CEO contractual protection and debt contracting

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Motivation – CEO contractual protection

- CEO employment agreements and severance pay agreements (referred to as CEO contractual protection) are very prevalent
  - As of 2008, over 80% of S&P 1500 firms have such agreements with their CEOs
- Impact on corporate decisions
  - Motivating CEOs to undertake risky long-term projects (e.g., Huang 2011; Xu 2011; Rau and Xu 2013; Cadman et al. 2014; Cziraki and Groen-Xu 2015)
  - Reducing short-termism (cutting R&D to meet short-term earnings targets) (Chen et al. 2015)

Motivation – CEO contractual protection(cont'd)

- Prior studies have been focusing on shareholders' perspectives.
  - To align CEOs' interest with shareholders'

- What about debtholders?
  - Some corporate decisions benefit shareholders at the expense of debtholders, the classic debtholder-shareholder agency conflict

Research questions

- Does CEO contractual protection affect debt contracting?
  - Non-pricing elements: financial covenants, performance-pricing provisions
  - Pricing elements : Loan spread
- If so, what CEO/firm characteristics affect the impact of such relationship?

Background – Employment agreements

- Employment agreements (EAs):
  - A *comprehensive written* agreement that specifies job scope, compensation, benefits, termination conditions & payments, ….
    - Fixed term: 2-5 years
    - Severance pay
- Example: Boeing Inc. 2005
  - The Company has entered into an employment agreement with Mr. McNerney ... The initial term of the agreement ends on July 1, 2008,
  - Upon involuntary termination without cause or voluntary termination for good reason, Mr. McNerney will receive severance benefits as follows: …
- These CEOs cannot be dismissed without good cause
  - Poor performance is not “good cause”

Background – Stand-alone severance pay agreements

- Severance pay agreements (SA) specify the terms and amounts of payments CEOs will receive if dismissed without cause
  - Sysco proxy statement 2003: "Severance Agreements were in the best interest of the Company … in that they secure the continued services of these executive officers and ensure their undivided dedication to their duties *without being influenced by the uncertainty of continued employment*."
- Like EAs, SAs protect CEOs against downside risk
  - Prior research suggests that SA is a form of risk compensation, and can encourage optimal risk-taking (e.g., Almazan and Suarez 2003; Inderst and Mueller 2005)
- However, unlike EAs, SAs typically do not have a definite term and thus cover the CEO in the foreseeable future

Prior research related to CEO contractual protection

- Determinants
  - To benefit both the CEO and the firm when there is an uncertainty whether the CEO is a good fit for the firm and when the likelihood of CEO dismissal is high (Schwab and Thomas 2006; Gillan et al. 2009)
  - To protect CEOs from downside risk and thus motivate CEOs to undertake risky but positive NPV projects (Almazan and Suarez 2003; Inderst and Mueller 2005; Rau and Xu 2013; Cadman et al. (2014)
- Consequences
  - Risk taking behavior (e.g., Huang 2011; Xu 2011; Rau and Xu 2013; Cadman et al. 2014; Cziraki and Groen-Xu 2015)
  - Short-termism (Chen et al. 2015)
- Difference from these studies
  - From debtholders' perspective;
  - cost of using CEO contractual protection

Prior research related to CEO equity incentives and debt contracting

- CEO equity incentives → CEO enjoying upside potential → risk-taking behavior → higher cost of debt
  - Bagnani et al. (1994), Ortiz-Molina (2006): bond yield
  - Begley and Feltham (1999): the use of dividend and borrowing covenants
  - Datta et al. (2005) and Brockman et al. (2010): debt maturity
- Differences from these studies
  - Examination of CEO contractual protection
  - Examination of both pricing and non-pricing terms

Hypothesis development: H1 and H2

- Both EAs and SAs enhance CEOs' job security and protect CEOs from down-side risk
  - → Induce CEOs to take risk (Gillan 2009; Huang 2011; Xu 2011)
  - → Rational debtholders are concerned with the downside risk and increase monitoring
  - → Financial covenants and performance pricing provisions serve such purposes
- Ceteris paribus, compared with other loans, loans issued by firms with CEO contractual protection
  - **H1**: have more financial covenants
  - **H2**: are more likely to have performance pricing provisions

Hypothesis development: H1 and H2

- Tension 1: Some researchers argue that CEO contracts are negotiated by entrenched CEOs to enrich and protect themselves (e.g., Bebchuk and Fried 2004)
  - CEO entrenchment reduces debtholder-shareholder agency conflict (Chava et al. 2010)
- Tension 2: Armstrong et al. (2010) argue that it is difficult to use debt covenants to address firms' excessive risk-taking behavior

→ we will not find evidence consistent with H1 and H2

Hypothesis development: H3

- Debt covenants might not fully address the issues → debtholders demand higher interest rate
- **H3**: Ceteris paribus, loans issued by firms with CEO contractual protection have higher spread than those issued by other firms.

