External Legal Counsel as Transaction Cost Engineer and its Influence on Loan Contract Design and Performance

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Syndicated Loan

Bank Syndicate

Lead Arranger

Participant 1

Participant 2

Participant 3

Participant 4

Participant 5

Participant *n*

Borrower

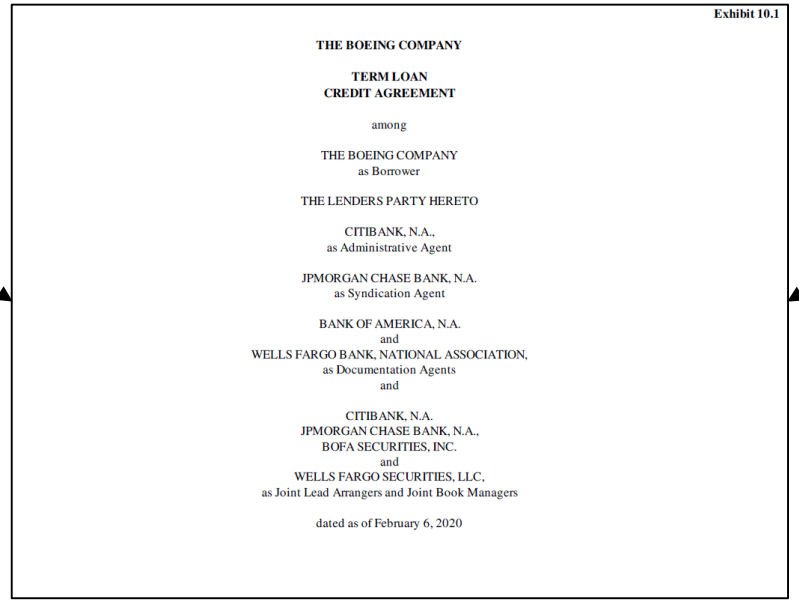


Exhibit 10.1

THE BOEING COMPANY

TERM LOAN
CREDIT AGREEMENT

among

THE BOEING COMPANY
as Borrower

THE LENDERS PARTY HERETO

CITIBANK, N.A.,
as Administrative Agent

JPMORGAN CHASE BANK, N.A.
as Syndication Agent

BANK OF AMERICA, N.A.
and
WELLS FARGO BANK, NATIONAL ASSOCIATION,
as Documentation Agents
and

CITIBANK, N.A.
JPMORGAN CHASE BANK, N.A.,
BOFA SECURITIES, INC.
and
WELLS FARGO SECURITIES, LLC,
as Joint Lead Arrangers and Joint Book Managers

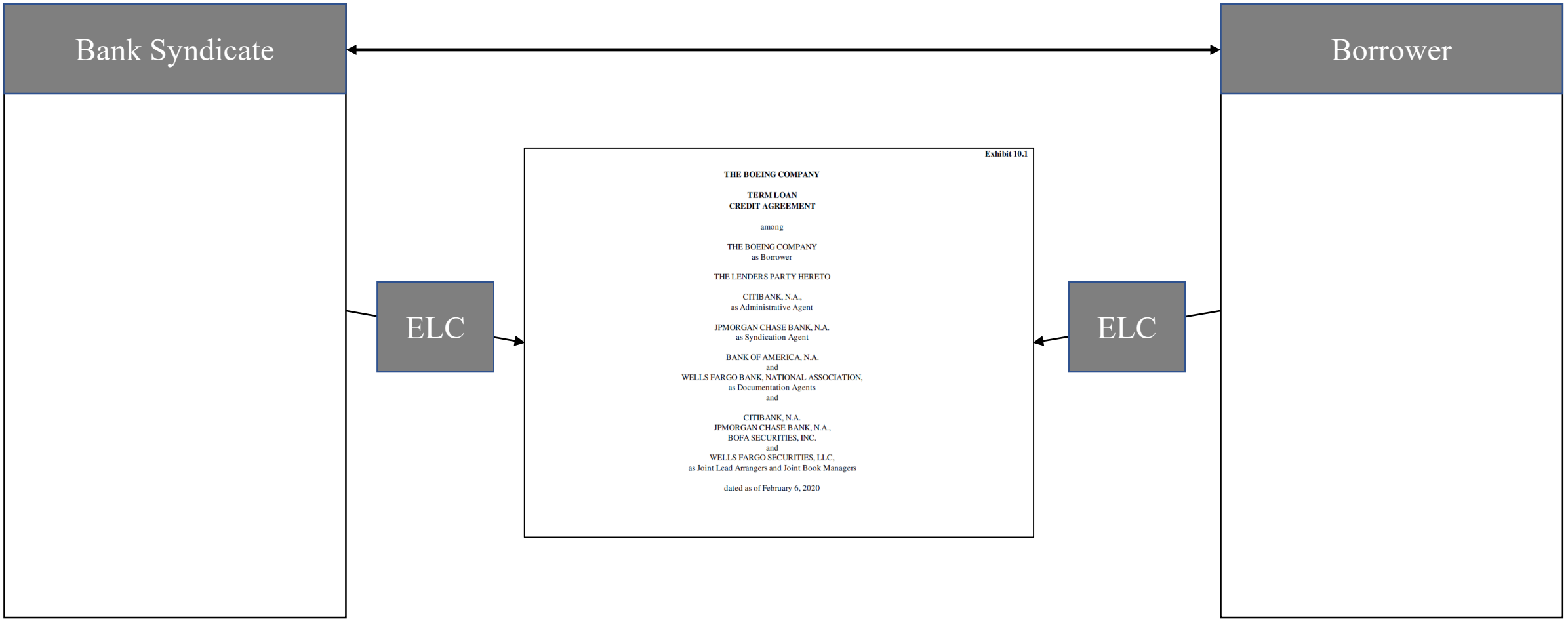
dated as of February 6, 2020

High Competition
Information Asymmetry

Literature Generally Concludes

- Significant competition and institutions dominated (Sufi, 2007)
- Borrower characteristics primarily affect loan contracts (e.g., Berlin and Mester, 1992; Sufi, 2007; Ball et al., 2008)
- Additional factors such as interest rate spreads (Ivashina and Sun, 2011; Murfin and Pratt, 2019; Carvalho, Gao, and Ma 2020), style (Ma et al, 2021), loan officers (Bushman et al, 2021; Herpfer, 2021)
- Information asymmetry plays a key role
  - High information asymmetry → higher lending cost and more/stricter covenants (Ivashina, 2009; Bharath, Sunder, and Sunder 2008)

Another Player Involved – External Legal Counsel (ELC)



Broad Idea

Do ELCs just "*draft legal documents*"

OR

Do ELCs have an *active* influence on the design and outcomes of syndicated loan contracts?

