

Internet Appendix for
"Strategic Default and Equity Risk Across Countries"*

This internet appendix contains supplemental material to the paper 'Strategic Default and Equity Risk Across Countries'. Part A contains the derivation of the model from the main text. Part B shows results not reported in the main text due to space constraints. We present the results in order they appear in the main text. All variables are defined in Table I of the paper.

The figures and tables in part B represent:

- Figure IA. 1: illustrates the predicted relation between the equity beta and liquidation costs, α , under the alternative "strategic debt service" arrangement.
- Table IA.1: displays the robustness of Table IV in the paper to changing the criterion to drop firms with at least six consecutive zero returns.
- Table IA.2: displays the robustness of Table IV in the paper to changing the beta.
- Table IA.3: displays the full set of estimates corresponding to the abridged Table A.3 in the paper.
- Table IA.4: displays the full set of estimates corresponding to the abridged Table VI in the paper.

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- Table IA.5: displays the full set of estimates corresponding to the abridged Table VII in the paper.
- Table IA.6: displays the full set of estimates corresponding to the abridged Table VIII in the paper.
- Table IA.7: displays the robustness of Table V in the paper to dropping firms which, under different criteria, may have the choice to file for bankruptcy in a different country than where it is incorporated.
- Table IA.8: displays the robustness of Table IV in the paper to dropping observations in the US or Japan.
- Table IA.9: displays the robustness of Table V in the paper to using the Scholes and Williams (1977) betas as a dependent variable.
- Table IA.10: displays the robustness of Table IV in the paper to a Fama and MacBeth (1973) estimator.
- Table IA.11: displays the robustness of Table IV in the paper to matching firms using a Generalized Propensity Score matching estimator.

Internet Appendix A. Proofs and Derivations

Case 1: Debt-for-Equity Swap

The firm's assets in place generate an operating cash flow X that evolves according to a geometric Brownian motion with constant growth rate $\mu > 0$ and constant volatility σ_X ,

$$dX_t = \mu X_t dt + \sigma_X X_t dB_t.$$

The instantaneous profit is $X_t - c$, where c is the coupon payment. No-arbitrage implies that after-tax cash flow $(1 - \tau)(X_t - c)$ plus capital gains equal the risk free return. Thus, the value of equity $E(X)$ satisfies the following differential equation:

$$\frac{1}{2}\sigma_X^2 X^2 E_{XX} + \mu X E_X + (1 - \tau)(X - c) = rE,$$

with boundary conditions:

$$\begin{aligned} \lim_{X \uparrow \infty} E(X)/X &\leq \infty, \\ \lim_{X \downarrow X_B} E(X) &= (1 - q)\eta\alpha \frac{X_B}{r - \mu} (1 - \tau), \\ \lim_{X \downarrow X_B} E_X(X) &= (1 - q)\eta\alpha \frac{1}{r - \mu} (1 - \tau). \end{aligned}$$

The general solution to this ordinary differential equation is

$$E(X) = AX^{\lambda_1} + BX^\lambda + (1 - \tau) \left(\frac{X}{r - \mu} - \frac{c}{r} \right),$$

with constants A and B determined by boundary conditions, and λ_1 and λ given by

$$\begin{aligned} \lambda_1 &= \left(\frac{1}{2} - \frac{\mu}{\sigma_X^2} \right) + \sqrt{\left(\frac{1}{2} - \frac{\mu}{\sigma_X^2} \right)^2 + \frac{2r}{\sigma_X^2}} > 0, \\ \lambda_2 &= \left(\frac{1}{2} - \frac{\mu}{\sigma_X^2} \right) - \sqrt{\left(\frac{1}{2} - \frac{\mu}{\sigma_X^2} \right)^2 + \frac{2r}{\sigma_X^2}} < 0. \end{aligned}$$

The first and second boundary condition imply that $A = 0$ and

$$B = \left[(1 - q)\eta\alpha \frac{X_B}{r - \mu} (1 - \tau) - (1 - \tau) \left(\frac{X_B}{r - \mu} - \frac{c}{r} \right) \right] \left(\frac{1}{X_B} \right)^\lambda.$$

Moreover, using the fact that

$$\lim_{X \downarrow X_B} E(X) = \lim_{X \downarrow X_B} E_X(X)X,$$

the endogenous default threshold X_B can be written as

$$X_B = \frac{r - \mu}{r} \frac{\lambda}{\lambda - 1} \frac{c}{1 - (1 - q)\alpha\eta}. \quad (\text{A1})$$

Finally, replacing X_B into $E(X)$, the value of equity simplifies to

$$E(X) = (1 - \tau) \left[\left(\frac{X}{r - \mu} - \frac{c}{r} \right) + \left(\frac{c}{r} \frac{1}{1 - \lambda} \right) \left(\frac{X}{X_B} \right)^\lambda \right]. \quad (\text{A2})$$

Equity Beta

To price equity, we apply Ito's lemma to (A2), obtaining

$$dE_t = \left(\mu X_t \frac{\partial E}{\partial X} + \frac{1}{2} \sigma_X^2 X_t^2 E_{XX} \right) dt + \sigma X_t \frac{\partial E}{\partial X} dt.$$

These dynamics can be continuously replicated by holding a portfolio with a time-varying weight in X , w_t , satisfying

$$\frac{dE}{E} = w_t \times \frac{dX}{X}. \quad (1)$$

By inspection, $w_t = \frac{\partial E}{\partial X} \frac{X_t}{E_t}$. The equity beta, defined as $\beta_E \equiv \frac{Cov(\frac{dE}{E}, \frac{dX}{X})}{Var(\frac{dX}{X})}$, simplifies to

$$\begin{aligned} \beta_E &= \frac{Cov\left(w_t \times \frac{dX}{X}, \frac{dX}{X}\right)}{Var\left(\frac{dX}{X}\right)} = w_t \\ &= \frac{\partial E}{\partial X} \frac{X_t}{E_t}. \end{aligned}$$

From (A1) and (A2) we get

$$\begin{aligned} \beta_E &= \frac{\partial E}{\partial X} \frac{X_t}{E_t} = \frac{(1 - \lambda)X_t / (r - \mu) - \lambda c / r}{E_t / (1 - \tau)} + \lambda \\ &= 1 + \frac{(1 - \tau)c}{E_t} \frac{1}{r} - \frac{(1 - \tau)c}{E_t} \frac{1}{r} \left(\frac{X_t}{X_B} \right)^\lambda. \end{aligned}$$

If the market portfolio is perfectly correlated with X_t , then β_E is equal to the market beta. Alternatively, if the market portfolio, M_t , is not perfectly correlated with X_t then the market beta is

$$\beta_E^M \equiv \frac{Cov\left(\frac{dE}{E}, \frac{dM}{M}\right)}{Var\left(\frac{dM}{M}\right)} = \frac{Cov\left(w_t \times \frac{dX}{X}, \frac{dM}{M}\right)}{Var\left(\frac{dM}{M}\right)} = \beta_E \times \beta_X,$$

where β_X is the firm's asset beta.

Return volatility

Define the total return variance as $\sigma_E^2 \equiv Var\left(\frac{dE}{E}\right)$. Using (1), we have

$$\sigma_E^2 = Var\left(w_t \times \frac{dX}{X}\right) = w_t^2 \sigma_X^2 = (\beta_E \sigma_X)^2,$$

and the total volatility is $\sigma_E = \beta_E \sigma_X$.

Comparative Statics

Substituting for the optimal default threshold in (A1) into (A2), the after-tax value of equity becomes

$$E = (1 - \tau) \left[\left(\frac{X}{r - \mu} - \frac{c}{r} \right) + \left(\frac{c}{r} \frac{1}{1 - \lambda} \right) \left(\frac{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}{(r - \mu)\lambda c} \right)^\lambda \right].$$

Since $\lambda < 0$, it follows that

$$\frac{\partial E}{\partial \alpha} = \underbrace{\frac{c}{r} \frac{\lambda}{1 - \lambda}}_{-} \underbrace{\left(\frac{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}{(r - \mu)\lambda c} \right)^\lambda}_{+} \underbrace{\frac{-(1 - q)\eta(r - \mu)\lambda c}{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}}_{-} > 0$$

and

$$\lim_{q \rightarrow 1} \frac{\partial E}{\partial \alpha} = 0.$$

Also

$$\frac{\partial E}{\partial \eta} = \underbrace{\frac{c}{r} \frac{\lambda}{1 - \lambda}}_{-} \underbrace{\left(\frac{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}{(r - \mu)\lambda c} \right)^\lambda}_{+} \underbrace{\frac{-(1 - q)\alpha(r - \mu)\lambda c}{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}}_{-} > 0$$

and

$$\lim_{q \rightarrow 1} \frac{\partial E}{\partial \eta} = 0.$$

Finally

$$\frac{\partial E}{\partial q} = \underbrace{\frac{c}{r} \frac{\lambda}{1 - \lambda}}_{-} \underbrace{\left(\frac{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}{(r - \mu)\lambda c} \right)^\lambda}_{+} \underbrace{\frac{\eta\alpha(r - \mu)\lambda c}{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}}_{+} < 0$$

