Agency Costs of Debt in Conglomerate Firms

Online Appendix

In this Appendix, I report additional tests for the paper "Agency Costs of Debt in Conglomerate Firms." Section 1 contains additional tests controlling for firm and industry events that might bias the results. Section 2 explores some extensions of the baseline model. Section 3 presents additional robustness tests on the dependent variable. A final section reports the details of the variables used in this study.

I. Firm and Industry Events

The main finding of this paper is that on the introduction of SFAS 131, single- to multi-segment (firms that change the number of their segments from one to two or more) suffer a sharp increase in the cost of borrowing.[1] I now investigate whether the results are partially driven by corporate and industry events contemporaneous with the reform. The first firm-related event I take into account is a merger. Leland (2007) finds that the coinsurance effect of mergers and acquisitions (M&A) is not always positive, which could increase the debt risk if the cash-flow volatility of the firm increases after the merger. This would imply that firms involved in

[1] I use the terms "segment units," "segments," "business units," and "operating units" interchangeably to refer to a business unit with separate financial reporting in the 10-K, and "restating diversified firms", "single-to multi-segment firms," and "switching firms" to refer to treated firms.

a merger immediately before or after the reform suffer an increase in their cost of borrowing because the merged firm has a higher risk profile.

To exclude this hypothesis, I exclude from my sample those firms in the treatment group that were part of an M&A one year before or after the reform, and run my baseline model on this new sample. I report the results in Table 1. The coefficient LnSEG×AFTER remains statistically and economically significant after excluding firms engaged in contemporaneous merger activity. The results confirm the economic relevance of the change in yield spread of the single- to multi-segment firms following the introduction of SFAS 131 and after excluding firms engaged in merger activity.

[Insert Table 1 about here]

Another potential concern is that my results are driven by an industry shock. If conglomerates operate in several industries that experience contemporaneous technological or regulatory shocks (Harvard (2005)), their cost of borrowing is potentially affected. I first investigate whether any technological shocks occurred in the years around the time of the SFAS 131 introduction. I identify the introduction of the Internet in 1998 (Harford (2005)) as the main industry shock contemporaneous with the reform. Furthermore, in the years 1996–2000, the dot-com bubble generates abnormal returns on the stock markets. Ljungqvist and Wilhelm (2003), for example, note that first-day returns on IPOs averaged about 17% and peaked at 69% in 1999. Internet IPOs averaged 88% during 1999 and 2000. Overall, the Nasdaq Composite stock market index rose by 400% in 2000 as a result of the dot-com bubble, making funding more beneficial to some companies. Because high-tech companies are often stand-alone firms, any changes in the cost of borrowing might be driven by stand-alone firms having a higher value during the dot-com bubble.

To control for industry-related events, I develop two versions of the main model. First, I exclude bonds issued by firms operating in the computer industry. Second, to control for the dot-com bubble's effects, I estimate a triple-difference estimation when I interact the main variable of interest, LnSEG×AFTER, with an indicator variable equal to one when the firm is in a high-tech industry. Following Loughran and Ritter (2001), high-tech companies are classified as active in industries with SIC codes 3571, 3572, 3575, 3577, 3578 (computer hardware), 3661, 3663, 3669 (communications equipment), 3674 (electronics), 3812 (navigation equipment), 3823, 3825, 3826, 3827, 3829 (measuring and controlling devices), 4899 (communication services), and 7370, 7371, 7372, 7373, 7374, 7375, 7378, and 7379 (software).

The results are in Table 2. Columns 1–2 of Table 2 report the results after excluding firms belonging to the computer industry, while Columns 3–4 report the estimates related to the dot-com bubble. The coefficient LnSEG×AFTER in Column 1 holds statistically and economically significant after excluding from my sample firms operating in the computer industry. Columns 3–4 also show that standalone firms in the dot-com industry did not experience a different cost of borrowing with respect to single-to-multisegment firms in the same industry. The hypothesis that the increase in the cost of borrowing is driven by industry shocks contemporaneous to the reform is not supported.

[Insert Table 2 about here]

Finally, I run a placebo test by assuming fake reform dates for my sample. I estimate the main model, and I assume a fake reform in 1993 and 1994. Table 3 reports the results. The results in Columns 1–2 assume a fake reform in 1993, while in Columns 3–4, I report the results for a difference-in-difference estimation for a reform occurring in 1994. Columns 1 and 3 report the results controlling for bond characteristics, and in Columns 2 and 4 I add firm controls. The coefficient LnSEG×AFTER is not statistically or economically relevant for any period before the reform. The placebo test confirms no statistically significant difference between the treatment and control firms in the years prior to the SFAS 131 introduction.