RQ 1: Does ELC Matter in Loan Contract Design?

Just "*draft legal documents*"

- Syndicated loan market is highly competitive
  - "Hard" factors at the company (*credit risk*) and market level (*demand* vs *supply*) ultimately count
- ELCs are primarily assumed to draft and review legal documents
- Assumed that ELCs do not provide any material inputs (Semkow, 1984; Reade, 2009)

Active influence on the design

- Sophisticated entities that specialize in complex transactions
  - Have a role in M&As and IPOs (Krishnan and Masulis 2013; Moran and Pandes 2019)
- Advise clients about bargaining power, strengths, and weakness
- Assist parties by tapping into their network
  - Connections among and within law firms help spread of accounting practices (Dechow and Tan, 2020)
- Owe fiduciary duty toward clients and face significant reputational and financial concerns

H1: ELCs do not have any effect on syndicated loan contract design

Data and Sample Construction

- Sample period: 1995 - 2021
- ELC data from DealScan, both WRDS and Refinitiv: DealScan in WRDS miss some information on ELCs
- Accounting data: Compustat
- Borrowers: 1902; Lenders: 84

	N
U.S. syndicated loan facilities over the period 1995-2021	126,989
Information available on primary borrower and loan characteristics	25,634
Information available on the legal counsel of the borrower and of the lead arranger	5,868
Borrower issuing at least two loans. Law firms representing at least two lead arrangers/borrowers	5,217
+ Loan facilities with more than one primary ELC advising the borrower or the lead arranger	880
Baseline Sample	**6,097**

Summary Statistics

Variable	N	Mean	p50	SD	p10	p90
Age	6097	10.756	11.000	4.852	4.000	17.000
Borrower Loan Experience	6097	5.817	5.000	3.769	2.000	11.000
Covenants Count	6097	1.735	2.000	1.183	0.000	3.000
Covenants Mix	4878	0.835	1.000	0.299	0.500	1.000
Default Dummy	6097	0.038	0.000	0.191	0.000	0.000
Downgrades Dummy	6097	0.310	0.000	0.462	0.000	1.000
ELC Connected with Borrower	6097	0.019	0.000	0.135	0.000	0.000
ELC Connected with Lender	6097	0.383	0.000	0.486	0.000	1.000
ELC Connected	6097	0.387	0.000	0.487	0.000	1.000
Leverage	6097	0.347	0.308	0.249	0.046	0.657
Loan Size	6097	5.443	5.521	1.318	3.689	7.131
Maturity	6097	54.443	60.867	21.854	12.233	85.200
MB	6097	1.676	1.418	0.856	0.999	2.616
Profitability	6097	0.126	0.120	0.088	0.043	0.222
Secured Dummy	6097	0.669	1.000	0.470	0.000	1.000
Senior Dummy	6097	0.999	1.000	0.031	1.000	1.000
Size	6097	7.591	7.476	1.651	5.588	9.825
Spread	6097	234.648	200.000	161.092	60.000	437.500
Strictness	4313	0.348	0.077	0.418	0.000	0.999
Tangibility	6097	0.314	0.236	0.248	0.041	0.701

Data Characteristics

- Lender
  - 217 ELCs advising lenders (lead arrangers)
  - Concentrated market → Top 10 ELCs involved in 51% of the loans
  - Top ELC is *Simpson, Thacher & Bartlett*, headquartered in New York City, over 1,000 attorneys
  - Median (average) ELC observed on 5 (28) facilities

- Borrower
  - 380 ELCs advising borrowers
  - Less Concentrated market → Top 10 ELCs involved in 32% of the loans
  - Top ELC is *Skadden, Arps, Slate, Meagher & Flom*, headquartered in New York City, over 1,700 attorneys
  - Median (average) ELC observed on 5 (16) facilities

RQ 1: Do ELCs Matter?

	(1)	(2)	(3)	(4)	(5)	(6)
Borrower and Loan Level Controls	YES	YES	YES	YES	YES	
Year, Loan Type, and Rating FE	YES	YES	YES	YES	YES	
Borrower FE		YES	YES	YES	YES	
Lead Arranger FE			YES	YES	YES	
Lender ELC FE				YES	YES	
Borrower ELC FE					YES	
						Combined Law Firms FE
LOAN TERMS						
Spread						
Adj. R2	52.59%	71.85%	73.81%	74.96%	75.05%	
Incremental R2		*19.26%*	*1.96%*	***1.14%***	***0.09%***	***1.23%***
COVENANTS PACKAGE						
Covenants						
Adj. R2	28.07%	73.35%	74.08%	76.76%	79.17%	
Incremental R2		*45.28%*	*0.73%*	***2.69%***	***2.41%***	***5.09%***
Strictness						
Adj. R2	33.72%	70.65%	72.03%	75.29%	78.11%	
Incremental R2		*36.93%*	*1.38%*	***3.26%***	***2.82%***	***6.08%***

Baseline Regression

Are Incremental R-Squared Values Significant?

