we observe in intermediate disclosure regimes the result of creditors in Canada and the U.S., two countries where creditor rights are weak, placing large restrictions on dividend payouts? And finally, we explore whether creditors continue to restrict dividend payouts in transparent regimes where disclosures are abundant, and agency costs of debt low? We are able to answer these three questions by showing that the extent to which creditors influence corporate dividend policy is influenced by the quality of the disclosure environment.

Using a sample of 124,849 firm-years from 28 countries we show that the dividend-creditor rights relationship is strongly influenced by disclosure standards and the dividend-disclosure relationship by the strength of creditor rights. A priori, if creditors place many (few) restrictions on corporate dividend payouts, then dividend payouts will be sensitive (less sensitive) to creditor rights resulting in a "strong" ("weak") dividend-creditor rights relationship. The dividend-creditor rights relationship is positive in medium and high transparency regimes. The relationship is stronger in the former regime, as it is here where creditors place the largest restrictions on corporate dividend payouts. The low dividends that Brockman and Unlu (2011) observe in intermediate disclosure regimes is a direct result of poorly-protected creditors in Canada and the United States placing large restrictions on dividend payouts We observe that dividend payouts are much larger in intermediate disclosure regimes where creditor rights are strong.

In high disclosure regimes, poorly-protected creditors place fewer restrictions on dividend payout. In effect they appear to view weak creditor rights (and the associated high agency costs of debt) and a healthy disclosure environment (and its associated low agency costs of debt) as substitutes for one another. Finally we show that the dividend-creditor rights relationship is negative in opaque regimes. Rather than restrict dividends in opaque regimes, dividend payouts remain large irrespective of the strength of creditor rights. We do not know whether large dividends in opaque regimes are (a) accepted by poorly-protected creditors because trust has been built between them and the firm and/or (b) demanded by creditors to compensate for weak disclosure (and weak creditor rights). Whatever the reason(s), firms can use large dividends to build trust with outside investors in opaque regimes even where creditor rights are weak.

Our findings also have important implications for the dividend-disclosure relationship. The agency models of dividends offer two alternative dividend-disclosure relationships. The first model, the "outcome" model, says that dividend payout increases with disclosure quality. The second model, the "substitution" model, says that dividend payout decreases with disclosure quality. However, Brockman and Unlu (2011) show that the outcome and substitution models are not mutually-exclusive, and a finding in favour of one does not automatically rule against the other. They proceed to show that the actual dividend-disclosure relationship is neither positive nor negative, but "u-shaped". We show that the nature of the dividend-disclosure relationship is influenced by the strength of creditor rights. It is only under weak creditor rights that we observe a "u-shaped" dividend payout-disclosure relationship. In contrast, where creditor rights are strong the dividend-disclosure relationship is positive; dividend payouts increase monotonically with disclosure quality. However, and like Brockman and Unlu (2011), we do move in favour of the "outcome" model and against the "substitution" model. Rather, our findings say that dividends remain large in opaque regimes (the substitution model), yet larger in intermediate (the outcome model) and strong disclosure environments (also the outcome model) where strongly-protected creditors place few restrictions on dividend payouts. Dividend payouts are always the largest in transparent regimes, yet are sufficiently large enough in opaque regimes to allow firms to use dividend payouts to build trust with outside investors. The outcome and substitution models are not mutually exclusive and prevail under strong and weak creditor rights.

[18] Using dividends-to-earnings for the reduced sample under strong creditor rights the disclosure coefficient is negative (-0.125^{***}) and the disclosure squared term is positive (0.001^{***}) indicating a u-shaped relationship between dividend payout and disclosure standards. However, a u-shaped relationship between dividend payouts and disclosure standards is not evidence against our hypotheses per se as the u-shaped relation which we observe here is much less pronounced as is the case where creditor rights are weak as dividend payouts in intermediate disclosure regimes remain large. Specifically, the predicted dividends-to-earnings by disclosure standards are as follows: where disclosure is 62 the predicted dividends to earnings ratio is 25%. The predicted payouts for the remaining disclosure levels are: 67 (payout is 21%), 68 (18%), 73 (18%), 74 (27%), 75 (23%), 79 (25%), and 80 (26%). For our reduced sample, dividend payouts remain large in all three disclosure regimes. In intermediate disclosure regimes dividend payouts are much smaller under weak creditor rights. When we replace disclosure and its square with the disclosure dummies the "dividend payout-disclosure" relation is positive.