Accounting information quality argument

- CEO contractual protection
  → weaker incentives to engage in earnings management (Cheng et al. 2015)
  → higher accounting information quality
  → more likely to use covenants to address debtholder and shareholder conflict (H1 and H2)
  → lower loan spread (opposite to H3)
- The results for H3 can help distinguish between the risk-taking argument and the accounting information quality argument

Sample

- S&P 1500 firms over the period 1995-2008.
- 4,173 firm-years, 6,470 loans; 77% with contractual protection.

		Sample size
Firm-years with proxy statements available from EDGAR for S&P 1500 firms in the 1995-2008 period		18,936
Less:		
Firm-years without loan information from DealScan	12,643	
Firm-years of financial firms	735	
Firm-years without Compustat data to calculate the regression variables	1,385	
Firm-years with required data		4,173
Number of loans issued by the sample firms		6,470

Univariate test of H1-H3 (Table 2)

	Without CEO protection	With CEO protection	P-value for the difference
Financial covenants	1.33	1.55	0.01
Performance pricing	0.51	0.58	0.01
Loan spread	102.13	129.91	0.01

- Results consistent with
  - H1: 25% more financial covenants
  - H2: 15% more likely to have performance pricing provisions
  - H3: 27% higher spread

Research design

$$Loan\_Feature_{i,j,t} = \alpha + \beta CEO\_Protection_{i,t} + \gamma_1 Borrower\text{-}specific\_Control_{i,t} + \gamma_2 CEO\_Equity\_Incentives_{i,t} + \gamma_3 Loan\text{-}specific\_Control_{j,t} + \gamma_4 Economy\text{-}wide\_Control_t + Loan\_Type\_Indicators + Loan\_Purpose\_Indicators + Industry\_Indicators + \varepsilon_{i,j,t}$$

- To address the endogeneity of CEO contractual protection
  - 1st stage regression: Determinants of CEO contractual protection
  - Using predicted value of CEO protection
  - Using the Heckman approach

Multivariate test of H1 – Financial covenants (Table 3, Panel A)

	(1) Using the raw value of CEO contractual protection		(2) Using the predicted value of CEO protection		(3) Using the Heckman approach	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
CEO_Protection	**0.077**	**0.028**	**0.106**	**0.045**	**0.121**	**0.031**
Inverse Mills Ratio					YES	
Control variables	YES		YES		YES	
Loan type fixed effects	YES		YES		YES	
Loan purpose fixed effects	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	6,470		5,388		5,388	
Pseudo R^2	0.124		0.122		0.122	

- Results consistent with H1
  - Economic significance: 7.4% more financial covenants

Performance vs. capital covenants

- Christensen and Nikolaev (2012)
  - Performance covenants
    - Based on current (timely and forward-looking) performance metrics
    - Efficient tools to monitor firms' ongoing performance and provide lenders with options to renegotiate or restrain managers' action when necessary
    - Effective in monitoring the potential adverse consequences of excessive risk taking
  - Capital covenants
    - Ensure that there is enough capital for debtholders in the case of financial distress
    - Less useful in close monitoring and interfere with firm decisions
- H1 is more applicable to performance covenants

Multivariate test of H1 – Performance covenants (Table 3, Panel B)

	(1) Using the raw value of CEO contractual protection		(2) Using the predicted value of CEO protection		(3) Using the Heckman approach	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
CEO_Protection	**0.100**	**0.027**	**0.180**	**0.015**	**0.197**	**0.010**
Inverse Mills Ratio					YES	
Control variables	YES		YES		YES	
Loan type fixed effects	YES		YES		YES	
Loan purpose fixed effects	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	6,470		5,388		5,388	
Pseudo R^2	0.156		0.157		0.157	

- Results consistent with H1

Multivariate test of H1 – Capital covenants (Table 3, Panel C)

	(1) Using the raw value of CEO contractual protection		(2) Using the predicted value of CEO protection		(3) Using the Heckman approach	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
CEO_Protection	**0.050**	**0.248**	**-0.043**	**0.637**	**-0.025**	**0.628**
Inverse Mills Ratio					YES	
Control variables	YES		YES		YES	
Loan type fixed effects	YES		YES		YES	
Loan purpose fixed effects	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	6,470		5,388		5,388	
Pseudo R^2	0.103		0.099		0.099	

- Insignificant results, as expected

Multivariate test of H2 – Performance pricing provision (Table 4, Panel A)

	(1) Using the raw value of CEO contractual protection		(2) Using the predicted value of CEO protection		(3) Using the Heckman approach	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
CEO_Protection	**0.247**	**0.012**	**0.558**	**0.001**	**0.593**	**0.001**
Inverse Mills Ratio					YES	
Control variables	YES		YES		YES	
Loan type fixed effects	YES		YES		YES	
Loan purpose fixed effects	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	6,470		5,388		5,388	
Pseudo R^2	0.145		0.153		0.153	