[Insert Table 3 about here]

II. Model Specifications

In my main analysis, I show that firms with high cross-segment risk are those most impacted by the reform. Following Berger and Hann (2007), and to corroborate the main hypothesis, I measure the contagion costs across segment units defined as the number of loss-making segments in the single- to multi-segment firms disclosed after the reform. This measure, which I label NLSEG, is is a crude proxy for the inefficient bailout of segments; loss-making segments persist in a conglomerate firm only because of coinsurance benefits (Berger and Ofek (1995)). Because there is a high correlation between NLSEG and the number of segments in my data, I replace the variable LnSEG×AFTER with the variable TREATED. This is an indicator variable equal to one if the firm is in the treatment group, and zero for control firms.

Following Billet and Mauer (2004) and Berger and Hann (2003) I also construct a measure of transfers (TRANSFERS) to compare the effect of contagion costs with the corporate socialism costs channel identified by Rajan et al. (2000). To identify which of the transfers are inefficient, I follow Billet and Mauer (2004), and classify a firm as having an inefficient internal capital market if they have at least one segment with positive transfers but a return on sales lower than the weighted-average return on sales of the remaining segments. The detailed on this variable are in section IV.. Therefore, I calculate a triple-difference estimation by adding an interaction term for these two variables (the number of loss-making segments and the measure of inefficient transfers in the treatment group) to my baseline estimation. Table 4 reports results.

[Insert Table 4 about here]

In Columns 1–2 of Table 4, I report the results for the interaction of the variable LnSEG×AFTER with the NLSEG variable (number of segments with losses). In Columns 3–4, I report the interaction of the variable TREATED×AFTER with the standardized version of the variable TRANSFERS. The coefficients in Column 1 show that single to multi-segment firms that experience losses at the segment level (and disclosed segment information immediately following the reform) have a cost of debt 56 bps higher than that of stand-alone firms. This finding supports the baseline result that bondholders are aware of contagion costs inside those firms that disclose as multi-segment firms following the introduction of SFAS 131. In Columns 3–4, I report the result for the corporate socialism channel. The coefficient TREATED×TRANSFERS is neither statistically nor economically relevant. This confirms that, as theorized by Meyers (1977), the main economic channel is contagion costs and the subsequent underinvestment problem that increases agency costs in the firm.

I also provide a robustness test of the analysis of the firm competitive environment. It is well known that Compustat covers only a portion of each industry and excludes private firms, and thus understates competition. Therefore, I use an alternative definition of industry concentration to verify the robustness of my results.[2] Similar to Botosan and Stanford (2005), I use the Speed of profit adjustment metric (SPA) measure (Harris (1998)) to capture the competitive environment of treatment and control groups. For each three-digit SIC code, I estimate the following regression:

$$X_{ijt} = \beta_{0j} + \beta_{1j} D_n X_{ijt-1} + \beta_{2j} D_p X_{ijt-1} + \epsilon_{ijt} \quad (1)$$

where X_{ijt} is the difference between firm' *i* ROA and industry *j* ROA in year t, D_n is a variable equal to one if X_{ijt-1} is less or equal than zero (zero otherwise), and D_p is a variable equal to one if X_{ijt-1} is greater than zero (zero otherwise). The coefficient β_{2j} estimates the persistence of firm performance above the average industry performance, and it reflects competition in the form of abnormal returns being persistent over time. The results in Table 5. The t-test difference on the competitive environment of treated and control firms is economically significant in only 1996, but it gets insignificant in the following years. This implies that the

[2] Census Bureau's published concentration ratios are available for only a subset of NAICS industries for 1997, 2002, 2007 and 2012 (Grullon et al. (2016)). In my setup (from 1995 to 2000), this implies to have few sub industries only for year 1997. I am therefore not able to fully replace concentration ratios with the Census-based measures to construct the measures as in Botosab and Stanford (2005).

treated firms had some competitive advantage in 1996 that disappears already in 1997, advantage which is not able alone to explain the significant increase in the yield spread of the single-to-multiple segment firms after the reform introduction.