	Simulated Distribution of Incremental R^2			Actual Incremental R2	Actual minus 99th Percentile Simulated Incremental R2	
	(1) 90th Percentile	(2) 95th Percentile	(3) 99th Percentile	(4) Actual FE	(5)	
Spread	0.48%	0.59%	0.80%	**1.23%**	***0.43%***	***
Covenants	0.56%	0.70%	0.97%	**5.09%**	***4.13%***	***
Strictness	0.55%	0.71%	1.06%	**6.08%**	***5.02%***	***

Shapley Decomposition

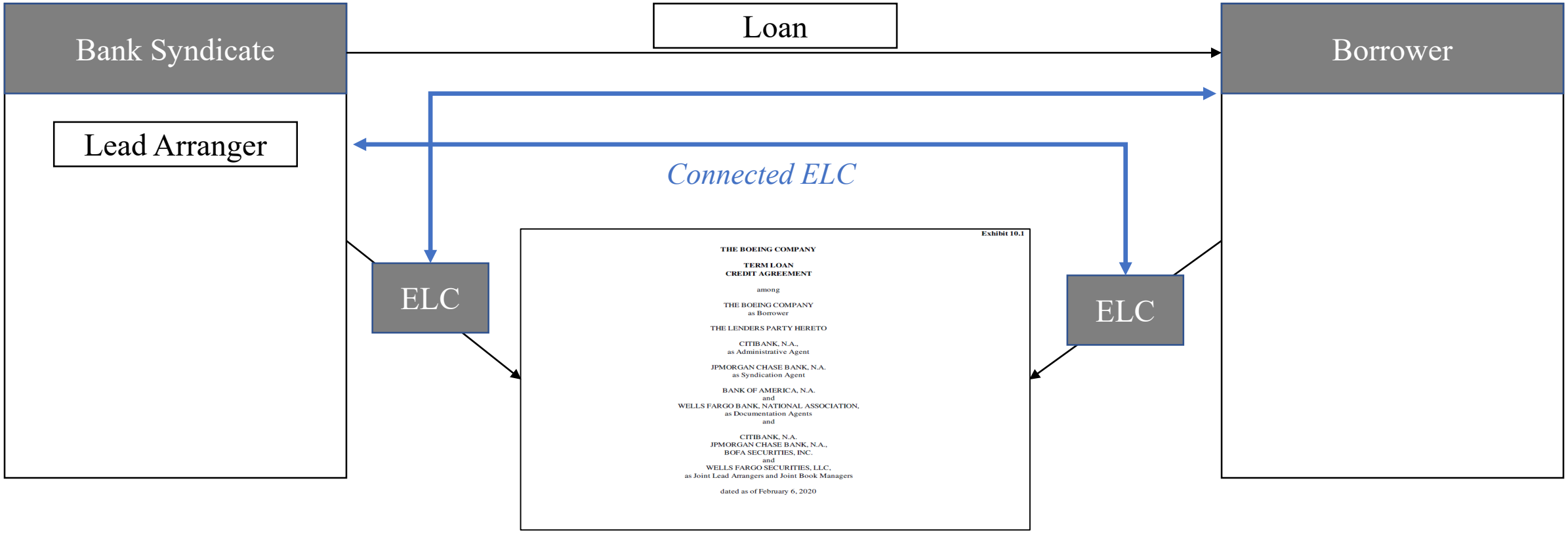
RQ 2 – Potential Channel - Transaction Cost Engineer

- Economic activity impacted by information asymmetry
  - Results in 'deadweight' transaction costs between borrowers and lenders
  - Borrower → costly debt and higher monitoring
  - Lender → adverse selection or loss of business due to competition
- Legal counsel work with multiple clients and privy to soft information
- Can play three (potential) roles – client advocate, gatekeeper, transaction cost engineer (TCE) (Gilson 1984; Coffee 2003)
- Transaction cost engineer - Add value to complex transactions
  - Reduce information asymmetry, design optimal contract structures, provide soft knowledge that is costly or unverifiable

H2: Connected ELC helps reduce information asymmetry leading to better loan contract terms

Potential Channel

Legal counsel can play a *transaction cost engineer* role in complex transactions by bringing soft information and reducing information frictions between contracting parties.



RQ 2: Potential Channel – Transaction Cost Engineer

	(1)	(2)	(3)
		Spread	
Lender ELC Connected with Borrower	**-68.620** **(-2.221)**		
Borrower ELC Connected with Lender		**-18.771*** **(-3.089)**	
ELC Connected			**-18.669*** **(-3.095)**
Size	-22.954*** (-3.361)	-24.940*** (-3.585)	-27.466*** (-3.727)
Age	5.988** (2.390)	2.997 (1.053)	4.253 (1.610)
Profitability	-221.079*** (-4.340)	-222.482*** (-4.018)	-228.720*** (-4.111)
Tangibility	103.160*** (2.620)	117.525*** (2.924)	125.311*** (2.998)
MB	-19.010*** (-3.734)	-17.462*** (-3.198)	-18.396*** (-3.374)
Leverage	42.487* (1.690)	44.593 (1.527)	31.920 (1.118)
Maturity	-0.144 (-1.130)	-0.130 (-1.015)	-0.126 (-0.937)
Loan Size	-5.856** (-2.559)	-6.147*** (-2.581)	-5.842** (-2.480)
Covenants Count	-7.068*** (-2.604)	-6.395** (-2.148)	-7.330** (-2.457)
Secured Dummy	7.467 (0.956)	3.630 (0.443)	1.961 (0.234)
Borrower Loan Experience	-1.792 (-0.769)	-2.200 (-0.852)	-2.416 (-0.932)
Constant	419.451*** (6.893)	469.776*** (7.620)	482.914*** (7.595)
Lender ELC FE	YES	NO	YES
Borrower ELC FE	NO	YES	YES
Borrower FE	YES	YES	YES
Year FE	YES	YES	YES
Loan Type FE	YES	YES	YES
Leading Bank FE	YES	YES	YES
Rating FE	YES	YES	YES
Observations	5,439	5,440	5,389
Adj. R-squared	0.750	0.742	0.751

RQ 2: Potential Channel – Transaction Cost Engineer

	(1)	(2)	(3)
		Covenants	
Lender ELC Connected with Borrower	**-0.648** **(-2.475)**		
Borrower ELC Connected with Lender		**-0.110*** **(-1.947)**	
ELC Connected			**-0.145**** **(-2.473)**
Lender ELC FE	YES	NO	YES
Borrower ELC FE	NO	YES	YES
Borrower FE	YES	YES	YES
Year FE	YES	YES	YES
Loan Type FE	YES	YES	YES
Leading Bank FE	YES	YES	YES
Rating FE	YES	YES	YES
Observations	5,439	5,440	5,389
Adj. R-squared	0.769	0.774	0.792