- Results consistent with H2
  - Economic significance: 12.0% higher likelihood of including performance pricing provisions

Multivariate test of H2 – Interest-increase Performance pricing provision (Table 4, Panel B)

	(1) Using the raw value of CEO contractual protection		(2) Using the predicted value of CEO protection		(3) Using the Heckman approach	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
CEO_Protection	**0.278**	**0.006**	**0.574**	**0.001**	**0.602**	**0.001**
Inverse Mills Ratio					YES	
Control variables	YES		YES		YES	
Loan type fixed effects	YES		YES		YES	
Loan purpose fixed effects	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	6,470		5,388		5,388	
Pseudo R^2	0.101		0.112		0.112	

- Results consistent with H2
  - Using all performance pricing provisions in subsequent analyses

Multivariate test of H3 – Spread (Table 5)

	(1) Using the raw value of CEO contractual protection		(2) Using the predicted value of CEO protection		(3) Using the Heckman approach	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
CEO_Protection	**0.088**	**0.002**	**0.107**	**0.008**	**0.123**	**0.003**
Inverse Mills Ratio					YES	
Control variables	YES		YES		YES	
Loan type fixed effects	YES		YES		YES	
Loan purpose fixed effects	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	6,470		5,388		5,388	
Adj. R^2	0.684		0.685		0.686	

- Results consistent with H3
  - Economic significance: 9.2% higher spread

Hypothesis development – cross-sectional variation

- The monetary strength of the CEO contractual protection ↑

  → the effectiveness of protection, risk-taking incentives ↑

  → the impact on debt contracting ↑

H4: Ceteris paribus, the effect of CEO contractual protection on the use of debt covenants and spread, as hypothesized in H1, H2, and H3, increases with the strength of CEO contractual protection.

Hypothesis development – cross-sectional variation (cont'd)

- CEOs' incentives to take risk
  - CEOs' incentives to take risk, the positive effect of long-term investment on CEOs' welfare ↓
    - → the effectiveness of CEO contractual protection ↓
    - → the impact on debt contracting ↓
- Two types of such CEOs
  - Older CEOs → shorter horizon (Dechow and Sloan 1991; Cheng 2004)
  - CEOs with longer tenure → lower risk taking incentives (Berger, Ofek and Yermack 1997; Chakraborty, Sheikh and Subramanian 2007)

→ The effect of CEO contractual protection on the use of debt covenants and spread, as hypothesized in H1, H2, and H3, is weaker for older CEOs and CEOs with longer tenure (**H5**).

Hypothesis development – cross-sectional variation (cont'd)

- Opportunities to take risk ↑
  - → the effect on risk-taking behavior ↑
  - → the effect on debt contracting ↑
  - – Proxy for opportunities to take risk: the growth stage of the firm's life cycle (Hribar and Yehuda 2015)

H6: Ceteris paribus, the effect of CEO contractual protection on the use of debt covenants and spread, as hypothesized in H1, H2, and H3, is stronger for firms in the growth stage of life-cycle**.**

Cross-sectional analyses (H4-H7)

$$Loan\_Feature_{i,j,t} = \alpha + \beta_1 CEO\_Protection_{i,t} + \beta_2 Conditional\_Var_{i,t} + \beta_3 CEO\_Protection_{i,t} \times Conditional\_Var_{i,t} + \gamma_1 Borrowerspecific\_Control_{i,t} + \gamma_2 CEO\_Equity\_Incentives_{i,t} + \gamma_3 Loan\text{-}specific\_Control_{j,t} + \gamma_4 Economy\text{-}wide\_Control_t + +Loan\_Type\_Indicators + Loan\_Purpose\_Indicators + Industry\_Indicators + \varepsilon_{i,j,t}$$

- The conditional variables
  - Monetary strength; H4: β_3 is positive
  - Older CEO; H5: β_3 is negative
  - Longer-tenured CEO; H6: β_3 is negative
  - Growth stage of life cycle; H7: β_3 is positive
- Using the Heckman approach
  - Similar results when using the other two approaches

Tests for H4 (Table 6)

	(1) Dep. Var = *Performance Covenants*		(2) Dep. Var = *Performance_Pricing*		(3) Dep. Var = *Loan_Spread*	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
CEO_Protection	**0.136**	**0.076**	**0.349**	**0.039**	**0.066**	**0.103**
CEO_Protection × Strength	**0.044**	**0.062**	**0.175**	**0.004**	**0.037**	**0.016**
Control variables	YES		YES		YES	
Loan type fixed effects	YES		YES		YES	
Loan purpose fixed effects	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	5,267		5,267		5,267	
Pseudo R^2 (Adj. R^2)	0.159		0.157		0.686	