[Insert Table 5 about here]

In the main analysis, I find that my results hold after filtering out the effect of the Asian financial crisis on the yield spreads of the treatment and control firms. The filtering method, however, assumes a linear relationship between the stock indexes of the countries involved in the crisis and the bond spreads in my sample. This might be problematic if the relationship between those variables is nonlinear. A nonlinear relationship between the stock indexes of the crisis countries and the bond spreads could potentially lead to a difference between treatment and control firms in their co-movement with these indexes .[3]

To rule out this possibility, I estimate four nonlinear models of the stock indexes of the crisis countries on the bond yields – and the stock returns – of treatment and control firms separately, and I test the null hypothesis that the public debt – and the equity – of treatment and control firms do not co-move uniformly with the indexes of the crisis countries. I estimate two types of non-linearity: 1) polynomial non linearity, where I assume a curvilinear relationship to the fourth polynomial degree, and 2) exponential non-linearity, where I assume that the stock indexes will increase exponentially rather than arithmetically with the yield spreads. For the two sub-samples of treated and control firms, I estimate the coefficients of the following models:

(2) $$y_{ijt} = \beta_{0j} + \beta_{1j}X_{jt} + \beta_{2j}X_{jt}^2 + \beta_{3j}X_{jt}^3 + \beta_{4j}X_{jt}^4 + \epsilon_{ijt}$$

(3) $$Ln(y)_{ijt} = \beta_{0j} + \beta_{1j}X_{jt} + \epsilon_{ijt}$$

[3]For example, Cootner (1962) noted that the interaction of informed traders and "noise traders" have potential non-linear consequences in the context of foreign exchange markets.

where X_{jt} is the vector of the stock indexes of the some Asian countries, Russian, and Brazilian stock markets, and $Ln(y)_{ijt}$ is the natural logarithm of the yield spreads - and stock returns - of treated and control firms. I test the null hypothesis that the coefficients β are similar across the two sub-samples. Table 6 reports the coefficients of the regressions, t-test statistics and p-value of those.

[Insert Table 6 about here]

Columns 1-5 reports the results where the dependent variables are the bond yield spreads. Columns 6–10 report the results with the dependent variable stock returns. The test shows that that the variance estimates between the fitted models are very close for the treatment and control groups, rejecting the null hypothesis of a statistically significant different co-movement with the indexes of the crisis countries of bond spreads and stock returns of treatment and control groups. I also plot the bonds spreads of the treatment and control groups, together with some crisis countries indexes, in Figure 1. The figure shows no significant different co-movement of treated and control firms' spreads with the indexes of the crisis countries.

[Insert Figure 1 about here]

III. Further Tests

Further tests control for additional variables in the main model to investigate whether the results are affected by the model choice. A recent paper of Kuppuswamy and Villalonga (2015) shows how conglomerates are more able to invest during the financial crisis. Following their approach, I add the investment ratio (CAPEX_SALES), and the dividend ratio, to my model specification. Additionally, following Berger and Hann (2007), I use all the measures of internal capital markets after the reform as controls in my baseline model.

Specifically, I control for the within-firm dispersion in investment opportunities, computed as the standard deviation of the market-to-book value across segments; cross-segments' operating risk, computed the standard deviation of the cash-flow volatility across segments; and the differences in investment opportunities across the newly revealed segments, computed as the average difference between the segment's market-to-book value, and the beginning-of-year asset-weighted average market-to-book value of all other segments in the firm. I report the results in Table 7.

[Insert Table 7 about here]

Columns 1-4 show that the coefficient LnSEG×AFTER holds statistically and economically significant under those model specifications. The effect of the reform increases up to 28 bps when controlling for the characteristics of the newly revealed business units. It also confirms a positive relationship between the volatility of segments' cash flow and firm' bond spread.

I also estimate some additional tests on the dependent variable and on the standard errors to check the robustness of my specification. In Table 8, I report the estimation the main model when I replace the dependent variable SPREAD with the variables EXCESS SPREAD and EXCESS YIELD, computed as the difference between the bond spread (yield) and the average spread (yield) of a portfolio of bonds in the same rating-maturity category [Bessembinder et al. (2009)]. The results confirm that treated firms suffer a sharp increase in the yield spreads when compared to their stand-alone peers. Finally, I estimate the baseline model with alternative clustering to control for the robustness of my statistics. The results, in Table 9, suggest that my results are not affected by the clustering choice of the standard errors. Overall, the robustness tests confirm the baseline results of an increase in the cost of borrowing of the single-to multi-segment firms after the SFAS 131 introduction.

[Insert Table 8 about here]

IV. Variables

A. Dependent Variables

EXCESS_SPREAD:is the difference, in basis points, between the bond spread - reported by Mergent Fixed Income Securities - and the average spread of a portfolio of bonds in the same rating-maturity category.