Our analysis highlight a number of issues which we believe are worthy of future research. One of the most interesting relates to the reputation building practices of firms in opaque regimes. Firms use more equity financing once trust has been established with outside investors (see Gan et al., 2014). Gan et al. (2014) do not explore the debt issuing behaviour of these firms. It would be interesting to examine whether creditors extend more long-term debt finance to reputation-building firms. Poorly-protected creditors do not restrict the practice of reputation-building by firms, yet it is not clear if the firms have greater access to long-term equity *and* debt financing once this trust has been established. We present some summary financing measures at the bottom of Table 8 which suggests that these firms appear to have access to more long-term debt financing. However, further work is required so that the relationship between dividend payout, reputation-building, and debt financing in opaque disclosure regimes is better understood. Finally, in this paper we do not explore how culture may moderate the dividend-creditor rights and dividend-disclosure relationships. Byrne and O'Connor (2017) show that culture (e.g., collectivism) moderates the dividend-creditor rights relationship; in collectivist societies, dividend payouts are actually larger under weak creditor rights. In this paper, many collectivist countries belong in low disclosure/weak creditor rights regimes (see Argentina, India, Japan, and Mexico for example). Therefore, it possible that culture may also help to explain why poorly-protected creditors do not restrict dividend payouts in opaque disclosure regimes.

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Appendix A. Variable descriptions

Variable	Description	Source	Coverage
Dividends-to-cash flow	Dividends per share/cash flow per share	Worldscope	1996–2007
Dividends-to-earnings	Dividends per share/earnings per share	Worldscope	1996–2007
Dividends-to-assets	Total dividends to total assets	Worldscope	1996–2007
Dividends-to-sales	Total dividends to net sales	Worldscope	1996–2007
Size	Log of book assets in US$	Worldscope	1996–2007
Growth	Logarithmic one-year sales growth	Worldscope	1996–2007
Profitability	Earnings before interest and taxation to book assets	Worldscope	1996–2007
Leverage	Total debt to total assets	Worldscope	1996–2007
Long-term debt to assets	Long-term debt to assets	Worldscope	1996–2007
Equity to long-term capital	Equity to long-term capital. Long-term capital is the sum of equity and long-term debt		
Tobin's q	Tobin's q is defined as the book value of debt less plus market capitalization divided by the book value of assets	Worldscope	1996–2007
IG	$(\text{ROA} * \text{b})/(1 - (\text{ROA} * \text{b}))$, where ROA is return on assets, and b is the retention ratio	Worldscope	1996–2007
SG	$(ROE/(1 - ROE))$ where ROE is the return on equity	Worldscope	1996–2007
SFG	$(ROLTC/(1 - ROLTC))$ where ROLTC is the ratio of earnings after interest and tax to long-term capital. Long-term capital is calculated as the product of a firm's total assets and 1 minus the ratio of short-term liabilities to total assets	Worldscope	1996–2007
Creditor rights	An index aggregating creditor rights, following La Porta et al. (2000). The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights)	Djankov et al. (2007)	We use creditor rights data for the year 2002
Disclosure	Country-level accounting disclosure score assigned by Center for International Financial Analysis and Research (CIFAR). The index is created by examining and rating companies' annual reports for their inclusion and exclusion of 85 items and ranges from 0 to 100 with 100 as the highest standard	CIFAR (1995) and sourced from Hope et al. (2007)	1993

Appendix A (*continued*)

Variable	Description	Source	Coverage
Uncertainty avoidance	Captures the extent of uncertainty avoidance in a society	Hofstede (2001)	
Labour rights	Employment laws index from Botero et al. (2004). The employment laws index combines four sub-indexes, namely (1) alternative employment contracts, (2) cost of increasing hours worked, (3) cost of firing workers, and (4) dismissal procedures	Botero et al. (2004)	1997
Stock market development	Stock market capitalization to GDP in each year from 1996 to 2007	Updated version of Beck et al. (2001)	1996–2007
Dividend tax advantage	The after-tax value of one dollar paid out in dividends divided by the after-tax value of one dollar paid out in capital gains. Dividend tax advantage is for 2001	Bartram et al. (2012) and Fidrmuc and Jacob (2010)	2001
Shareholder rights	Revised version of the original anti-director rights index of La Porta et al. (2000)	Djankov et al. (2007)	1997
Dividend premium	The ratio of the average market-to-book of dividend paying firms to the average market-to-book of non-paying firms. Dividend Premium is calculated annually for each country	Worldscope	1996–2007

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