Notice also that

$$\frac{\partial^2 E}{\partial \alpha \partial q} = \underbrace{\frac{c}{r}}_{-} \underbrace{\frac{1 - \lambda^2(r - \mu)c}{rX(\lambda - 1)}}_{+} \left(\frac{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}{(r - \mu)\lambda c} \right)^\lambda \left\{ \begin{array}{l} \underbrace{\frac{\eta\alpha(r - \mu)\lambda^2 c}{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}}_{-} \underbrace{\frac{-(1 - q)\alpha}{1 - (1 - q)\eta\alpha}}_{-} \\ + \underbrace{\frac{\eta q(1 - (1 - q)\eta\alpha) + (1 - q)\eta^2 \alpha}{(1 - (1 - q)\eta\alpha)^2}}_{+} \end{array} \right\}$$

< 0,

$$\frac{\partial^2 E}{\partial \eta \partial q} = \underbrace{\frac{c}{r}}_{-} \underbrace{\frac{1 - \lambda^2(r - \mu)c}{rX(\lambda - 1)}}_{+} \left(\frac{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}{(r - \mu)\lambda c} \right)^\lambda \left\{ \begin{array}{l} \underbrace{\frac{\eta\alpha(r - \mu)\lambda^2 c}{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}}_{-} \underbrace{\frac{-(1 - q)\alpha}{1 - (1 - q)\eta\alpha}}_{-} \\ + \underbrace{\frac{\alpha q(1 - (1 - q)\eta\alpha) + (1 - q)\alpha^2 \eta}{(1 - (1 - q)\eta\alpha)^2}}_{+} \end{array} \right\}$$

< 0,

and

$$\frac{\partial^2 E}{\partial c \partial q} = \underbrace{\left(\frac{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)}{(r - \mu)\lambda c} \right)^\lambda}_{+} \underbrace{\frac{\eta\alpha(r - \mu)\lambda^2 c}{Xr(\lambda - 1)(1 - (1 - q)\eta\alpha)r(1 - \lambda)}}_{-} \underbrace{(2 - \lambda)}_{+}$$

< 0.

Using the fact that,

$$\beta_E = \frac{\Omega(1 - \tau)}{E} + \lambda,$$

where

$$\Omega = X/(r - \mu) - \lambda(X/(r - \mu) - c/r) > 0,$$

we have

$$\frac{\partial \beta_E}{\partial \alpha} = \frac{\partial \beta_E}{\partial E} \frac{\partial E}{\partial \alpha} = \underbrace{-\frac{\Omega(1 - \tau)}{E^2}}_{-} \underbrace{\frac{\partial E}{\partial \alpha}}_{+} < 0$$

$$\frac{\partial \beta_E}{\partial \eta} = \frac{\partial \beta_E}{\partial E} \frac{\partial E}{\partial \eta} = \underbrace{-\frac{\Omega(1 - \tau)}{E^2}}_{-} \underbrace{\frac{\partial E}{\partial \eta}}_{+} < 0,$$

$$\frac{\partial \beta_E}{\partial q} = \frac{\partial \beta_E}{\partial E} \frac{\partial E}{\partial q} = \underbrace{-\frac{\Omega(1-\tau)}{E^2}}_{-} \underbrace{\frac{\partial E}{\partial q}}_{-} > 0,$$

Moreover,

$$\frac{\partial^2 \beta_E}{\partial \alpha \partial q} = \frac{\partial \beta_E}{\partial E} \frac{\partial^2 E}{\partial \alpha \partial q} = \underbrace{-\frac{\Omega(1-\tau)}{E^2}}_{-} \underbrace{\frac{\partial^2 E}{\partial \alpha \partial q}}_{-} > 0,$$

$$\frac{\partial^2 \beta_E}{\partial \eta \partial q} = \frac{\partial \beta_E}{\partial E} \frac{\partial^2 E}{\partial \eta \partial q} = \underbrace{-\frac{\Omega(1-\tau)}{E^2}}_{-} \underbrace{\frac{\partial^2 E}{\partial \eta \partial q}}_{-} > 0.$$

Further, $\frac{\partial \Omega}{\partial c} > 0$ and $\frac{\partial E}{\partial c} < 0$ imply that

$$\begin{aligned} \frac{\partial^2 \beta_E}{\partial c \partial q} &= \frac{\partial \beta_E}{\partial E} \frac{\partial^2 E}{\partial c \partial q} + \frac{\partial E}{\partial q} \frac{\partial^2 \beta_E}{\partial E \partial c} \\ &= \underbrace{-\frac{\Omega(1-\tau)}{E^2}}_{-} \underbrace{\frac{\partial^2 E}{\partial c \partial q}}_{-} + \underbrace{\frac{\partial}{\partial c} \left\{ -\frac{\Omega(1-\tau)}{E^2} \right\}}_{-} \underbrace{\frac{\partial E}{\partial q}}_{-} > 0. \end{aligned}$$

Finally,

$$\begin{aligned} \lim_{q \rightarrow 1} \frac{\partial \beta_E}{\partial \alpha} &= \lim_{q \rightarrow 1} \frac{\partial \beta_E}{\partial E} \frac{\partial E}{\partial \alpha} = -\frac{\Omega(1-\tau)}{E^2} \frac{\partial E}{\partial \alpha} = 0, \\ \lim_{q \rightarrow 1} \frac{\partial \beta_E}{\partial \eta} &= \lim_{q \rightarrow 1} \frac{\partial \beta_E}{\partial E} \frac{\partial E}{\partial \eta} = -\frac{\Omega(1-\tau)}{E^2} \frac{\partial E}{\partial \eta} = 0. \end{aligned}$$

Summarizing,

Lemma IA1: *The equity beta is:*

1. *increasing in q ,*
2. *decreasing in α and η ,*
3. *less sensitive (in absolute value) to α and η as q increases,*
4. *insensitive to α and η for $q = 1$,*
5. *more sensitive to q as c increases.*

Case 2: Strategic Debt Service

As discussed in Fan and Sundaresan (2000), an alternative to the equity-swap procedure is the “strategic debt service”, in which debt holders (at the endogenously determined trigger point) accept a

reduced level of debt payment but let the firm continue operations. The reduced debt payment enables shareholders to get potential tax benefits in the future, and the present value of such tax benefits is included in the bargaining process with debt holders. Following Fan and Sundaresan (2000), and using the same steps as above, the value of equity for $X > X_B$ and the endogenous default threshold X_B can be written as

$$E(X) = (1 - \tau) \left(\frac{X}{r - \mu} - \frac{c}{r} \right) + \left[\frac{(1 - \tau)c}{(1 - \lambda)r} - \eta(1 - q) \frac{\lambda(1 - \lambda_1)}{(\lambda_1 - \lambda)(1 - \lambda)} \frac{\tau c}{r} \right] \left(\frac{X}{X_B} \right)^{\lambda_1}$$

$$X_B = \frac{r - \mu}{1 - \tau} \frac{\lambda}{\lambda - 1} \frac{c}{r} \left(\frac{1 - \tau + \tau\eta(1 - q)}{1 - \alpha\eta(1 - q)} \right)$$

The equity beta is derived as in the model with debt-for-equity swap. The implications of this alternative set-up are thus identical the ones discussed in the main text. They are illustrated in Figure IA.1

Internet Appendix B. Figures and Tables

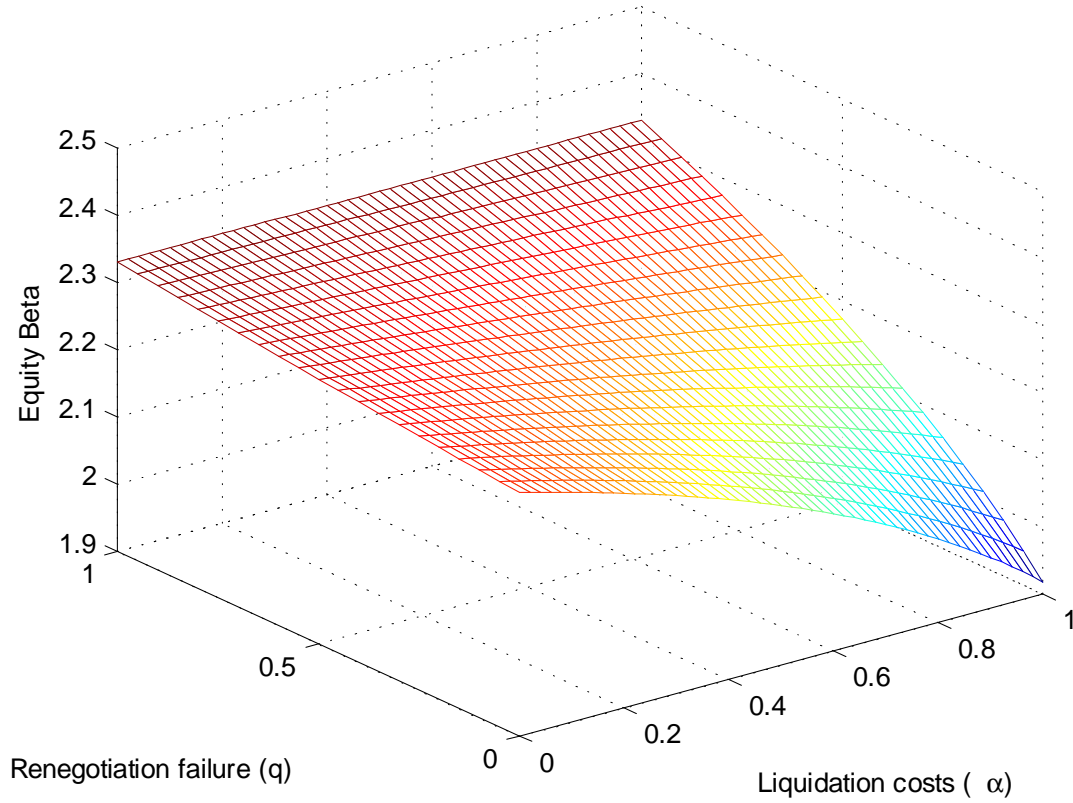


FIGURE IA. 1: This figure shows the model's simulated market beta as a function of the liquidation costs, α , and the probability of renegotiation failure, q in the model with strategic debt service. The model's parameters have been set to $\tau = 0.35, X = 10, c = 6, r = 0.06, \mu = 0.01, \sigma = 0.4, \eta = 0.6$.