EXCESS_YIELD: is the difference, in basis points, between the bond yield - reported by Mergent Fixed Income Securities - and the average yield of a portfolio of bonds in the same rating-maturity category.

B. Other Variables

CFDIFF: Difference between the segment' cash flow and the average cash flow of the remaining segments. The segment' cash flow is computed as the operating income before depreciation scaled by lagged segment assets.

NLSEG: Number of loss segments, where the segment information is retrieved from Compustat Historical segment dataset.

MB(AVERAGE SEGMENTS): Average across segments' market-to-book value. This is computed in several steps. First, I assign to each segment unit the average market-to-book value in the correspondent industry, according to the closer SIC code. Second, I construct the average in growth options as the sales-weighted average of the market-to-book value of the segment units of the conglomerate.

MKBKDIFF: Difference between the segment' market-to-nook value and the average market-to-book value of the remaining segments. This is computed in several steps. First, I assign to each segment unit the average market-to-book value in the correspondent industry, according to the closer SIC code. Second, I construct the average in growth options as the sales-weighted average of the market-to-book value of the remaining segment units of the conglomerate. Third, I compute the difference.

TRANFERS: Following Billet and Mauer (2004), it is computed as the difference between the net capital expenditures at divisions level (max[capx - (operating profit + depreciation), 0]), and the net capital expenditures (capx) at firm level, scaled by firm total assets.

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Table 1: EXCLUDING M&A OPERATIONS

The table reports the estimates of the baseline model, after excluding firms engaging in M&A after the reform. The dependent variable is the yield spread of bond issues all non-financial (SIC 60-69) and non-utility (SIC 49) firms that issue bonds (bond-date frequency) on the US primary bond market, from 1995 to 2000. Data on bond issues are from FISD Mergent, accounting data are from Compustat. The treatment effect is the obligation to disclose the real number of segments after the reform. Firms that restate from one to multiple segments in 1998 compose my treatment group (treated), stand-alone firms compose my control group. The variable LnSEG×AFTER takes the value of the logarithm of the number of segments in years after the reform, and zero otherwise. The vector x includes the set of control variables used throughout, including bond issuer and year fixed effects. The standard errors are clustered at the firm-quarterly level. The symbols *,**, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	Dependent variable: SPREAD		
	1	2	3
LnSEG×AFTER	0.254**	0.242**	0.219*
	(2.55)	(2.35)	(1.90)
Bond Controls	Yes	Yes	Yes
Firm Controls	No	Yes	Yes
Year FE	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Observations	697	697	578
Adjusted R^2	0.872	0.876	0.846

Table 2: INDUSTRY SHOCKS

The table reports the estimates of the baseline model, after controlling for industry events. In columns 1-2, I exclude firms in the computer industry (SIC code 7373) from my analysis. The dependent variable is the yield spread of bond issues all non-financial (SIC 60-69) and non-utility (SIC 49) treated and control firms that issue bonds (bond-date frequency) on the US primary bond market, from 1995 to 2000. The treatment effect is the obligation to disclose the real number of segments after the reform. Firms that restate from one to multiple segments in 1998 compose my treated group, stand-alone firms compose my control group. The variable LnSEG×AFTER takes the value of the logarithm of the number of segments in years after the reform, and zero otherwise. The vector x includes the set of control variables used throughout, and bond issuer and year fixed effects. Data on bond issues are from FISD Mergent, accounting data are from Compustat. In columns 3-4, I interact the indicator variable equal to one of firms belonging to the tech. industry with the variable LnSEG×AFTER. In all specifications, the standard errors are clustered at the firm-quarterly level. The symbols $*$,$**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels.

	Dependent variable: SPREAD			
	1	2	3	4
LnSEG×AFTER	0.193**	0.195**	0.203**	0.212**
	(2.05)	(2.05)	(2.58)	(2.47)
LnSEG×AFTER×Dotcom			1.392	1.614
			(0.82)	(1.01)
Dotcom×AFTER			-3.035	-3.428
			(-1.00)	(-1.21)
Bond Controls	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes
Firm Fe	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	715	588	722	595
Adjusted R^2	0.872	0.848	0.874	0.852