	(1)	(2)	(3)
		Strictness	
Lender ELC Connected with Borrower	**-0.170*** **(-1.913)**		
Borrower ELC Connected with Lender		**-0.076**** **(-2.559)**	
ELC Connected			**-0.062**** **(-2.016)**
Lender ELC FE	YES	NO	YES
Borrower ELC FE	NO	YES	YES
Borrower FE	YES	YES	YES
Year FE	YES	YES	YES
Loan Type FE	YES	YES	YES
Leading Bank FE	YES	YES	YES
Rating FE	YES	YES	YES
Observations	3,810	3,817	3,771
Adj. R-squared	0.754	0.753	0.782

RQ 2 – TCE Channel (Endogeneity Concerns)

- Endogeneity concerns due to selection between borrowers, lenders, and ELCs

1. Borrower and Lender might select their ELC
   - Replace borrower, lender, and ELC FE with borrower*ELC and lender*ELC FE
2. Relationship banking
   - Include borrower*lender FE
3. Relationship banking and ELC choice
   - Include borrower*lender, lender*lender ELC, and borrower*borrower ELC FE

RQ 2: Potential Channel – Endogeneity Concerns

	(1)	(2)	(3)
	Spread	Spread	Spread
ELC Connected	**-32.59*** **	**-25.083*** **	**-28.743*** **
	(-3.38)	**(-3.99)**	**(-3.74)**
Time-varying controls	YES	YES	YES
Borrower FE × Borrower ELC FE	YES	NO	YES
Lender FE × Lender ELC FE	YES	NO	YES
Borrower FE × Lender FE	NO	YES	YES
Borrower FE	NO	YES	NO
Lender FE	NO	YES	NO
Year FE	YES	YES	YES
Loan Type	YES	YES	YES
Rating FE	YES	YES	YES
Observations	4,915	5,034	4,697
Adjusted R-squared	0.752	0.769	0.860

RQ 2: Potential Channel – Endogeneity Concerns

	(1)	(2)	(3)
	Covenants	Covenants	Covenants
ELC Connected	**-0.158** **(-2.14)**	**-0.165** **(-2.28)**	**-0.204** **(-2.28)**
Time-varying controls	YES	YES	YES
Borrower FE × Borrower ELC FE	YES	NO	YES
Lender FE × Lender ELC FE	YES	NO	YES
Borrower FE × Lender FE	NO	YES	YES
Borrower FE	NO	YES	NO
Lender FE	NO	YES	NO
Year FE	YES	YES	YES
Loan Type	YES	YES	YES
Rating FE	YES	YES	YES
Observations	4,915	5,034	4,697
Adjusted R-squared	0.851	0.834	0.920

Information Asymmetry Severity Tests

- Intensity of treatment.
  - ELC role is more important when information asymmetry is high
  - Lender does not have a relationship with borrower
  - Lender is remote
  - Lender experience is less
  - ILC is weak
- Shock to information environment
  - ELC role becomes more prominent when there is a negative shock to information environment
  - Delaware court rulings decreased fiduciary duties to creditors in 2006 ➔ Lower creditors' protection ➔ Less credit relevant financial disclosure (Amiraslani, 2017)

Potential Nature of Information?

- Two scenarios with significant legal complexities
  - Can increase risk of recovery of residual claims for lenders
- Complex organizational structures (Sikochi, 2020)
  - Multiple legal entities increase risk of debt claims
  - Firm can transfer resources to subsidiaries (West and Smeltzer, 2011; Demiroglu and James, 2015)
- Debt heterogeneity (Lou and Otto, 2020)
  - Risk of coordination failure among lenders (Ivashina et al, 2016)

Potential Nature of Information – Debt Heterogeneity

	(1)	(2)	(3)	(4)	(5)	(6)
	Spread		Covenants		Strictness	
	Low Debt Structure Heterogeneity	High Debt Structure Heterogeneity	Low Debt Structure Heterogeneity	High Debt Structure Heterogeneity	Low Debt Structure Heterogeneity	High Debt Structure Heterogeneity
ELC Connected	**-7.677**	**-21.520****	**0.007**	**-0.219***	**-0.018**	**-0.081**
	(-0.643)	**(-2.091)**	**(0.078)**	**(-1.866)**	**(-0.390)**	**(-1.427)**
Time-varying controls	YES	YES	YES	YES	YES	YES
Lender ELC FE	YES	YES	YES	YES	YES	YES
Borrower ELC FE	YES	YES	YES	YES	YES	YES
Borrower FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Loan Type FE	YES	YES	YES	YES	YES	YES
Leading Bank FE	YES	YES	YES	YES	YES	YES
Rating FE	YES	YES	YES	YES	YES	YES
Test equality of coefficients (p-value)	0.084		0.057		0.062	
Observations	2,138	2,341	2,138	2,341	1,489	1,678
Adjusted R-squared	0.764	0.775	0.840	0.860	0.872	0.881

Potential Nature of Information – Organizational Complexity

	(1)	(2)	(3)	(4)	(5)	(6)
	Spread		Covenants		Strictness	
	Low Organizational Complexity	High Organizational Complexity	Low Organizational Complexity	High Organizational Complexity	Low Organizational Complexity	High Organizational Complexity
ELC Connected	**-15.189**	**-35.199*** **	**-0.016**	**-0.315** **	**-0.074**	**-0.027**
	(-1.366)	**(-3.043)**	**(-0.113)**	**(-2.366)**	**(-1.387)**	**(-0.380)**
Time-varying controls	YES	YES	YES	YES	YES	YES
Lender ELC FE	YES	YES	YES	YES	YES	YES
Borrower ELC FE	YES	YES	YES	YES	YES	YES
Borrower FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Loan Type FE	YES	YES	YES	YES	YES	YES
Leading Bank FE	YES	YES	YES	YES	YES	YES
Rating FE	YES	YES	YES	YES	YES	YES
Test equality of coefficients (p-value)	0.064		0.040		0.047	
Observations	1,688	1,767	1,688	1,767	1,173	1,247
Adjusted R-squared	0.773	0.793	0.845	0.854	0.900	0.856

RQ 3 – Do Loans with Connected ELC Perform Differently?