Table IA.1: Equity Beta and Renegotiation Frictions: Dropping Firms

Panel A of this table shows the pooled OLS estimates of the regression of the firm's *Domestic market beta* on proxies of shareholders' bargaining power (*Insiders' share*), liquidation costs (*Intangibles* and *Intangibles (with cash)*), our measure of renegotiation frictions (*Renegotiation failure*), and firm-specific controls. Sources and definitions for all variables are in Table I. The sample consists of monthly observations from 1993 to 2006. In this Table, we drop firms that have more than *six* consecutive zero returns. Each firm's domestic market beta is computed each month from the regression of the past 60 monthly returns on the domestic market's contemporaneous return. Standard errors are adjusted for correlation within firms and time, and are reported in parentheses. Panel B reports statistics for the economic significance of the estimates in panel A, expressed in terms of average monthly excess returns.

Panel A: Pooled OLS estimates					
	(1)	(2)	(3)	(4)	(5)
<i>Size</i>	0.041*** (0.004)	0.032*** (0.004)	0.034*** (0.004)	0.044*** (0.004)	0.035*** (0.004)
<i>Book-to-Market</i>	0.021* (0.011)	0.054*** (0.011)	0.052*** (0.011)	0.018* (0.011)	0.053*** (0.011)
<i>Leverage projection</i>	0.101** (0.047)	-0.086** (0.043)	-0.106** (0.043)	0.115** (0.047)	-0.080* (0.044)
<i>Renegotiation failure</i>	0.116*** (0.027)	0.104*** (0.026)	-0.046 (0.049)	-0.296*** (0.101)	-0.205* (0.114)
<i>Insiders' share</i>	-0.088*** (0.027)	-0.075*** (0.028)	-0.276*** (0.064)		
<i>Intangibles</i>	-0.632*** (0.053)			-1.172*** (0.140)	
<i>Intangibles (with cash)</i>		0.211*** (0.049)			-0.115 (0.126)
<i>Insiders' share</i> × <i>Renegotiation failure</i>			0.353*** (0.095)		
<i>Intangibles</i> × <i>Renegotiation failure</i>				0.935*** (0.210)	
<i>Intangibles (with cash)</i> × <i>Renegotiation failure</i>					0.567*** (0.195)
<i>Constant</i>	0.758*** (0.038)	0.444*** (0.044)	0.654*** (0.046)	0.939*** (0.068)	0.573*** (0.078)
<i>F</i> statistic	3,017.734	1,536.369	1,559.617	3,024.600	1,521.461
Observations	384,511	384,511	384,511	384,511	384,511
Average adjusted <i>R</i> ²	0.05	0.03	0.03	0.05	0.03

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

(Continues)

Table IA.1: continued

Panel B: Further Tests of the Model's Implications

$$H_0 : \frac{\partial \mathbb{E}(r_i - r | \text{Renegotiation failure} = 1)}{\partial \text{Intangibles or Insiders' share}} = 0$$

(3) (4) (5)

Test statistic	0.066*	-0.202**	0.385***
Standard error	(0.039)	(0.082)	(0.080)

$$H_0 : \mathbb{E}(r_i - r | \text{Renegotiation failure} = 1) - \mathbb{E}(r_i - r | \text{Renegotiation failure} = 0) = 0$$

(3) (4) (5)

Test statistic evaluated at average <i>Intangibles or Insiders' share</i>	0.081***	0.113***	0.112***
Standard error	(0.023)	(0.022)	(0.022)

Test statistic evaluated at maximum <i>Intangibles or Insiders' share</i>	0.262***	0.431***	0.310***
Standard error	(0.051)	(0.074)	(0.074)

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

Table IA. 2: Robustness to Alternative Definitions of Beta

Panel A of this table shows the pooled OLS estimates of the regression of alternative definitions of firm's beta on proxies of shareholders' bargaining power (*Insiders' share*), liquidation costs (*Intangibles* and *Intangibles (with cash)*), our measure of renegotiation frictions (*Renegotiation failure*), and firm-specific controls. Sources and definitions for all variables are in Table I. The sample consists of monthly observations from 1993 to 2006. In columns 1 to 3, the dependent variable is the firm's *Overall Market beta* for all stocks, computed as the sum of the beta of the regression of the firm's monthly returns on the contemporaneous MSCI World index returns and the residuals of the regression of the domestic market returns on the MSCI World returns, using 60 months rolling windows. In columns 4 to 6, the dependent variable is the *World Market beta* for all stocks, computed from the regression of the past 60 monthly returns on the contemporaneous MSCI World index returns. Standard errors are adjusted for correlation within firms and time, and are reported in parentheses. Panel B reports statistics for the economic significance of the estimates in panel A, expressed in terms of average monthly excess returns.

Panel A: OLS estimates						
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Size</i>	0.069*** (0.009)	0.090*** (0.008)	0.069*** (0.008)	0.061*** (0.005)	0.075*** (0.005)	0.064*** (0.005)
<i>Book-to-market</i>	0.073*** (0.023)	-0.009 (0.023)	0.077*** (0.023)	-0.022* (0.012)	-0.059*** (0.014)	-0.021* (0.012)
<i>Leverage projection</i>	-0.131 (0.091)	0.411*** (0.110)	-0.087 (0.091)	0.037 (0.053)	0.288*** (0.072)	0.090* (0.052)
<i>Renegotiation failure</i>	-0.235** (0.092)	-0.665*** (0.190)	-0.406* (0.222)	-0.356*** (0.051)	-0.388*** (0.112)	-0.226* (0.127)
<i>Insiders' share</i>	-0.562*** (0.063)			-0.592*** (0.065)		
<i>Insiders' share</i> × <i>Renegotiation failure</i>	0.864*** (0.179)			0.780*** (0.107)		
<i>Intangibles</i>		-2.654*** (0.297)			-1.185*** (0.178)	
<i>Intangibles</i> × <i>Renegotiation failure</i>		1.837*** (0.395)			0.888*** (0.232)	
<i>Intangibles (with cash)</i>			-0.140 (0.256)			0.111 (0.153)
<i>Intangibles (with cash)</i> × <i>Renegotiation failure</i>			0.950*** (0.377)			0.411* (0.224)
<i>Constant</i>	1.332*** (0.098)	2.014*** (0.135)	1.144*** (0.155)	0.646*** (0.053)	0.761*** (0.079)	0.268*** (0.087)
<i>F</i> statistic	1,289.95	3,174.24	1,286.10	4,030.99	4,241.21	3,614.19
Observations	376,890	376,890	376,890	376,890	376,890	376,890
Average adjusted <i>R</i> ²	0.02	0.05	0.02	0.06	0.06	0.05

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

(Continues)

Table IA.2: continued

Panel B: Further Tests of the Model's Implications

$$H_0 : \frac{\partial \mathbb{E}(r_i - r | \text{Renegotiation failure} = 1)}{\partial \text{Intangibles or Insiders' share}} = 0$$

	(1)	(2)	(3)	(4)	(5)	(6)
Test statistic	0.111**	-0.299***	0.296***	0.137***	-0.216**	0.382***
Standard error	(0.033)	(0.071)	(0.064)	(0.043)	(0.094)	(0.077)
$H_0 : \mathbb{E}(r_i - r \text{Renegotiation failure} = 1) - \mathbb{E}(r_i - r \text{Renegotiation failure} = 0) = 0$						
	(1)	(2)	(3)	(4)	(5)	(6)
Test statistic evaluated at average <i>Intangibles or Insiders' share</i>	0.040**	0.065***	0.058***	-0.033	0.014	0.013
Standard error	(0.019)	(0.018)	(0.013)	(0.022)	(0.021)	(0.021)
Test statistic evaluated at maximum <i>Intangibles or Insiders' share</i>	0.229***	0.332***	0.198***	0.310***	0.273***	0.135***
Standard error	(0.043)	(0.059)	(0.061)	(0.053)	(0.069)	(0.075)

Table IA. 3: Equity Beta and Renegotiation Frictions

This table shows the full set of estimates of the regression of the difference between the firm's beta and the average beta of all firms in the same country-month on proxies for shareholders' bargaining power (*Insiders' share*) and liquidation costs (*Intangibles* and *Intangibles (with cash)*) (see Table A.3 in the paper). All firm-specific variables are in deviation from the average of all firms in the same country. Sources and definitions for all variables are in Table I. The sample period consists of monthly observations from 1993 to 2006. In Panel A, the dependent variable is the firm's *Domestic Market Beta* computed for every month from the regression of the latest 60 historical monthly returns on the contemporaneous domestic market return. In Panel B the dependent variable is either the *Domestic Market Beta* or the *Overall Market Beta* depending on whether the Karolyi and Stulz (2003) upper bound for asset pricing mistakes of using the domestic CAPM when the world CAPM is the correct model is larger than 0.5% returns per year. In Panel C, the dependent variable is either the *Domestic Market Beta* or the *World Market Beta* depending on whether the Bekaert, Harvey, Lundblad, and Siegel (2011) country-year segmentation measure of stocks that are not integrated to the world market is lower than the country's median. Standard errors are adjusted for correlation within firms and time, and are reported in parentheses. The table also reports statistics for the economic significance of the estimates, expressed in terms of average monthly excess returns.