Table 3: PLACEBO TEST

The table reports the estimates of the baseline model, when changing the year of the reform. The dependent variable is the yield spread of bond issues all non-financial (SIC 60-69) and non-utility (SIC 49) treated and control firms that issue bonds (bond-date frequency) on the US primary bond market, from 1990 to 1996 in columns 1-2, and from 1992 to 1997 in columns 3-4. The variable LnSEG(Placebo)×AFTER takes the value of the logarithm of the number of segments after 1993 (fake reform year in columns 1-2) and after 1994 (fake reform year in columns 3-4), and zero otherwise. Data on bond issues are from FISD Mergent, accounting data are from Compustat. The treatment effect is the obligation to disclose the real number of segments after the reform. Firms that restate from one to multiple segments in 1998 compose my treated group, stand-alone firms compose my control group. The vector x includes the set of control variables used throughout, including bond issuer and year fixed effects. The standard errors are clustered at the firm-quarterly level. The symbols *,**, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	1990-1996		1992-1997	
	1	2	3	4
LNSEG(Placebo)×AFTER	0.044	0.115	-0.114	-0.116
	(0.30)	(0.80)	(-0.77)	(-0.73)
Bond Controls	Yes	Yes	Yes	Yes
Firm Controls	No	Yes	No	Yes
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Observations	780	780	401	401
Adjusted R^2	0.862	0.870	0.862	0.881

Table 4: ECONOMIC CHANNEL - ROBUSTNESS TEST

The table reports the estimates of the baseline model, where the dependent variable is the yield spread of bond issues all non-financial (SIC 60-69) and non-utility (SIC 49) treated and control firms that issue bonds (bond-date frequency) on the US primary bond market, from 1995 to 2000. Data on bond issues are from FISD Mergent, accounting data are from Compustat. The treatment effect is the obligation to disclose the real number of segments after the reform. Firms that restate from one to multiple segments in 1998 compose my treatment group (treated), stand-alone firms compose my control group. The variable NLSEG is the number of segments with losses after the reform. The variable TRANSFERS is computed as the difference between the net capital expenditures at divisions level (max[capx - (operating profit + depreciation), 0]), and the net capital expenditures (capx) at firm level, scaled by firm total assets (Billet and Mauer (2004)). The variable AFTER includes years from 1998 to 2000. The vector *x* includes the set of control variables used throughout, and bond issuer and year fixed effects. In all specifications, the standard errors are clustered at the firm-quarterly level. The symbols*,**, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	Dependent variable: SPREAD			
	1	2	3	4
TREATED×AFTER	0.029	0.056	0.168	0.207*
	(0.240)	(0.480)	(1.425)	(1.695)
TREATED×AFTER×NLSEG	0.532*	0.566*		
	(1.89)	(1.95)		
TREATED×AFTER×TRANSFERS			0.001	-0.049
			(0.012)	(-0.651)
NLSEG×AFTER	-	-		
TRANSFERS×AFTER			0.025	0.041
			(0.427)	(0.832)
t-test(triple inter.)	3.57	3.81	0.001	0.421
p-value	(0.070)	(0.061)	(0.999)	(0.5216)
Bond Controls	Yes	Yes	Yes	Yes
Firm Controls	No	Yes	No	Yes
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Observations	722	722	722	722
Adjusted R^2	0.868	0.874	0.865	0.871

Table 5: COMPETITIVE ENVIRONMENT: HARRIS (1998) MEASURE - ROBUSTNESS TEST

The table reports the analysis of the competitive environment as in Botosan and Stanford (2005). The sample is composed by non-financial (SIC 60-69) and non-utility (SIC 49) treated and control firms that issue bonds (firm-year frequency) on the US primary bond market, from 1995 to 2000. Data on bond issues are from FISD Mergent, accounting data are from Compustat. The treatment effect is the obligation to disclose the real number of segments after the reform. Firms that restate from one to multiple segments in 1998 compose my treated group, stand-alone firms compose my control group. The table reports the t-test of the difference in the firm speed of profits adjustments (SPA) measure between treated and control firms, as computed according to Harris (1998), and explained in equation (1). In addition, treated and control group are paired according to a matching procedure, where firms are matched according to the size, industry (SIC three digits) and year. The symbols $*$,$**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels.

	Obs 1	Treated 2	Control 3	Diff. 2 - 3	t-stat 4
Competitive Environment Analysis: Speed of Profits Adjustments (SPA)					
SPA in 1996	138	0.581	0.524	0.057*	(1.85)
SPA in 1997	149	0.583	0.562	0.021	(0.70)
SPA in 1998	159	0.576	0.543	0.033	(1.18)