- Results consistent with H4
  - The effect of CEO contractual protection increases with its monetary strength

Tests for H5 – CEO age (Table 7, Panel A)

	(1) Dep. Var = *Performance Covenants*		(2) Dep. Var = *Performance_Pricing*		(3) Dep. Var = *Loan_Spread*	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
CEO_Protection	**0.225**	**0.001**	**0.565**	**0.001**	**0.150**	**0.001**
CEO_Protection × Old_CEO	**-0.368**	**0.001**	**0.213**	**0.251**	**-0.170**	**0.037**
Control variables	YES		YES		YES	
Loan type fixed effects	YES		YES		YES	
Loan purpose fixed effects	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	5,388		5,388		5,388	
Pseudo R^2 (Adj. R^2)	0.158		0.154		0.687	

- Results consistent with H5
  - The effect of CEO contractual protection is weaker for older CEOs

Tests for H5 – CEO tenure (Table 7, Panel B)

	(1) Dep. Var = *Performance Covenants*		(2) Dep. Var = *Performance_Pricing*		(3) Dep. Var = *Loan_Spread*	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
CEO_Protection	**0.287**	**0.002**	**0.785**	**0.001**	**0.121**	**0.013**
CEO_Protection × Long_Tenure	**-0.391**	**0.001**	**-0.386**	**0.031**	**-0.072**	**0.106**
Control variables	YES		YES		YES	
Loan type fixed effects	YES		YES		YES	
Loan purpose fixed effects	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	5,329		5,329		5,329	
Pseudo R^2 (Adj. R^2)	0.166		0.154		0.692	

- Results consistent with H5
  - The effect of CEO contractual protection is weaker for longer tenured CEOs

Tests for H6 (Table 8)

	(1) Dep. Var = *Performance Covenants*		(2) Dep. Var = *Performance_Pricing*		(3) Dep. Var = *Loan_Spread*	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
CEO_Protection	**-0.007**	**0.525**	**0.190**	**0.228**	**0.053**	**0.201**
CEO_Protection × Growth_Stage	**0.261**	**0.008**	**0.489**	**0.022**	**0.086**	**0.095**
Control variables	YES		YES		YES	
Loan type fixed effects	YES		YES		YES	
Loan purpose fixed effects	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	5,340		5,340		5,340	
Pseudo R^2 (Adj. R^2)	0.161		0.157		0.687	

- Results consistent with H6
  - The effect of CEO contractual protection is stronger for firms in growth stage

Additional analyses

- CEO contractual protection and public bond yield spread
  - Firms with CEO contractual protection have higher bond yield than other firms

	(1) Using the raw value of CEO contractual protection		(2) Using the predicted value of CEO protection		(3) Using the Heckman approach	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
CEO_Protection	**0.227**	**0.044**	**0.338**	**0.023**	**0.363**	**0.017**
Inverse Mills Ratio					YES	
Control variables	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	2,201		1,873		1,873	
Adj. R^2	0.286		0.296		0.297	

Additional analyses

- Switch firms
  - Results hold for firms that have EA/SA in some years but not in others
  - Results hold based on a difference-in-differences design based on the switch firms (Table 10)

	(1) Dep. Var = *Performance Covenants*		(2) Dep. Var = *Performance_Pricing*		(3) Dep. Var = *Loan_Spread*	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
Switch	0.040	0.702	0.052	0.831	0.081	0.182
Switch × Post	**0.267**	**0.019**	**0.616**	**0.022**	**0.158**	**0.018**
Control variables	YES		YES		YES	
Loan type fixed effects	YES		YES		YES	
Loan purpose fixed effects	YES		YES		YES	
Industry fixed effects	YES		YES		YES	
N	2,036		2,036		2,036	
Pseudo R^2 (Adj. R^2)	0.206		0.202		0.718	

Additional analyses

- Controlling for governance, CEO inside debt
- Conducting separate analysis of employment agreements and severance pay agreements

Summary of results

- Loans issued by firms with CEO contractual protection have
  - More performance covenants
  - Higher likelihood of performance pricing provisions
  - Higher spreads.
- The effect is
  - stronger for contracts with higher monetary strength
  - weaker for older CEOs or CEOs with longer tenure
  - stronger for firms in the growth stage
- The results are robust to alternative designs.

Contribution

- This study contributes to our understanding of the unintended consequences of CEO employment contracts on loan contracting (from debtholders' perspective)
    - An emerging literature examines how CEO contracts affect corporate behavior (e.g., Huang 2010; Xu 2011; Chen et al. 2015).
- This study complements the literature about the effect of CEO equity incentives on debt contracting.
  - Equity incentives: focusing on upside potential
  - CEO employment and severance pay agreement: focusing on the protection from the downside risk

Thank you!