Panel A: Domestic Market Betas					
	(1)	(2)	(3)	(4)	(5)
$\Delta Size$	0.020*** (0.003)	0.014*** (0.003)	0.016*** (0.003)	0.028*** (0.003)	0.023*** (0.003)
$\Delta Book\text{-}to\text{-}Market$	-0.019* (0.010)	-0.007 (0.010)	-0.010 (0.010)	-0.018* (0.010)	-0.004 (0.010)
$\Delta Leverage\ projection$	0.100** (0.042)	0.028 (0.039)	0.012 (0.039)	0.124*** (0.043)	0.042 (0.040)
$\Delta Insiders' share$	-0.214*** (0.022)	-0.217*** (0.022)	-0.310*** (0.064)		
$\Delta Intangibles$	-0.275*** (0.048)			-0.608*** (0.126)	
$\Delta Intangibles (with cash)$		0.211*** (0.050)			-0.039 (0.126)
$\Delta (Insiders' share \times Renegotiation failure)$			0.162 (0.102)		
$\Delta (Intangibles \times Renegotiation failure)$				0.547*** (0.196)	
$\Delta (Intangibles (with cash) \times Renegotiation failure)$					0.436** (0.197)
<i>Constant</i>	0.025*** (0.005)	0.028*** (0.005)	0.027*** (0.005)	0.023*** (0.005)	0.026*** (0.005)
<i>F statistic</i>	1,994.513	1,857.725	1,729.677	1,237.884	1,062.013
<i>Observations</i>	376,884	376,884	376,884	376,884	376,884
<i>Average adjusted R²</i>	0.03	0.03	0.03	0.02	0.02

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

(Continues)

Table IA.3: continued

Further Tests of the Model's Implications

$$H_0 : \frac{\partial \mathbb{E}(r_i - r | \text{Renegotiation failure} = 1)}{\partial \text{Intangibles or Insiders' share}} = 0$$

	(3)	(4)	(5)
Test statistic	-0.125***	-0.051	0.167***
Standard error	(0.040)	(0.076)	(0.045)
$H_0 : \mathbb{E}(r_i - r \text{Renegotiation failure} = 1) - \mathbb{E}(r_i - r \text{Renegotiation failure} = 0) = 0$			
	(3)	(4)	(5)
Test statistic evaluated at average <i>Intangibles or Insiders' share</i>	0.055	0.211***	0.218***
Standard error	(0.034)	(0.076)	(0.098)
Test statistic evaluated at maximum <i>Intangibles or Insiders' share</i>	0.137	0.395***	0.368***
Standard error	(0.086)	(0.141)	(0.166)

Table IA.3: continued

Panel B: Domestic Market Betas or Overall Market Betas					
	(1)	(2)	(3)	(4)	(5)
Δ Size	0.063*** (0.006)	0.052*** (0.007)	0.055*** (0.006)	0.080*** (0.006)	0.068*** (0.007)
Δ Book-to-Market	-0.032* (0.019)	-0.007 (0.019)	-0.0102 (0.019)	-0.029 (0.019)	-0.001 (0.019)
Δ Leverage projection	0.125** (0.081)	-0.038 (0.075)	-0.067 (0.076)	0.172** (0.083)	-0.009 (0.076)
Δ Insiders' share	-0.428*** (0.042)	-0.435*** (0.042)	-0.787*** (0.113)		
Δ Intangibles	-0.600*** (0.096)			-1.144*** (0.234)	
Δ Intangibles (with cash)		0.367*** (0.103)			-0.037 (0.237)
Δ (Insiders' share \times Renegotiation failure)			0.617*** (0.181)		
Δ (Intangibles \times Renegotiation failure)				0.887** (0.348)	
Δ (Intangibles (with cash) \times Renegotiation failure)					0.706* (0.362)
Constant	0.042*** (0.009)	0.047*** (0.009)	0.045*** (0.009)	0.038*** (0.009)	0.042*** (0.009)
F statistic	2,814.119	2,669.291	2,643.600	2,078.636	1,915.123
Observations	376,884	376,884	376,884	376,884	376,884
Average adjusted R^2	0.04	0.04	0.04	0.03	0.03

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

(Continues)

Table IA.3: continued

Further Tests of the Model's Implications

$$H_0 : \frac{\partial \mathbb{E}(r_i - r | \text{Renegotiation failure} = 1)}{\partial \text{Intangibles or Insiders' share}} = 0$$

	(3)	(4)	(5)
Test statistic	-0.072*	-0.108	0.281***
Standard error	(0.037)	(0.070)	(0.076)
$H_0 : \mathbb{E}(r_i - r \text{Renegotiation failure} = 1) - \mathbb{E}(r_i - r \text{Renegotiation failure} = 0) = 0$			
	(3)	(4)	(5)
Test statistic evaluated at average <i>Intangibles or Insiders' share</i>	0.104***	0.171**	0.167*
Standard error	(0.031)	(0.067)	(0.090)
Test statistic evaluated at maximum <i>Intangibles or Insiders' share</i>	0.259***	0.320**	0.394*
Standard error	(0.076)	(0.126)	(0.152)

Table IA.3: continued

Panel C: Domestic Market Betas or World Market Betas					
	(1)	(2)	(3)	(4)	(5)
Δ Size	0.046*** (0.004)	0.040*** (0.004)	0.043*** (0.003)	0.055*** (0.004)	0.050*** (0.003)
Δ Book-to-Market	-0.009 (0.019)	0.002 (0.019)	-0.001 (0.019)	-0.008 (0.019)	0.005 (0.019)
Δ Leverage projection	0.030 (0.044)	-0.031 (0.041)	-0.050 (0.042)	0.060 (0.045)	-0.013 (0.042)
Δ Insiders' share	-0.246*** (0.025)	-0.248*** (0.025)	-0.454*** (0.065)		
Δ Intangibles	-0.247*** (0.053)			-0.608*** (0.133)	
Δ Intangibles (with cash)		0.225*** (0.058)			-0.007 (0.132)
Δ (Insiders' share \times Renegotiation failure)			0.361*** (0.101)		
Δ (Intangibles \times Renegotiation failure)				0.591*** (0.201)	
Δ (Intangibles (with cash) \times Renegotiation failure)					0.406** (0.196)
Constant	0.016*** (0.005)	0.018*** (0.005)	0.017*** (0.005)	0.014*** (0.005)	0.016*** (0.005)
F statistic	4,106.079	4,029.733	4,031.270	3,301.814	3,201.306
Observations	372,714	372,714	372,714	372,714	372,714
Average adjusted R^2	0.06	0.06	0.06	0.05	0.05

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

(Continues)

Table IA.3: continued

Further Tests of the Model's Implications

$$H_0 : \frac{\partial \mathbb{E}(r_i - r | \text{Renegotiation failure} = 1)}{\partial \text{Intangibles or Insiders' share}} = 0$$

	(3)	(4)	(5)
Test statistic	-0.079**	-0.014	0.335***
Standard error	(0.040)	(0.079)	(0.083)
$H_0 : \mathbb{E}(r_i - r \text{Renegotiation failure} = 1) - \mathbb{E}(r_i - r \text{Renegotiation failure} = 0) = 0$			
	(3)	(4)	(5)
Test statistic evaluated at average <i>Intangibles or Insiders' share</i>	0.121***	0.228***	0.203**
Standard error	(0.034)	(0.077)	(0.098)
Test statistic evaluated at maximum <i>Intangibles or Insiders' share</i>	0.304***	0.426**	0.341**
Standard error	(0.085)	(0.145)	(0.165)

Table IA. 4: Equity Beta, Renegotiation Frictions and Leverage

This table shows the full set of estimates of the regression of the firm's *Domestic market beta* on proxies of liquidation costs (*Intangibles* and *Intangibles with cash*), shareholders' bargaining power (*Insiders' share*), and our measure of renegotiation frictions (*Renegotiation failure*) (see Table VI in the paper). Sources and definitions for all variables are in Table I. The sample consists of monthly observations from 1993 to 2006. Each firm's *Domestic Market Beta* is computed each month from the regression of the past 60 monthly returns on its country's contemporaneous market return. The estimates in Panel A are for the two subsamples of High Leverage (HL) and Low Leverage (LL) firms. The HL and the LL subsamples include, respectively, the top and bottom three deciles of the distribution of *Leverage projection*. *Leverage projection* is the orthogonal projection of the firm's *Leverage* in year $t > 0$ on *Renegotiation failure*, the firm's initial *Leverage* ($t = 0$), the country's statutory corporate tax rate, the firm's *Intangibles*, *Insiders' share*, *Size* and *Book-to-market*, and yearly dummies. Standard errors adjusted for correlation within firms and time are reported in parentheses. This panel also reports statistics for the sensitivity of the equity beta to *Renegotiation failure* implied by the parameter estimates and evaluated at different values of the proxies for liquidation costs and shareholder's bargaining power. In Panel B, (HSD) and (LSD) contain firms in the top and bottom three deciles of the distribution of *Short-term debt projection*, which is defined following the same method as for *Leverage projection*.