Table 6: ASIAN FINANCIAL CRISIS- ROBUSTNESS TEST

The table reports the estimates of equations (2) and (3), where the dependent variables are the yield spreads, and the stock returns, of non-financial (SIC 60-69) and non-utility (SIC 49) treated and control firms that issue bond on the US primary bond market, from 1995 to 2000. I regress the stock indexes of the Asian, Russian, and Brazilian markets on bond spreads (Panel A) and stock returns (Panel B) by following i) polynomial models (curvilinear relationship until the forth degree as in eq 2) and ii) exponential models, where I assume that the dependent variables will increase exponentially with the main independent variable (eq. 3). The table reports the coefficients, together with t-stats (in parenthesis) of the models. Missing coefficients imply multicollinearity across indexes. Data on bond issues are from FISD Mergent, the stock indexes are retrieved from Compustat global. Firms that restate from one to multiple segments in 1998 compose my treatment group, stand-alone firms compose my control group. The symbols $*$,$**$, and $***$ denote statistical significance at the 10%, 5%, and 1% levels.

Panel A: YIELD_SPREADS	Polynomial degree									Exponential		
	2nd			3rd			4rd					
	Treated	Control	Diff	Treated	Control	Diff	Treated	Control	Diff.	Treated	Control	Diff
Brazilian Stock Exchange				0.032**	0.032**	0.000	0.003**	0.003**	0.000	-0.008	-0.011***	0.003
				(2.026)	(2.190)	(0.001)	(2.003)	(2.120)	(0.001)	(-1.460)	(-2.799)	(0.320)
Indonesian Stock Exchange	-0.196	-0.208	0.012	-0.040	-0.040	0.000	-0.005	-0.005	0.000	0.043*	0.060***	-0.017
	(-0.240)	(-0.319)	(0.001)	(-0.445)	(-0.554)	(0.001)	(-0.467)	(-0.558)	(0.001)	(1.681)	(3.091)	(-0.322)
Malaysian Stock Exchange	0.100	0.112	-0.012	0.013	0.015	0.020	0.002	0.002	0.000			
	(0.907)	(1.313)	(-0.010)	(0.902)	(1.377)	(0.020)	(0.898)	(1.439)	(0.540)			
Korea Stock Exchange	0.158	0.302*	-0.146	0.020	0.041	-0.021	0.003	0.007	-0.010	0.007	0.010**	-0.003
	(0.754)	(1.811)	(-0.360)	(0.630)	(1.621)	(-0.324)	(0.618)	(1.588)	(-0.577)	(1.278)	(2.084)	(-0.090)
Russian Stock Exchange	0.319**	0.328**	-0.009							0.060	0.081***	-0.021
	(2.035)	(2.249)	(0.000)							(1.508)	(2.864)	(-0.320)
Thailand Stock Exchange	-0.781	-1.275**	0.494	-0.080	-0.139*	0.059	-0.010	-0.018*	0.001	-0.025**	-0.035***	0.010
	(-1.090)	(-2.170)	(0.331)	(-0.916)	(-1.929)	(0.589)	(-0.868)	(-1.871)	(0.579)	(-2.250)	(-3.844)	(0.460)

Panel B: STOCK_RETURNS	Polynomial degree									Exponential		
	Treated	Control	Diff	Treated	Control	Diff	Treated	Control	Diff.	Treated	Control	Diff
Brazilian Stock Exchange	0.002	0.003	-0.001	0.005*	0.010***	-0.005	0.004*	0.009***	0.000	-0.006*	-0.005*	0.001
	(0.349)	(0.987)	(0.000)	(1.742)	(4.541)	(- 0.140)	(1.778)	(4.581)	(0.140)	(-1.918)	(-1.688)	(0.713)
Indonesian Stock Exchange	-0.027**	-0.033***	0.006	-0.031**	-0.041***	0.010	-0.037**	-0.048***	0.000	0.041**	0.032**	0.009
	(-2.413)	(-3.354)	(0.312)	(-2.443)	(-3.623)	(0.613)	(-2.489)	(-3.707)	(0.600)	(2.474)	(2.275)	(0.640)
Malaysian Stock Exchange	0.001	-0.007	0.008	-0.004	-0.016	0.020	-0.012	-0.033	0.000			
	(0.049)	(-0.533)	(0.580)	(-0.190)	(-0.904)	(0.673)	(-0.406)	(-1.229)	(0.620)			
Korea Stock Exchange	-0.004	-0.005*	0.001	-0.007	-0.010**	0.001	-0.012	-0.019***	0.001	0.011***	0.008**	0.003
	(-1.249)	(-1.950)	(0.507)	(-1.454)	(-2.465)	(0.593)	(-1.546)	(-2.685)	(0.544)	(2.830)	(2.517)	(0.555)
Russian Stock Exchange	0.005*	0.010***	-0.005							0.044*	0.032	0.041
	(1.700)	(4.493)	(-0.490							(1.866)	(1.588)	(0.696)
Thailand Stock Exchange	0.021*	0.032***	0.000	0.026*	0.042***	-0.016	0.035*	0.056***	0.000	-0.027***	-0.021***	-0.006
	(1.895)	(3.323)	(0.320)	(1.931)	(3.470)	(-0.415)	(1.924)	(3.460)	(0.451)	(-3.514)	(-3.340)	(- 0.542)