- Reduced information frictions should result in better future outcomes (Bolton, Freixas, Gambacorta, and Mistrulli 2016; Gopalan, Nanda, and Yerramilli 2011)
- Reduction in information asymmetry → Lower spreads and covenants → Lower adverse selection problem → Better loan performance
- OR
- ELC do not reduce information asymmetry but have negotiate better terms due to vested interests
- No reduction in information asymmetry → Lower spreads and covenants → No difference in loan performance

H3: Information asymmetry reduction by connected ELCs results in better loan performance

RQ 3: Future Loan Performance

	(1)	(2)	(3)	(4)
	Downgrade Dummy		Default Dummy	
	Probit		Probit	
	Coefficients	Marginal Effect	Coefficients	Marginal Effect
ELC Connected	**-0.126****	**-0.039****	**-0.181***	**-0.015***
	(-2.226)	**(-2.223)**	**(-1.783)**	**(-1.757)**
Size	0.092***	0.028***	-0.013	-0.001
	(3.946)	(3.977)	(-0.423)	(-0.423)
MB	-0.229***	-0.070***	-0.215	-0.018
	(-4.354)	(-4.415)	(-1.533)	(-1.546)
Leverage	0.601***	0.184***	0.915***	0.078***
	(3.759)	(3.778)	(3.477)	(3.358)
Profitability	0.511	0.157	-0.284	-0.024
	(1.113)	(1.115)	(-0.411)	(-0.412)
Tangibility	-0.038	-0.012	0.350	0.030
	(-0.218)	(-0.218)	(1.170)	(1.164)
Z-Score	0.008	0.003	-0.142***	-0.012**
	(0.493)	(0.493)	(-2.578)	(-2.566)
Loan Size	0.158***	0.049***	0.032	0.003
	(6.453)	(6.545)	(0.857)	(0.856)
Industry FE	YES		YES	
Year FE	YES		YES	
Loan Type FE	YES		YES	
Rating FE	YES		YES	
Observations	6,050		6,050	
Pseudo R-squared	0.127		0.203	

To Conclude

- First study to look at the role of an ELC in syndicated loan market
- Do ELCs just "*give an opinion*" OR do ELCs have an *active* influence on the design and outcomes of syndicated loan contracts?
  - Loan pricing, covenant design, and restrictiveness
- Propose an unexplored channel - Transaction Cost Engineers
  - Connected ELC reduce information asymmetry by providing soft information
  - Lower interest rates, fewer covenants, and less strict covenants
- Intensity of treatment
  - Channel effect is stronger when information asymmetry is high
- Nature of information
  - High debt heterogeneity and organizational complexity
- Loan Performance
  - Less likely to experience negative credit events (downgrades, defaults)
  - Soft information reduces ex ante adverse selection with ex post desirable implications

Thank You

Additional Slides

Transaction Cost Engineer

- Situations
  1. Good borrower – lower spread and better performance (both advocate and TCE)
  2. Bad borrower – lower spread and poor performance (advocate)
  3. Bad borrower – higher spread and better performance (TCE)
  4. Lender – higher spread, more covenant, more strictness and better performance (Advocate)
  5. Lender – lower spread, less covenant, less strictness and better performance (TCE)
- Situation where TCE and advocate roles differ
  - ELC connected with borrower (5) reduces loan spread and covenants

CS: Information Asymmetry - Relationship Lender

	(1)	(2)	(3)	(4)	(5)	(6)
	Spread		Covenants		Strictness	
	Relationship Lender	Nonrelationship Lender	Relationship Lender	Nonrelationship Lender	Relationship Lender	Nonrelationship Lender
ELC Connected	**-19.573** **(-2.559)**	**-41.168**** **(-2.339)**	**-0.110** **(-1.235)**	**-0.278*** **(-1.884)**	**-0.038** **(-0.802)**	**-0.208**** **(-2.421)**
Time-varying controls	YES	YES	YES	YES	YES	YES
Lender ELC FE	YES	YES	YES	YES	YES	YES
Borrower ELC FE	YES	YES	YES	YES	YES	YES
Borrower FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Loan Type FE	YES	YES	YES	YES	YES	YES
Leading Bank FE	YES	YES	YES	YES	YES	YES
Rating FE	YES	YES	YES	YES	YES	YES
p-value for equality of coefficients	0.078		0.069		0.068	
Observations	2,728	2,392	2,728	2,392	1,928	1,658
R-squared	0.799	0.742	0.826	0.901	0.813	0.923

Back

CS: Information Asymmetry - Remote Lender

	(1)	(2)	(3)	(4)	(5)	(6)
	Spread		Covenants		Strictness	
	Remote Lender	Close Lender	Remote Lender	Close Lender	Remote Lender	Close Lender
ELC Connected	**-22.55*** **	**-20.21** **	**-0.223** **	**-0.124**	**-0.174*** **	**-0.033**
	(-2.853)	**(-2.220)**	**(-2.331)**	**(-1.368)**	**(-3.573)**	**(-0.632)**
Time-varying controls	YES	YES	YES	YES	YES	YES
Lender ELC FE	YES	YES	YES	YES	YES	YES
Borrower ELC FE	YES	YES	YES	YES	YES	YES
Borrower FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Loan Type FE	YES	YES	YES	YES	YES	YES
Leading Bank FE	YES	YES	YES	YES	YES	YES
Rating FE	YES	YES	YES	YES	YES	YES
p-value for equality of coefficients	0.197		0.078		0.026	
Observations	2,403	2,464	2,464	2,403	1,664	1,703
R-squared	0.790	0.744	0.852	0.818	0.847	0.824

Back

CS: Information Asymmetry - Lender Experience

	(1)	(2)	(3)	(4)	(5)	(6)
	Spread		Covenants		Strictness	
	Inexperienced Lender	Experienced Lender	Inexperienced Lender	Experienced Lender	Inexperienced Lender	Experienced Lender
ELC Connected	**-39.758*** **	**-22.229*** **	**-0.244***	**-0.127**	**-0.110***	**-0.021**
	(-3.461)	**(-2.842)**	**(-1.796)**	**(-1.493)**	**(-1.936)**	**(-0.461)**
Time-varying controls	YES	YES	YES	YES	YES	YES
Lender ELC FE	YES	YES	YES	YES	YES	YES
Borrower ELC FE	YES	YES	YES	YES	YES	YES
Borrower FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Loan Type FE	YES	YES	YES	YES	YES	YES
Leading Bank FE	YES	YES	YES	YES	YES	YES
Rating FE	YES	YES	YES	YES	YES	YES
Test equality of coefficients (p-value)	0.058		0.127		0.048	
Observations	2,503	2,603	2,503	2,603	1,696	1,882
R-squared	0.742	0.787	0.849	0.823	0.865	0.831