	(1)		(2)		(3)	
	LL	HL	LL	HL	LL	HL
<i>Size</i>	0.032*** (0.006)	0.046*** (0.006)	0.042*** (0.006)	0.052*** (0.006)	0.037*** (0.007)	0.043*** (0.006)
<i>Book-to-Market</i>	0.043*** (0.018)	0.106*** (0.018)	-0.030 (0.019)	0.073*** (0.019)	0.029 (0.018)	0.108*** (0.018)
<i>Leverage projection</i>	-0.256* (0.137)	0.007 (0.087)	0.348** (0.164)	0.172* (0.089)	-0.128 (0.139)	0.086 (0.086)
<i>Renegotiation failure</i>	-0.111 (0.087)	-0.042 (0.084)	-0.154 (0.158)	-0.814*** (0.197)	-0.069 (0.200)	-0.477** (0.191)
<i>Insiders' share</i>	-0.485*** (0.107)	-0.170 (0.108)				
<i>Insiders' share</i> × <i>Renegotiation failure</i>	0.416** (0.164)	0.433*** (0.159)				
<i>Intangibles</i>			-1.015*** (0.231)	-1.849*** (0.268)		
<i>Intangibles</i> × <i>Renegotiation failure</i>			0.692* (0.366)	1.931*** (0.392)		
<i>Intangibles (with cash)</i>					0.097 (0.213)	-0.539** (0.223)
<i>Intangibles (with cash)</i> × <i>Renegotiation failure</i>					0.359 (0.330)	1.025*** (0.341)
<i>Constant</i>	0.810*** (0.076)	0.422*** (0.087)	0.838*** (0.104)	1.163*** (0.139)	0.446*** (0.131)	0.672*** (0.137)
<i>F</i> statistic	712.658	861.805	810.469	1,412.098	489.482	809.369
Observations	113,284	112,837	113,284	112,837	113,284	112,837
Average adjusted R^2	0.04	0.04	0.04	0.07	0.03	0.04

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

(Continues)

Table IA.4: continued

Further Tests of the Model's Implications

$$H_0 : \frac{\partial \beta}{\partial \text{Renegotiation failure}}|_{HL} - \frac{\partial \beta}{\partial \text{Renegotiation failure}}|_{LL} = 0$$

	(1)		(2)		(3)	
	LL	HL	LL	HL	LL	HL
<hr/>						
$\frac{\partial \beta}{\partial \text{Renegotiation failure}}$ evaluated at:						
Average <i>Intangibles</i> or						
<i>Insiders' share</i>	0.063	0.126***	0.131***	0.134***	0.156***	0.111***
Standard error	(0.044)	(0.047)	(0.044)	(0.045)	(0.047)	(0.043)
<i>Intangibles</i> or						
<i>Insiders' share</i> = 0.5	0.097**	0.175***	0.192***	0.151***	0.111***	0.035
Standard error	(0.044)	(0.047)	(0.054)	(0.045)	(0.049)	(0.048)
<i>Intangibles</i> or						
<i>Insiders' share</i> = 1	0.305***	0.391***	0.539**	1.117***	0.291*	0.548***
Standard error	(0.099)	(0.101)	(0.219)	(0.205)	(0.152)	(0.150)

Table IA.4: continued

	(1)		(2)		(3)	
	LSD	HSD	LSD	HSD	LSD	HSD
<i>Size</i>	0.021*** (0.007)	0.042*** (0.007)	0.026*** (0.007)	0.057*** (0.007)	0.018** (0.007)	0.047*** (0.007)
<i>Book-to-Market</i>	0.063*** (0.018)	0.014 (0.019)	0.033* (0.019)	-0.018 (0.018)	0.069*** (0.018)	0.014 (0.019)
<i>Short term leverage projection</i>	-0.309*** (0.079)	0.082 (0.084)	-0.110 (0.090)	0.304*** (0.085)	-0.315*** (0.080)	0.133 (0.086)
<i>Renegotiation failure</i>	0.085 (0.080)	-0.272*** (0.095)	-0.450*** (0.163)	-0.100 (0.199)	-0.084 (0.184)	-0.126 (0.225)
<i>Insiders' share</i>	-0.146 (0.110)	-0.601*** (0.116)				
<i>Insiders' share</i> × <i>Renegotiation failure</i>	0.299** (0.161)	0.772*** (0.179)				
<i>Intangibles</i>			-1.255*** (0.210)	-1.023*** (0.299)		
<i>Intangibles</i> × <i>Renegotiation failure</i>			1.297*** (0.308)	0.531 (0.450)		
<i>Intangibles (with cash)</i>					-0.015 (0.200)	-0.018 (0.249)
<i>Intangibles (with cash)</i> × <i>Renegotiation failure</i>					0.483* (0.290)	0.425 (0.393)
<i>Constant</i>	0.652*** (0.078)	0.764*** (0.087)	1.125*** (0.119)	0.770*** (0.135)	0.616*** (0.136)	0.432*** (0.148)
<i>F</i> statistic	452.405	848.595	783.303	1,017.959	504.056	607.852
Observations	104,669	104,255	104,669	104,255	104,669	104,255
Average adjusted R^2	0.02	0.05	0.05	0.06	0.03	0.04

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

(Continues)

Table IA.4: continued

Further Tests of the Model's Implications

$$H_0 : \frac{\partial \beta}{\partial \text{Renegotiation failure}} \Big|_{HL} - \frac{\partial \beta}{\partial \text{Renegotiation failure}} \Big|_{LL} = 0$$

	(1)		(2)		(3)	
	LSD	HSD	LSD	HSD	LSD	HSD
<hr/>						
$\frac{\partial \beta}{\partial \text{Renegotiation failure}}$ evaluated at:						
Average <i>Intangibles</i> or						
<i>Insiders' share</i>	0.201***	0.059	0.176***	0.129**	0.212***	0.121**
Standard error	(0.045)	(0.051)	(0.044)	(0.051)	(0.042)	(0.050)
<i>Intangibles</i> or						
<i>Insiders' share</i> = 0.5	0.234***	0.114**	0.198***	0.166***	0.158***	0.086
Standard error	(0.047)	(0.052)	(0.043)	(0.061)	(0.054)	(0.054)
<i>Intangibles</i> or						
<i>Insiders' share</i> = 1	0.384***	0.500***	0.847***	0.432	0.400***	0.299*
Standard error	(0.104)	(0.111)	(0.157)	(0.263)	(0.118)	(0.181)

Table IA. 5: Robustness Analysis

This table presents the full set of estimates of the regression of the firm's *Domestic Market Beta* on proxies for shareholders' bargaining power (*Insiders' share*), liquidation costs (*Intangibles*), and alternative measures of renegotiation frictions (see Table VII in the paper). Sources and definitions for all variables are in Table I. The sample period consists of monthly observations from 1993 to 2006. The firm's *Domestic Market Beta* is computed for every month from the regression of the latest 60 historical monthly returns on its country's contemporaneous market return. Standard errors are adjusted for correlation within firms and time, and are reported in parentheses. In Panel A, our measure of renegotiation frictions is *Renegotiation failure*. Columns 1 and 2 report estimates for a subsample of firms with the proportion of foreign sales or foreign assets below a 5% threshold. Columns 3 and 4 report the results for a subsample of countries that have never changed their bankruptcy code between 1993 and 2005. Panel B reports estimates for the full sample of firms and countries, but uses the index of priority at which creditors are served in default (*Priority*), and the creditors' recovery rate (*Creditors' recovery*) as alternative measures of debt renegotiation frictions.