Table 7: ALTERNATIVE MODEL SPECIFICATIONS

The table reports the estimates of the baseline difference-in-difference model, when adding additional control variables. The dependent variable is the yield spread of bond issues all non-financial (SIC 60-69) and non-utility (SIC 49) treated and control firms that issue bonds (bond-date frequency) on the US primary bond market. The variable LnSEG×AFTER takes the value of the logarithm of the number of segments in years after the reform, and zero otherwise. Data on bond issues are from FISD Mergent, accounting data are from Compustat. The treatment effect is the obligation to disclose the real number of segments after the reform. Firms that restate from one to multiple segments in 1998 compose my treated group, stand-alone firms compose my control group. The vector x includes the set of control variables used throughout, including bond issuer and year fixed effects. The standard errors are clustered at firm level-quarterly. The symbols *,**, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	Dependent variable: SPREAD			
	1	2	3	4
LnSEG×AFTER	0.176**	0.175**	0.280**	0.244**
	(2.23)	(2.16)	(2.97)	(2.08)
DIVIDEND_RATIO	1.650**	1.646*		
	(2.30)	(1.81)		
CAPEX_SALES	0.516	0.730		
	(1.19)	(1.68)		
MB			-0.032	-0.034
			(-0.66)	(-0.62)
Sd(MB)			-0.543**	-0.708*
			(-2.19)	(-1.85)
CF			0.295	0.785
			(0.51)	(1.08)
SD(CASH-FLOW)			2.093	5.007*
			(0.82)	(1.69)
MKBKDIFF			-0.127	-0.563
			(-0.32)	(-0.94)
CFDIFF			0.231	5.170
			(0.07)	(1.14)
Bond Controls	Yes	Yes	Yes	Yes
Firm Controls	No	Yes	No	Yes
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Observations	722	595	722	595
Adjusted R^2	0.872	0.848	0.876	0.857

Table 8: ROBUSTNESS OF THE DEPENDENT VARIABLE

The table reports the estimates of the baseline model with different dependent variables: i) the yield of bond issues, ii) the excess yield of bond issues, iii) the excess yield spread of bond issues. The excess yield (spread) is computed as the difference between the bond yield (spread) and the average yield (spread) of a portfolio of bonds with the same rating and time-to-maturity. The sample includes all non-financial (SIC 60-69) and non-utility (SIC 49) treated and control firms that issue bonds (bond-date frequency) on the US primary bond market, from 1995 to 2000. Data on bond issues are from FISD Mergent, accounting data are from Compustat. The treatment effect is the obligation to disclose the real number of segments after the reform. Firms that restate from one to multiple segments in 1998 compose my treated group, stand-alone firms compose my control group. The variable LnSEG×AFTER takes the value of the logarithm of the number of segments in years after the reform, and zero otherwise. The vector x includes the set of control variables used throughout, including bond issuer and year fixed effects. The standard errors are clustered at the firm-quarterly level. The symbols *,**, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	YIELD (%)	EXCESS_YIELD	EXCESS_SPREAD (%)
	1	2	3
LnSEG×AFTER	0.309**	0.208**	0.208**
	(2.75)	(2.20)	(2.62)
Bond Controls	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Observations	722	722	722
Adjusted R^2	0.674	0.382	0.413

Table 9: MULTIPLE CLUSTERING

The table reports the estimates of the baseline difference-in-difference model with different clustering. The dependent variable is the yield spread of bond issues all non-financial (SIC 60-69) and non-utility (SIC 49) treated and control firms that issue bonds (bond-date frequency) on the US primary bond market, from 1995 to 2000. The clustering employed in columns 1-4 are, respectively: i) firm-year, ii) industry (three digits SIC), iii) industry-year, iv) portfolio (rating/maturity). Data on bond issues are from FISD Mergent, accounting data are from Compustat. The treatment effect is the obligation to disclose the real number of segments after the reform. Firms that restate from one to multiple segments in 1998 compose my treated group, stand-alone firms compose my control group. The variable LnSEG×AFTER takes the value of the logarithm of the number of segments in years after the reform, and zero otherwise. The vector x includes the set of control variables used throughout, including bond issuer and year fixed effects. The symbols *,**, and *** denote statistical significance at the 10%, 5%, and 1% levels.