Back

Shock to Information Environment

Delaware court rulings decreasing fiduciary duties to creditors in 2006 ➔ Lower creditors' protection ➔ Less credit relevant financial disclosure (Amiraslani, 2017)

	(1)	(2)	(3)
	Spread	Covenants	Strictness
ELC Connected X Post Ruling X Delaware	**-31.875**	**-0.358***	**-0.209****
	(-1.638)	**(-1.774)**	**(-2.480)**
Time-varying controls	YES	YES	YES
Borrower FE	YES	YES	YES
Industry FE	YES	YES	YES
Year FE	YES	YES	YES
Loan Type	YES	YES	YES
Rating FE	YES	YES	YES
Observations	5,178	5,178	3,652
Adjusted R-squared	0.740	0.754	0.723

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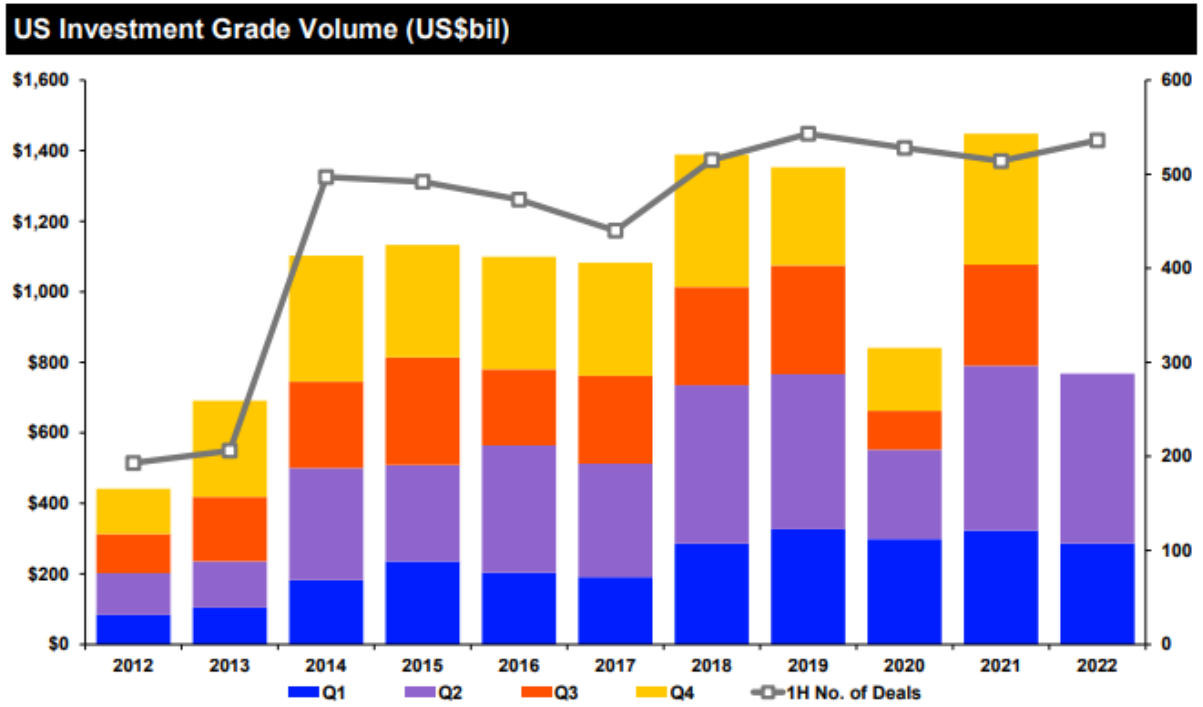
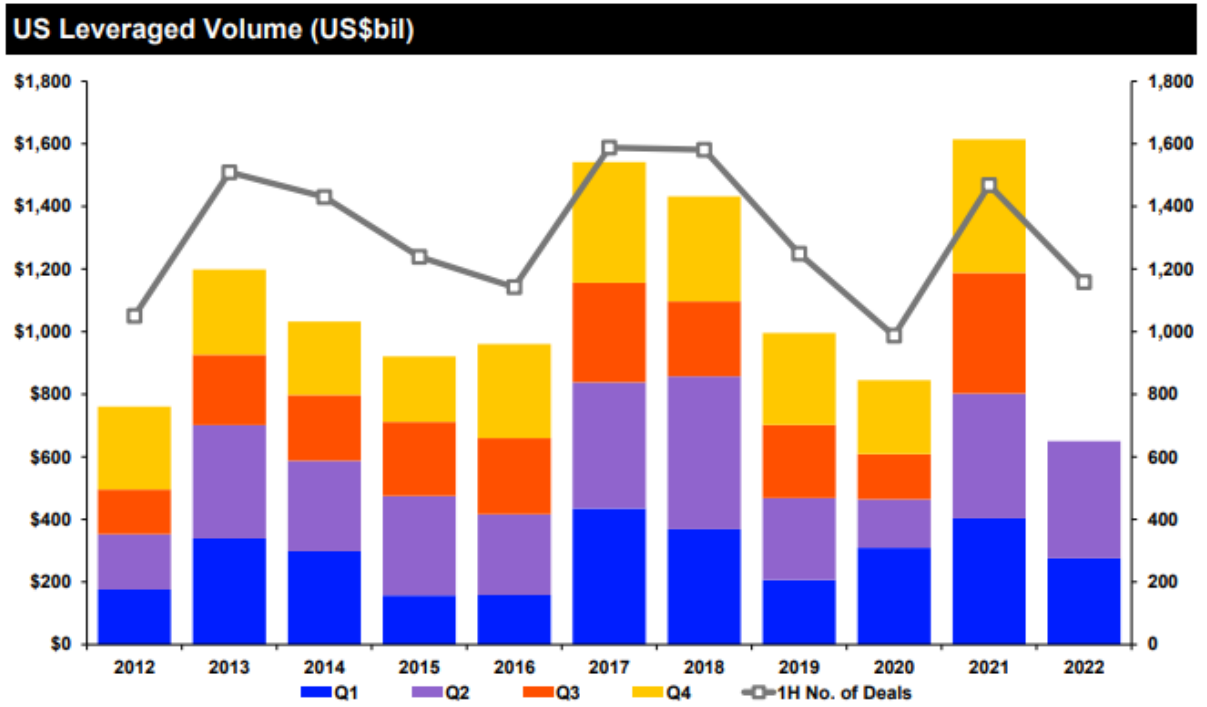
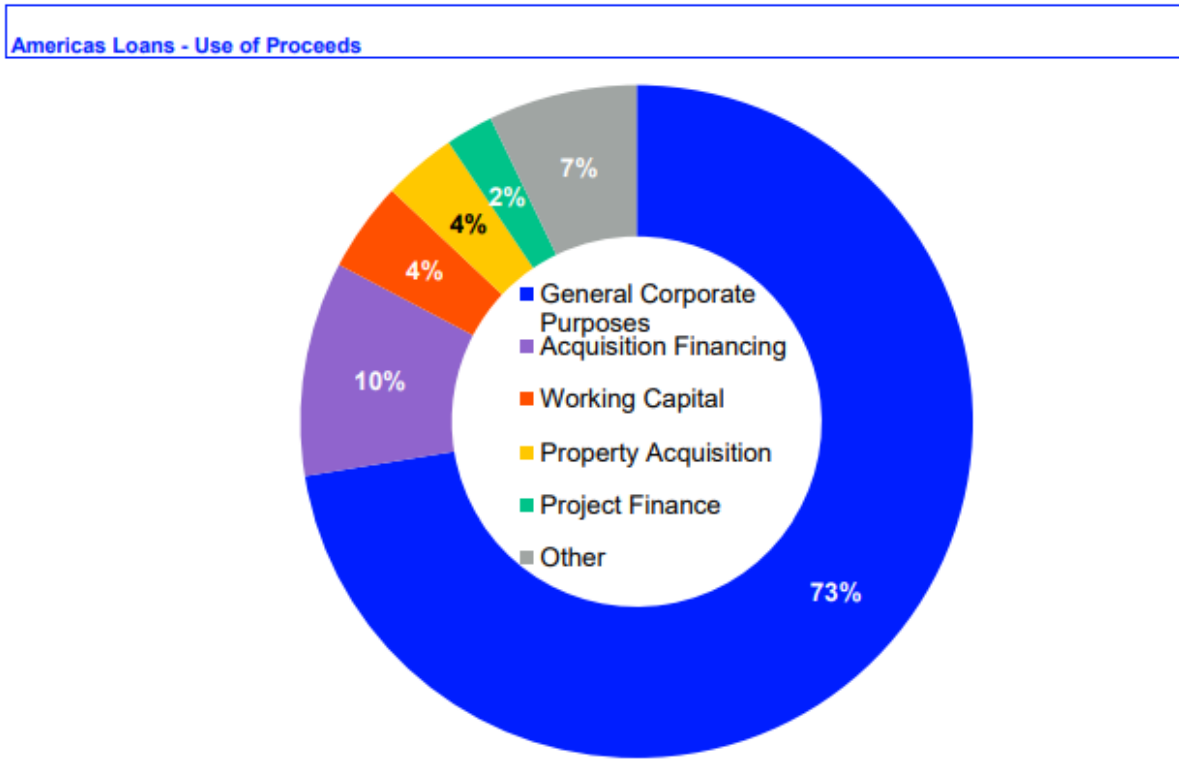
Syndicated Loan Market