Panel A: Excluding multinational firms or years before last bankruptcy code change				
	(1)	(2)	(3)	(4)
<i>Stock market turnover</i>	-0.187*** (0.016)	-0.165*** (0.016)	-0.150*** (0.009)	-0.127*** (0.009)
<i>Stock market cap to GDP</i>	-0.126*** (0.023)	-0.130*** (0.024)	-0.090*** (0.014)	-0.092** (0.014)
<i>Private credit to GDP</i>	0.103*** (0.019)	0.098*** (0.019)	0.071*** (0.014)	0.077*** (0.015)
<i>French</i>	0.254*** (0.049)	0.188*** (0.048)	0.251*** (0.024)	0.185*** (0.024)
<i>German</i>	0.251*** (0.029)	0.211*** (0.030)	0.208*** (0.017)	0.155*** (0.018)
<i>Scandinavian</i>	-0.003 (0.063)	-0.023 (0.061)	-0.066** (0.031)	-0.092*** (0.031)
<i>Socialist</i>	0.314* (0.181)	0.237 (0.175)	0.000 (0.001)	0.000 (0.001)
<i>Size</i>	-0.007 (0.007)	0.001 (0.007)	0.019*** (0.004)	0.033*** (0.004)
<i>Book-to-Market</i>	-0.018 (0.016)	-0.031* (0.017)	-0.010 (0.011)	-0.020* (0.011)
<i>Leverage projection</i>	-0.167** (0.067)	-0.012 (0.074)	-0.031 (0.041)	0.105** (0.045)
<i>Renegotiation failure</i>	0.323*** (0.098)	-0.209 (0.209)	0.245*** (0.053)	-0.009 (0.102)
<i>Insiders' share</i>	-0.324** (0.136)		-0.434*** (0.064)	
<i>Intangibles</i>		-1.219*** (0.271)		-0.828*** (0.139)
<i>Insiders' share × Renegotiation failure</i>	0.328 (0.206)		0.330*** (0.096)	
<i>Intangibles × Renegotiation failure</i>		1.474*** (0.414)		0.848*** (0.204)
<i>Constant</i>	0.652*** (0.094)	0.996*** (0.149)	0.619*** (0.054)	0.708*** (0.075)
<i>F statistic</i>	2,243.042	2,288.909	5,179.640	4,752.762
<i>Observations</i>	101,827	101,827	342,672	342,672
<i>Average adjusted R²</i>	0.22	0.22	0.14	0.13

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

Continues)

Table IA.5: continued

	(1)	(2)	(3)	(4)
<i>Stock market turnover</i>	-0.189*** (0.010)	-0.162*** (0.010)	-0.153*** (0.009)	-0.133*** (0.009)
<i>Stock market cap to GDP</i>	-0.071*** (0.013)	-0.070*** (0.014)	-0.040*** (0.014)	-0.035** (0.014)
<i>Private credit to GDP</i>	0.044*** (0.015)	0.039*** (0.015)	-0.461*** (0.052)	-0.420*** (0.050)
<i>French</i>	0.051*** (0.021)	-0.004 (0.022)	0.054*** (0.020)	0.022 (0.021)
<i>German</i>	0.144*** (0.016)	0.089*** (0.017)	0.120*** (0.015)	0.077*** (0.015)
<i>Scandinavian</i>	-0.097*** (0.024)	-0.128*** (0.025)	-0.124*** (0.025)	-0.139*** (0.025)
<i>Socialist</i>	0.015 (0.128)	-0.110 (0.126)	-0.096 (0.129)	-0.199 (0.127)
<i>Size</i>	0.019*** (0.004)	0.033*** (0.004)	0.020*** (0.004)	0.030*** (0.004)
<i>Book-to-Market</i>	-0.008 (0.011)	-0.017 (0.011)	-0.010 (0.010)	-0.019* (0.011)
<i>Leverage projection</i>	-0.038 (0.041)	0.084* (0.045)	-0.030 (0.040)	0.076* (0.044)
<i>Priority</i>	-0.103*** (0.023)	0.169*** (0.042)		
<i>Recovery</i>			-0.719*** (0.090)	0.166 (0.115)
<i>Insiders' share</i>	-0.920*** (0.132)		-0.791*** (0.082)	
<i>Intangibles</i>		1.079*** (0.351)		0.449** (0.195)
<i>Insiders' share × Priority</i>	0.174*** (0.035)			
<i>Intangibles × Priority</i>		-0.362*** (0.091)		
<i>Insiders' share × Creditors' recovery</i>			0.739*** (0.103)	
<i>Intangibles × Creditors' recovery</i>				-0.890*** (0.237)
<i>Recovery × GDP growth</i>			0.520*** (0.060)	0.472*** (0.057)
<i>Constant</i>	1.404*** (0.096)	0.277* (0.162)	1.478*** (0.079)	0.711*** (0.094)
<i>F statistic</i>	4,006.603	3,501.730	4,513.083	4,009.880
<i>Observations</i>	351,099	351,099	351,333	351,333
<i>Average adjusted R²</i>	0.12	0.11	0.14	0.13

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

Table IA. 6: Volatility, Renegotiation Frictions and Institutional Variables

This table shows the full set of estimates of the regression of the firm's volatility on proxies for shareholders' bargaining power (*Insiders' share*), liquidation costs (*Intangibles*), and our measure of renegotiation frictions (*Renegotiation Failure*) (see Table VIII in the paper). Sources and definitions for all variables are in Table I. The sample period consists of all monthly observations from 1993 to 2006. In columns 1 and 2, the dependent variable is *Total return volatility*, defined as the annualized standard deviation of monthly stock returns over the past 60-months window. In columns 3 and 4, the dependent variable is *Systematic return volatility*, defined as the annualized square root of the difference between the variance of monthly stock returns and the variance of residuals from a regression of monthly returns on the lagged, contemporaneous, and lead domestic market index returns. In columns 5 and 6, the dependent variable is *Idiosyncratic return volatility*, defined as the annualized standard deviation of the residuals from a regression of monthly returns on the lagged, contemporaneous, and lead domestic market index returns. Standard errors are adjusted for correlation within firms and time, and are reported in parentheses.

Panel A: Pooled OLS estimates						
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Stock market turnover</i>	0.040*** (0.003)	0.045*** (0.003)	-0.012*** (0.003)	-0.007** (0.003)	0.054*** (0.003)	0.057*** (0.002)
<i>Stock market cap to GDP</i>	-0.002 (0.004)	-0.003 (0.004)	-0.021*** (0.003)	-0.022*** (0.003)	0.012*** (0.003)	0.011*** (0.003)
<i>Private credit to GDP</i>	-0.002 (0.004)	-0.002 (0.004)	0.023*** (0.004)	0.023*** (0.004)	-0.021*** (0.003)	-0.021*** (0.003)
<i>Growth options</i>	0.023*** (0.004)	0.024*** (0.004)	0.003 (0.003)	0.003 (0.003)	0.025*** (0.003)	0.025*** (0.003)
<i>French</i>	-0.016** (0.008)	-0.027*** (0.008)	0.051*** (0.007)	0.039*** (0.007)	-0.052*** (0.006)	-0.058*** (0.006)
<i>German</i>	0.008 (0.005)	-0.001 (0.005)	0.047*** (0.004)	0.039*** (0.004)	-0.017*** (0.004)	-0.023*** (0.004)
<i>Scandinavian</i>	-0.024*** (0.008)	-0.029*** (0.008)	0.019*** (0.007)	0.016** (0.007)	-0.041*** (0.006)	-0.044*** (0.006)
<i>Socialist</i>	0.194*** (0.033)	0.175*** (0.032)	0.167*** (0.047)	0.145*** (0.046)	0.107*** (0.017)	0.098*** (0.017)
<i>Size</i>	-0.014*** (0.001)	-0.011*** (0.001)	0.003*** (0.001)	0.005*** (0.001)	-0.018*** (0.001)	-0.017*** (0.001)
<i>Book-to-market</i>	-0.014*** (0.003)	-0.018*** (0.003)	-0.001 (0.002)	-0.004 (0.002)	-0.015*** (0.002)	-0.018*** (0.003)
<i>Leverage projection</i>	0.040*** (0.012)	0.076*** (0.012)	0.006 (0.009)	0.035*** (0.01)	0.036*** (0.01)	0.060*** (0.01)
<i>Renegotiation failure</i>	-0.073*** (0.013)	-0.069*** (0.026)	-0.012 (0.012)	-0.031 (0.022)	-0.078*** (0.011)	-0.069*** (0.021)
<i>Insiders' share</i>	-0.080*** (0.017)		-0.106*** (0.014)		-0.030** (0.013)	
<i>Insiders' share</i> × <i>Renegotiation failure</i>	0.105*** (0.024)		0.145*** (0.02)		0.031 (0.02)	
<i>Intangibles</i>		-0.149*** (0.033)		-0.176*** (0.029)		-0.073*** (0.027)
<i>Intangibles</i> × <i>Renegotiation failure</i>		0.076 (0.049)		0.159*** (0.042)		0.005 (0.04)
<i>Constant</i>	0.378*** (0.02)	0.393*** (0.023)	0.135*** (0.019)	0.152*** (0.022)	0.362*** (0.015)	0.370*** (0.018)
<i>F</i> statistic	1,968.48	2,032.53	3,478.95	3,361.64	4,867.89	4,981.82
Observations	351,082	351,082	351,082	351,082	351,082	351,082
Average adjusted <i>R</i> ²	0.08	0.09	0.11	0.11	0.17	0.18

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

Table IA. 7: Robustness to Dropping Firms Based on their Foreign Activity

This table presents the estimates of the regression of the firm's *Domestic Market Beta* on proxies for shareholders' bargaining power (*Insiders' share*), liquidation costs (*Intangibles*), and our measure of renegotiation frictions. Sources and definitions for all variables are in Table I. The sample period consists of monthly observations from 1993 to 2006. The firm's *Domestic Market Beta* is computed for every month from the regression of the latest 60 historical monthly returns on its country's contemporaneous market return. Standard errors are adjusted for correlation within firms and time, and are reported in parentheses. In columns 1 and 2 of Panel A we report estimates for a subsample of firms with the proportion of foreign sales to total sales below the sample average; and in columns 3 and 4 we keep firms with foreign sales below the median. Panel B reports statistics for the economic significance of the estimates in Panel A, expressed in terms of average monthly excess returns.