	Dependent variable: SPREAD			
	1	2	3	4
LnSEG×AFTER	0.179**	0.179**	0.179**	0.179**
	(2.29)	(2.28)	(2.37)	(2.36)
Clustering	Firm-Year	Industry	Industry-Year	Portfolio
Bond Controls	Yes	Yes	Yes	Yes
Firm Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Observations	722	722	722	722
Adjusted R^2	0.871	0.871	0.871	0.871

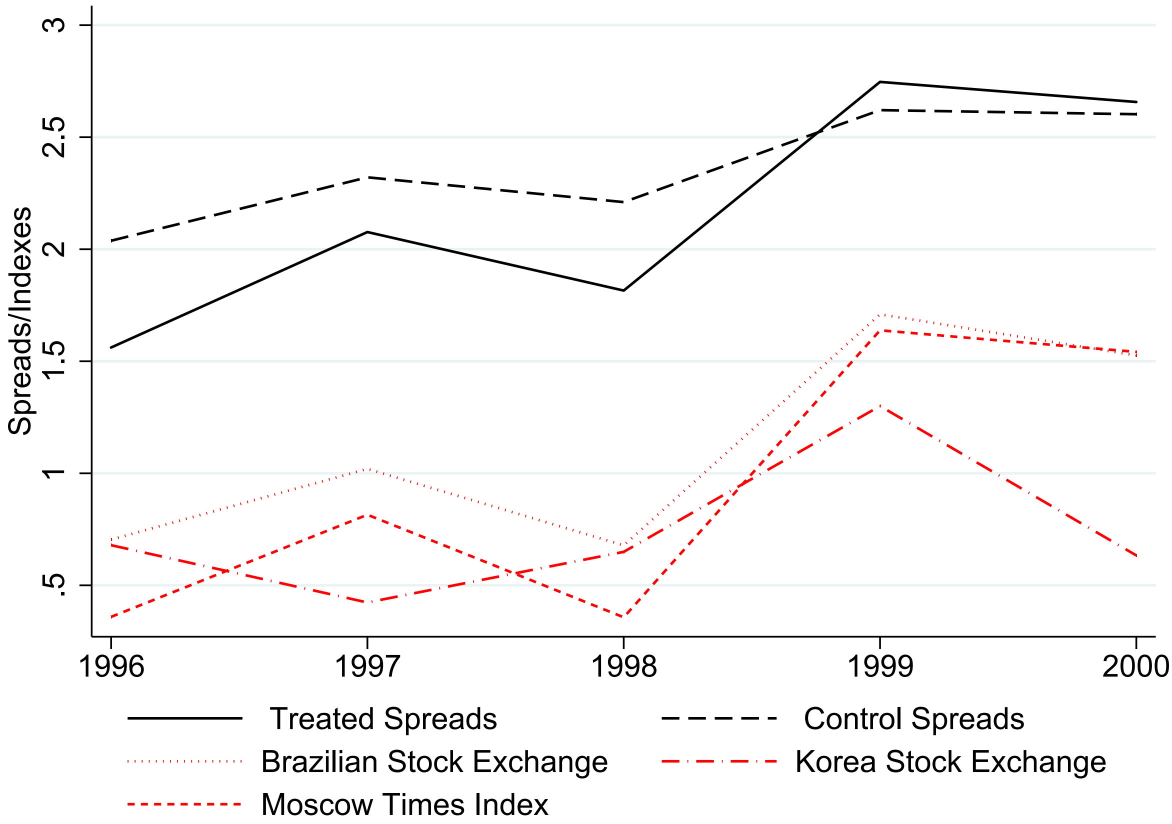

Figure 1: BOND SPREADS AND CRISIS COUNTRIES INDEXES

This figure reports the average mean of the yield spreads of the bonds of treated and control groups, and the stock indexes of Brazil, Russia, and South Korea. On the x-axis, I report the years, while on the y-axis I report the average yield spread of treated and control samples, and the standardized value of the stock index for each country. The treatment effect is the obligation to disclose the real number of segments after the reform. The treated group is composed of firms that switch from standalone to conglomerate after the reform, while the control group is composed of standalone firms. The sample consists of all non-financial (SIC 60-69) and non-utility (SIC 49) treated and control firms, from 1996 to 2000. Data on the yield spreads are retrieved from FISD-Mergent, stock indexes are retrieved from Compustat Global.