Some Stats (from Refinitiv)



Baseline Regressions

	(1)	(2)	(3)
	Spread	Covenants	Strictness
Size	-7.692***	-0.146***	0.008
	(-3.104)	(-5.666)	(0.816)
Age	0.172	0.006	0.001
	(0.290)	(1.196)	(0.425)
Profitability	-163.632***	0.644**	-1.312***
	(-4.841)	(2.192)	(-11.914)
Tangibility	23.004**	-0.083	0.040
	(2.511)	(-0.954)	(1.128)
MB	-9.661***	-0.019	-0.015
	(-3.685)	(-0.779)	(-1.436)
Leverage	45.621***	0.209**	0.459***
	(4.407)	(2.022)	(10.602)
Maturity	-0.424***	0.003**	-0.001**
	(-3.408)	(2.452)	(-2.082)
Loan Size	-14.842***	-0.005	-0.025***
	(-6.347)	(-0.180)	(-2.866)
Covenants Count	-13.434***		
	(-5.984)		
Secured Dummy	86.530***	0.263***	0.034
	(15.576)	(4.371)	(1.506)
Spread		-0.001***	0.000***
		(-5.771)	(4.279)
FE	Year, Loan Type, Rating	Year, Loan Type, Rating	Year, Loan Type, Rating
Observations	6,097	6,097	4,313
Adjusted R-squared	0.526	0.281	0.337

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RQ 1: Shapley Decomposition

	Percent of Model R2 Explained by Each Component			
	Spread	**Covenants**	**Strictness**	**Covenants Mix**
Time-Varying Factors	15.5%	7.3%	15.4%	7.4%
Year FE	8.2%	8.6%	2.3%	1.9%
Loan Type FE	6.5%	0.2%	0.2%	1.1%
Rating FE	12.1%	3.7%	5.8%	7.3%
Borrower FE	39.2%	59.2%	56.7%	67.6%
Lender FE	7.6%	2.8%	3.6%	2.3%
ELC Lender FE	**6.1%**	**7.7%**	**7.2%**	**5.3%**
ELC Borrower FE	**4.8%**	**10.5%**	**8.8%**	**7.3%**
Cumulative ELC FE	**10.9%**	**18.2%**	**16.0%**	**12.6%**