Panel A: Pooled OLS estimates				
	(1)	(2)	(3)	(4)
<i>Stock market turnover</i>	-0.178*** (0.014)	-0.156*** (0.014)	-0.191*** (0.016)	-0.170*** (0.017)
<i>Stock market cap to GDP</i>	-0.104*** (0.017)	-0.104*** (0.018)	-0.101*** (0.024)	-0.101*** (0.025)
<i>Private credit to GDP</i>	0.085*** (0.017)	0.090*** (0.018)	0.092*** (0.018)	0.088*** (0.019)
<i>French</i>	0.282*** (0.036)	0.221*** (0.035)	0.269*** (0.048)	0.215*** (0.048)
<i>German</i>	0.230*** (0.024)	0.196*** (0.024)	0.252*** (0.029)	0.215*** (0.029)
<i>Scandinavian</i>	0.021 (0.036)	0.008 (0.035)	-0.017 (0.054)	-0.036 (0.053)
<i>Socialist</i>	0.294* (0.161)	0.203 (0.159)	0.288 (0.178)	0.220 (0.173)
<i>Size</i>	0.013** (0.005)	0.022*** (0.005)	-0.003 (0.007)	0.005 (0.006)
<i>Book-to-market</i>	-0.008 (0.014)	-0.019 (0.014)	-0.014 (0.016)	-0.025 (0.016)
<i>Leverage projection</i>	-0.144** (0.057)	-0.011 (0.062)	-0.018*** (0.066)	0.035 (0.073)
<i>Renegotiation failure</i>	0.216*** (0.080)	-0.010 (0.156)	0.344*** (0.092)	-0.302 (0.192)
<i>Insiders' share</i>	-0.476*** (0.096)		-0.281** (0.131)	
<i>Insiders' share</i> × <i>Renegotiation failure</i>	0.529*** (0.147)		0.246 (0.194)	
<i>Intangibles</i>		-0.879*** (0.203)		-1.298*** (0.251)
<i>Intangibles</i> × <i>Renegotiation failure</i>		0.982*** (0.310)		1.635*** (0.379)
<i>Constant</i>	0.634*** (0.076)	0.738*** (0.111)	0.622*** (0.091)	1.025*** (0.139)
<i>F</i> statistic	2,380.41	2,275.27	2,069.38	2,119.59
Observations	142,151	142,151	103,120	103,120
Average adjusted R^2	0.17	0.17	0.20	0.21

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

(Continues)

Table IA.7: continued

Panel B: Further Tests of the Model's Implications

$$H_0 : \frac{\partial \mathbb{E}(r_i - r | \text{Renegotiation failure} = 1)}{\partial \text{Intangibles or Insiders' share}} = 0$$

	(1)	(2)	(3)	(4)
Test statistic	0.040	0.078	-0.022	0.209**
Standard error	(0.051)	(0.104)	(0.051)	(0.100)
$H_0 : \mathbb{E}(r_i - r \text{Renegotiation failure} = 1) - \mathbb{E}(r_i - r \text{Renegotiation failure} = 0) = 0$				
	(1)	(2)	(3)	(4)
Test statistic evaluated at average <i>Intangibles or Insiders' share</i>	0.335***	0.325***	0.279***	0.265***
Standard error	(0.041)	(0.040)	(0.041)	(0.039)
Test statistic evaluated at maximum <i>Intangibles or Insiders' share</i>	0.562***	0.626***	0.367***	0.683***
Standard error	(0.079)	(0.098)	(0.088)	(0.096)

Table IA. 8: Robustness to Dropping US and Japanese Firms

This table shows the pooled OLS estimates of the regression of the firm's *Domestic market beta* on proxies of shareholders' bargaining power (*Insiders' share*), liquidation costs (*Intangibles*), our measure of renegotiation frictions (*Renegotiation failure*), and firm-specific controls. Sources and definitions for all variables are in Table I. The sample consists of monthly observations from 1993 to 2006. In columns 1 and 2 of Panel A we exclude US firms; and in columns 3 and 4 we exclude Japanese firms. In columns 1 and 2 of Panel B we exclude both US and Japanese firms; in columns 3 and 4 we use a random sample of 1000 US and Japanese firms each. Each firm's *Domestic market beta* is computed each month from the regression of the past 60 monthly returns on the domestic market's contemporaneous return. Standard errors are adjusted for correlation within firms and time, and are reported in parentheses.

	(1)	(2)	(3)	(4)
<i>Size</i>	0.048*** (0.004)	0.063*** (0.004)	0.036*** (0.004)	0.043*** (0.004)
<i>Book-to-Market</i>	0.011 (0.011)	-0.001 (0.012)	0.044*** (0.013)	0.027** (0.013)
<i>Leverage projection</i>	0.085** (0.041)	0.238*** (0.047)	-0.323*** (0.060)	-0.197*** (0.066)
<i>Renegotiation failure</i>	-0.266*** (0.047)	-0.143 (0.092)	0.113** (0.051)	-0.189** (0.095)
<i>Insiders' share</i>	-0.676*** (0.059)		-0.095 (0.066)	
<i>Intangibles</i>		-0.725*** (0.132)		-0.673*** (0.139)
<i>Insiders' share</i> × <i>Renegotiation failure</i>	0.667*** (0.087)		0.022 (0.095)	
<i>Intangibles</i> × <i>Renegotiation failure</i>		0.574*** (0.190)		0.733*** (0.201)
<i>Constant</i>	0.789*** (0.046)	0.629*** (0.065)	0.521*** (0.050)	0.712*** (0.068)
<i>F</i> statistic	5,061.31	3,771.84	1,885.36	1,965.15
Observations	301,374	301,374	243,817	243,817
Average adjusted R^2	0.09	0.07	0.04	0.05

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

(Continues)

Table IA.8: continued

	(1)	(2)	(3)	(4)
<i>Size</i>	0.067*** (0.004)	0.075*** (0.004)	0.044*** (0.004)	0.054*** (0.004)
<i>Book-to-Market</i>	0.001 (0.012)	0.003 (0.013)	0.048*** (0.011)	0.021* (0.012)
<i>Leverage projection</i>	0.014 (0.058)	0.011 (0.068)	-0.145*** (0.050)	0.043 (0.055)
<i>Renegotiation failure</i>	-0.083* (0.046)	0.043 (0.085)	-0.015 (0.048)	-0.221** (0.096)
<i>Insiders' share</i>	-0.459*** (0.059)		-0.271*** (0.065)	
<i>Intangibles</i>		-0.080 (0.133)		-0.925*** (0.139)
<i>Insiders' share × Renegotiation failure</i>	0.337*** (0.087)		0.278*** (0.092)	
<i>Intangibles × Renegotiation failure</i>		0.212 (0.179)		0.792*** (0.201)
<i>Constant</i>	0.503*** (0.051)	0.240*** (0.065))	0.577*** (0.048)	0.757*** (0.068)
<i>F statistic</i>	5,107.61	3,988.00	2,156.62	2,683.70
<i>Observations</i>	168,307	168,307	280,146	280,146
<i>Average adjusted R²</i>	0.09	0.07	0.15	0.13

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

Table IA. 9: Robustness to Scholes-Williams Betas

Panel A of this table shows the pooled OLS estimates of the regression of the firm's *Domestic market beta* on proxies of shareholders' bargaining power (*Insiders' share*), liquidation costs (*Intangibles* and *Intangibles (with cash)*), our measure of renegotiation frictions (*Renegotiation failure*), and firm-specific controls. In this table we compute the *Domestic market beta* using the Scholes and Williams (1977) methodology to take into account asynchronous trading, using 60 monthly return observations. Sources and definitions for all variables are in Table I. The sample consists of monthly observations from 1993 to 2006. Standard errors are adjusted for correlation within firms and time, and are reported in parentheses. Panel B reports statistics for the economic significance of the estimates in panel A, expressed in terms of average monthly excess returns.

Panel A: Pooled OLS estimates					
	(1)	(2)	(3)	(4)	(5)
<i>Stock market turnover</i>	-0.184*** (0.012)	-0.195*** (0.012)	-0.192*** (0.012)	-0.173*** (0.012)	-0.184*** (0.012)
<i>Stock market cap to GDP</i>	-0.125*** (0.018)	-0.123*** (0.018)	-0.124*** (0.018)	-0.123*** (0.018)	-0.124*** (0.018)
<i>Private credit to GDP</i>	0.236*** (0.017)	0.237*** (0.017)	0.238*** (0.017)	0.241*** (0.017)	0.243*** (0.017)
<i>French</i>	0.447*** (0.034)	0.459*** (0.034)	0.459*** (0.035)	0.419*** (0.034)	0.431*** (0.034)
<i>German</i>	0.191*** (0.023)	0.203*** (0.023)	0.204*** (0.023)	0.164*** (0.023)	0.177*** (0.023)
<i>Scandinavian</i>	0.009*** (0.033)	0.010*** (0.032)	0.099*** (0.033)	0.082*** (0.033)	0.094*** (0.032)
<i>Socialist</i>	0.539*** (0.150)	0.553*** (0.152)	0.555*** (0.151)	0.487*** (0.150)	0.490*** (0.152)
<i>Size</i>	-0.006 (0.005)	-0.011** (0.005)	-0.009* (0.005)	0.002 (0.005)	-0.003 (0.004)
<i>Book-to-Market</i>	-0.054*** (0.014)	-0.045*** (0.014)	-0.047*** (0.014)	-0.053*** (0.014)	-0.041*** (0.014)
<i>Leverage projection</i>	0.026 (0.051)	-0.026 (0.048)	-0.038 (0.048)	0.055 (0.052)	-0.016 (0.048)
<i>Renegotiation failure</i>	0.558*** (0.051)	0.565*** (0.051)	0.534*** (0.074)	-0.004 (0.149)	0.007 (0.178)
<i>Insiders' share</i>	-0.182*** (0.030)	-0.188*** (0.030)	-0.228*** (0.085)		
<i>Intangibles</i>	-0.222*** (0.065)			-0.986*** (0.191)	
<i>Intangibles (with cash)</i>		0.188*** (0.133)			-0.415** (0.186)
<i>Insiders' share × Renegotiation failure</i>			0.072 (0.133)		
<i>Intangibles × Renegotiation failure</i>				1.245*** (0.296)	
<i>Intangibles (with cash) × Renegotiation failure</i>					1.005*** (0.297)
<i>Constant</i>	0.729*** (0.079)	0.555*** (0.083)	0.668*** (0.084)	0.927*** (0.111)	0.734*** (0.129)
<i>F statistic</i>	3,088.37	3,082.04	3,050.41	2,988.64	2,928.28
<i>Observations</i>	343,190	343,190	343,190	343,190	343,190
<i>Average adjusted R²</i>	0.09	0.09	0.09	0.09	0.09

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

(Continues)

Table IA.9: continued

Panel B: Further Tests of the Model's Implications

$$H_0 : \frac{\partial \mathbb{E}(r_i - r | \text{Renegotiation failure} = 1)}{\partial \text{Intangibles or Insiders' share}} = 0$$

(3) (4) (5)

Test statistic	-0.127**	0.212*	0.482***
Standard error	(0.050)	(0.109)	(0.115)

$$H_0 : \mathbb{E}(r_i - r | \text{Renegotiation failure} = 1) - \mathbb{E}(r_i - r | \text{Renegotiation failure} = 0) = 0$$

(3) (4) (5)

Test statistic evaluated at average <i>Intangibles or Insiders' share</i>	0.460***	0.461***	0.489***
Standard error	(0.042)	(0.042)	(0.042)

Test statistic evaluated at maximum <i>Intangibles or Insiders' share</i>	0.495***	0.867***	0.826***
Standard error	(0.077)	(0.101)	(0.111)

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

Table IA. 10: Robustness to Fama and MacBeth Estimator

This table shows the Fama and MacBeth estimates of the regression of the *Domestic Market Beta* on proxies for shareholders' bargaining power (*Insiders' share*), liquidation costs (*Intangibles*, and *Intangibles (with cash)*), and our measure of renegotiation frictions (*Renegotiation failure*). Sources and definitions for all variables are in Table ???. The sample period consists of monthly observations from 1993 to 2006. Each firm's *Domestic Market Beta* is computed for every month from the regression of the latest 60 historical monthly returns on its contemporaneous domestic market return. Standard errors adjusted for serial correlation (Newey-West) are in parentheses.

	(1)	(2)	(3)	(4)	(5)
<i>Size</i>	0.041*** (0.001)	0.034*** (0.001)	0.036*** (0.001)	0.044*** (0.001)	0.037*** (0.001)
<i>Book-to-Market</i>	0.027*** (0.009)	0.062*** (0.008)	0.059*** (0.008)	0.024*** (0.009)	0.060*** (0.008)
<i>Leverage projection</i>	0.151*** (0.029)	-0.039* (0.022)	-0.056** (0.022)	0.162*** (0.028)	-0.035 (0.022)
<i>Renegotiation failure</i>	0.113*** (0.009)	0.106*** (0.008)	-0.014 (0.019)	-0.271*** (0.025)	-0.145*** (0.025)
<i>Insiders' share</i>	-0.070*** (0.012)	-0.059*** (0.013)	-0.227*** (0.027)		
<i>Intangibles</i>	-0.609*** (0.028)			-1.115*** (0.04)	
<i>Intangibles (with cash)</i>		0.192*** (0.016)			-0.070*** (0.02)
<i>Insiders' share</i> × <i>Renegotiation failure</i>			0.295*** (0.032)		
<i>Intangibles</i> × <i>Renegotiation failure</i>				0.870*** (0.051)	
<i>Intangibles (with cash)</i> × <i>Renegotiation failure</i>					0.456*** (0.05)
<i>Constant</i>	0.718*** (0.014)	0.420*** (0.018)	0.601*** (0.022)	0.897*** (0.016)	0.526*** (0.012)
Observations	376,884	376,884	376,884	376,884	376,884
Number of months	139	139	139	139	139
Average adjusted R^2	0.07	0.05	0.05	0.07	0.04

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

Table IA. 11: Robustness to Matching Firms by Generalized Propensity Score

Panel A of this table shows the estimates of the regression of the firm's *Domestic market beta* on proxies of shareholders' bargaining power (*Insiders' share*), liquidation costs (*Intangibles* and *Intangibles (with cash)*), our measure of renegotiation frictions (*Renegotiation failure*), and estimated generalized propensity scores (GPS). Sources and definitions for all variables are in Table I. The sample consists of monthly observations from 1993 to 2006. Firms are matched by *Size*, *Book-to-Market*, and *Leverage projection* using the propensity score approach proposed by Hirano and Imbens (2004), which generalizes the matching procedure to the case of a continuous treatment. This parametric approach consists of two steps. In the first step, we estimate the parameters of the conditional distribution of *Renegotiation failure* given *Size*, *Book-to-Market*, and *Leverage projection* by maximum likelihood. The generalized propensity score is the predicted conditional density of *Renegotiation failure* given the covariates. In the second step, we include the estimated GPS as a control variable in our baseline regression, and estimate the parameters with OLS. Each firm's domestic market beta is computed each month from the regression of the past 60 monthly returns on the domestic market's contemporaneous return. Standard errors are adjusted for correlation within firms and time, and are reported in parentheses. Panel B reports statistics for the economic significance of the estimates in panel A, expressed in terms of average monthly excess returns.

Panel A: Pooled OLS estimates					
	(1)	(2)	(3)	(4)	(5)
<i>Estimated GPS</i>	0.030*** (0.009)	0.031*** (0.009)	0.025*** (0.010)	0.038*** (0.009)	0.035*** (0.009)
<i>Renegotiation failure</i>	0.098*** (0.027)	0.106*** (0.026)	-0.011 (0.049)	-0.325*** (0.101)	-0.148 (0.114)
<i>Insiders' share</i>	-0.149*** (0.027)	-0.110*** (0.028)	-0.268*** (0.071)		
<i>Intangibles</i>	-0.466*** (0.049)			-1.019*** (0.145)	
<i>Intangibles (with cash)</i>		0.258*** (0.051)			-0.012 (0.131)
<i>Insiders' share</i> × <i>Renegotiation failure</i>			0.260*** (0.106)		
<i>Intangibles</i> × <i>Renegotiation failure</i>				1.013*** (0.222)	
<i>Intangibles (with cash)</i> × <i>Renegotiation failure</i>					0.498*** (0.203)
<i>Constant</i>	0.941*** (0.036)	0.553*** (0.041)	0.788*** (0.048)	1.099*** (0.069)	0.639*** (0.079)
<i>F</i> statistic	2,251.988	1,251.646	988.949	1,828.295	1,059.504
Observations	376,884	376,884	376,884	376,884	376,884
Average adjusted <i>R</i> ²	0.03	0.01	0.01	0.02	0.01

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

(Continues)

Table IA.11: continued

Panel B: Further Tests of the Model's Implications

$$H_0 : \frac{\partial \mathbb{E}(r_i - r | \text{Renegotiation failure} = 1)}{\partial \text{Intangibles or Insiders' share}} = 0$$

(3) (4) (5)

Test statistic	-0.007	-0.005	0.409***
Standard error	(0.041)	(0.083)	(0.082)

$$H_0 : \mathbb{E}(r_i - r | \text{Renegotiation failure} = 1) - \mathbb{E}(r_i - r | \text{Renegotiation failure} = 0) = 0$$

(3) (4) (5)

Test statistic evaluated at average <i>Intangibles or Insiders' share</i>	0.078***	0.116***	0.124***
Standard error	(0.024)	(0.025)	(0.023)

Test statistic evaluated at maximum <i>Intangibles or Insiders' share</i>	0.210***	0.457***	0.94***
Standard error	(0.054)	(0.078)	(0.076)

^a Estimates followed by ***, ** and * are statistically different from zero with 0.01, 0.05 and 0.1 significance levels, respectively.

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