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Exhibit H Text

EXHIBIT H

DESCRIPTION OF OPINION OF OBLIGORS' COUNSEL

The opinions of Morgan, Lewis & Bockius, LLP and Cooley Godward LLP, counsel to the Obligors, which are called for by Section 5.1(n) of the Senior Secured Credit Agreement dated as of February 23, 2000 (the "Credit Agreement"), among The Titan Corporation, as Borrower, the Lenders from time to time party thereto, Credit Suisse First Boston, as Administrative Agent, First Union Securities, Inc., as Syndication Agent, and The Bank of Nova Scotia, as Documentation Agent, shall be dated the Closing Date and addressed to Credit Suisse First Boston, as Administrative Agent, and the Lenders and shall be satisfactory in scope and form to the Administrative Agent and its counsel. Capitalized terms not defined herein shall have the meanings assigned to such terms in the Credit Agreement. The opinion shall be to the effect that:

Each Obligor is a corporation (or other entity) duly organized, validly existing and in good standing under the laws of its jurisdiction of incorporation or formation, has full power and authority and is duly authorized to conduct the activities in which it is now engaged, and is duly licensed or qualified and is in good standing as a foreign corporation (or other entity) in each jurisdiction in which the character of the properties owned or leased by it or the nature of the business transacted by it makes such licensing or qualification necessary.

Each Obligor has corporate (or other) power and authority and is duly authorized to enter into and perform its obligations under the Loan Documents.

The Loan Documents have been duly authorized, executed and delivered by each Obligor and constitute the valid and binding contracts and agreements of each Obligor, enforceable in accordance with their respective terms, except as enforceability thereof may be limited by (i) bankruptcy, insolvency, fraudulent conveyance or similar laws affecting the enforcement of creditors' rights generally, and (ii) equitable principles of general applicability (regardless of whether such enforceability is considered in a proceeding in equity or at law).

No approval, consent or withholding of objection on the part of, or filing, registration or qualification with, any governmental body, Federal, state or local, is necessary in connection with the lawful execution, delivery and performance of the Loan Documents.

The execution and delivery by the Obligors of the Loan Documents and the performance by the Obligors of the transactions contemplated thereby do not and will not (a) violate, conflict with or result in any default under (i) any order, writ, injunction or decree of any court or governmental authority or agency binding upon the Obligors or to which the Obligors are subject, (ii) the Organic Documents of the Obligors or (iii) any material contractual obligation of the Obligors or the HIGH TIDES Documents or (b) result in the creation or imposition of any Lien upon any of the assets or properties of the Obligors (other than Liens created pursuant to the Collateral Documents).

Neither the execution, delivery or performance by any of the Obligors of the Loan Documents nor the compliance by the Obligors with the terms and provisions thereof will contravene any provision of any applicable laws, rules and regulations (including, without limitation, Regulations T, U and X of the Federal Reserve Board).

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Storyline

- Motivation – highly competitive setting with information asymmetry. No public facing role of ELC. Ex-ante not clear if ELC possess knowledge over and beyond what institutions do.
- Do ELC matter? – FE and incremental adjusted R-squared
- Channel – Information asymmetry (that becomes progressively granular)
    1. Individual FE – Show relation of connectedness without regard to relationship between borrower and lender. Additional subsample cuts.
        1. Additional tests. If connected elc is just a form of connectedness then there are others such as director/auditor and so on. Include control for auditor connectedness etc.
    2. Individual FE but borrower*elc and lender*elc (variation of 1): Show relation of connectedness without regard to borrower lender relationship but controlling for relation (selection) between borrower and elc and lender and elc
    3. Lender-Borrower FE – Show relation of connectedness within borrower and lender (relationship banking setting). So connectedness is an incremental effect on top of relationship banking. Question is whether it would be mitigated by relationship banking? If not, what is the information asymmetry that relationship banking does not solve but connectedness does. (Potential answer on next slide)
    4. Lender-Borrower FE, borrower-elc and lender-elc – Similar to 3 but controlling for relation (selection) between borrower and elc and lender and elc
- Outcomes

What form of information asymmetry?

- In relationship banking (borrower-lender group), what sort of information asymmetry is not resolved by relationship but by connected elc?
- Management quality for example could be explained by relationship.
- Borrower might not be aware of lender behaviour with other borrowers especially during off-equilibrium paths (such as how does lender respond when other borrowers default or face difficulties). If lender desires any additional information during these times (for example renegotiation) that can be provided to the lender beforehand in order to reduce the asymmetry. This sort of information would be available to connected ELC but not necessarily mitigated through relationship or by other connectedness such as auditor/director.
  - Potential test – where lenders experienced high renegotiations/defaults.
- Complexity of debt structure - proxy for renegotiation costs
  - Potential test - ?
- In general, elc is closer to the contracting process than an auditor or lender and is in a unique position to gather soft information that is not necessarily captured/mitigated through other connected routes

ELC Roles

- Advocate – help the client
- Gatekeeper – Act in a manner that benefits public as well (not relevant to corporate loans)
- TCE – reduce the deadweight costs in a transaction arising due to information asymmetry
- TCE and advocate roles overlap.
  - In both, ELC can reduce information asymmetry
- No clear prediction on which role dominates in conflict (e.g. conflict between advocacy and gatekeeper, or conflict between advocacy and TCE)

Transaction Cost Engineer

- TCE and advocate roles overlap.
  - In both, ELC can reduce information asymmetry
- Situations
  1. Good borrower – lower spread and better performance (both advocate and TCE)
  2. Bad borrower – lower spread and poor performance (advocate)
  3. Bad borrower – higher spread and better performance (TCE)
  4. Lender – higher spread, more covenant, more strictness and better performance (Advocate)
  5. Lender – lower spread, less covenant, less strictness and better performance (TCE)
- Situations where TCE and advocate roles differ
  - ELC connected with borrower (5) reduces loan spread and covenants
  - ELC connected with lender increases loan spread and covenants but results in better performance (3) – might be tough to observe due to selection problem (a borrower can decide to walk away if ELC is not helping get better terms) – this will hold true for a bad borrower sample. Possible test – Same lender and elc give loan to two borrowers. One is bad and other is good. Loan terms for bad borrower should be higher after controlling for borrower characteristics
- Evidence – Lower spread and covenants on Borrower Connected ELC
  - Advocacy role would suggest higher spread and covenants