Non-Financial Liabilities and Effective Corporate Restructuring

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- Just like financial debt, **non-financial obligations** such as leases and long-term supplier contracts can be excessive
  - 23% of liabilities in Chapter 11 (Ayotte, 2015)
- Non-financial liabilities can be reduced in **Chapter 11**, but limited possibilities outside the U.S.
- We are interested in the consequences of this

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- Difference-in-difference tests (U.S. vs R.o.W; Israel before and after reform) produce **large empirical estimates** (10% less debt)
- Potentially large welfare consequences of the operational restructuring options. We suggest this is a suitable target for insolvency reform in EU

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- In Chapter 11, under §365, **executory contracts** can be **rejected** or **assumed** (or **assigned** to third party)
  - Counterparty losses from rejection become unsecured claims
  - Recent examples of large bankruptcies where used: **Hertz (2020), SAS (2022), WeWork (2023)**

Kmart Chapter 11 (Gilson and Abbott 2009)

- Kmart filed for Chapter 11 in January 2002 (recession and Walmart hurt business)
- Wanted to reduce staff and store count
- Party to 5,000 leases, including for 600 stores
- Time pressure
- Kmart sold "designation rights" for 56 leases for $46M

Hertz Chapter 11

- Hertz, Inc. filed for Chapter 11 in June 2020

"... The Debtors lease most of their fleet from HVF ... As a result of these facts, the Debtors must take immediate action to reduce their fleet and limit the Debtors' exposure to potential administrative claims for post-petition rent and thereby preserve the value of their estates for the benefit of their stakeholders. Accordingly, through this Motion, the Debtors seek entry of an order authorizing the Debtors to **reject their leases for the 144,372 vehicles** *identified on Exhibit B. Rejection of these leases will reduce the monthly base rent payment and result in an estimated monthly savings of approximately $80.3 million."*

ABS financing structure for Hertz's car fleet

HVF II ABS Notes		
Series	**Original Expected Final Payment Day**	**Outstanding Principal**
MTNs		
Series 2015-3	2020	$371 million
Series 2016-2	2021	$595 million
Series 2016-4	2021	$424 million
Series 2017-1	2020	$450 million
Series 2017-2	2022	$370 million
Series 2018-1	2023	$1,058 million
Series 2018-2	2021	$213 million
Series 2018-3	2023	$213 million
Series 2019-1	2022	$745 million
Series 2019-2	2024	$799 million
Series 2019-3	2024	$800 million
HVF II MTN Total		$6,038 million
VFNs		
Series 2013-A	2022	$4,855 million
HVF II ABS Notes Total	2020-2024	$10,893 million

Hertz rejection of vehicle leases

- In early 2021, Hertz reached a court approved agreement with ABS lenders
- Lower rental payments and Hertz to sell cars
- Hertz initially sold 199,000 vehicles for $4.25B (cf. debts $19.8B)

Literature

- Long-term contracts (Williamson 1975, Klein et al 1978, Halonen-Akatwijuka and Hart 2020)
  - Leases (Eisfeldt and Rampini 2009, Ma and Tashjian 2015)
  - Supply contracts (Moon and Phillips 2020)

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  - Supply contracts (Moon and Phillips 2020)
- Insolvency law and Chapter 11
  - Legal system and insolvency law (Ayotte and Yun, 2007, Djankov et al., 2008)
  - Insolvency law determines corporate finance outcomes (Becker and Ivashina, 2022, Becker and Josephson, 2016, Bris, Welch, and Zhu, 2006, Vig, 2013)
  - Rejection of leases in Chapter 11 (Countryman, 1972, Fried, 1996, Lemmon, Ma, and Tashjian, 2009, Ayotte, 2015)
  - Treatment of executory contracts outside U.S. (Dávalos, 2017, Hahn and Kimhi, 2021)

A simple 2-period model

- In period 1, a firm selects capital structure consisting of debt and equity
- The firm is party to an executory contract with a supplier for delivery of a fixed quantity of an input in period 2
- The contracted price is above the firm's marginal product of the input, but the firm cannot renegotiate unless there is an operational restructuring

Insolvency

- In period 2, revenues are realized
- If revenues are **above** the contractual payment and the repayment of debt, profits are taxed at a rate $t > 0$
- If revenues are **below**, the firm is insolvent and subject to a fixed distress cost ("bankruptcy")
- A bankruptcy court, with the aim of maximizing firm value, chooses liquidation or, is system allows it, restructuring
- The supplier's claim has priority in bankruptcy

Three settings

We compare three institutional settings:

N. **No restructuring**: insolvent firms are liquidated

F. **Financial restructuring**: debt of insolvent firms can be reduced

O. **Operational restructuring**: debt can be reduced and executory contracts rejected / renegotiated

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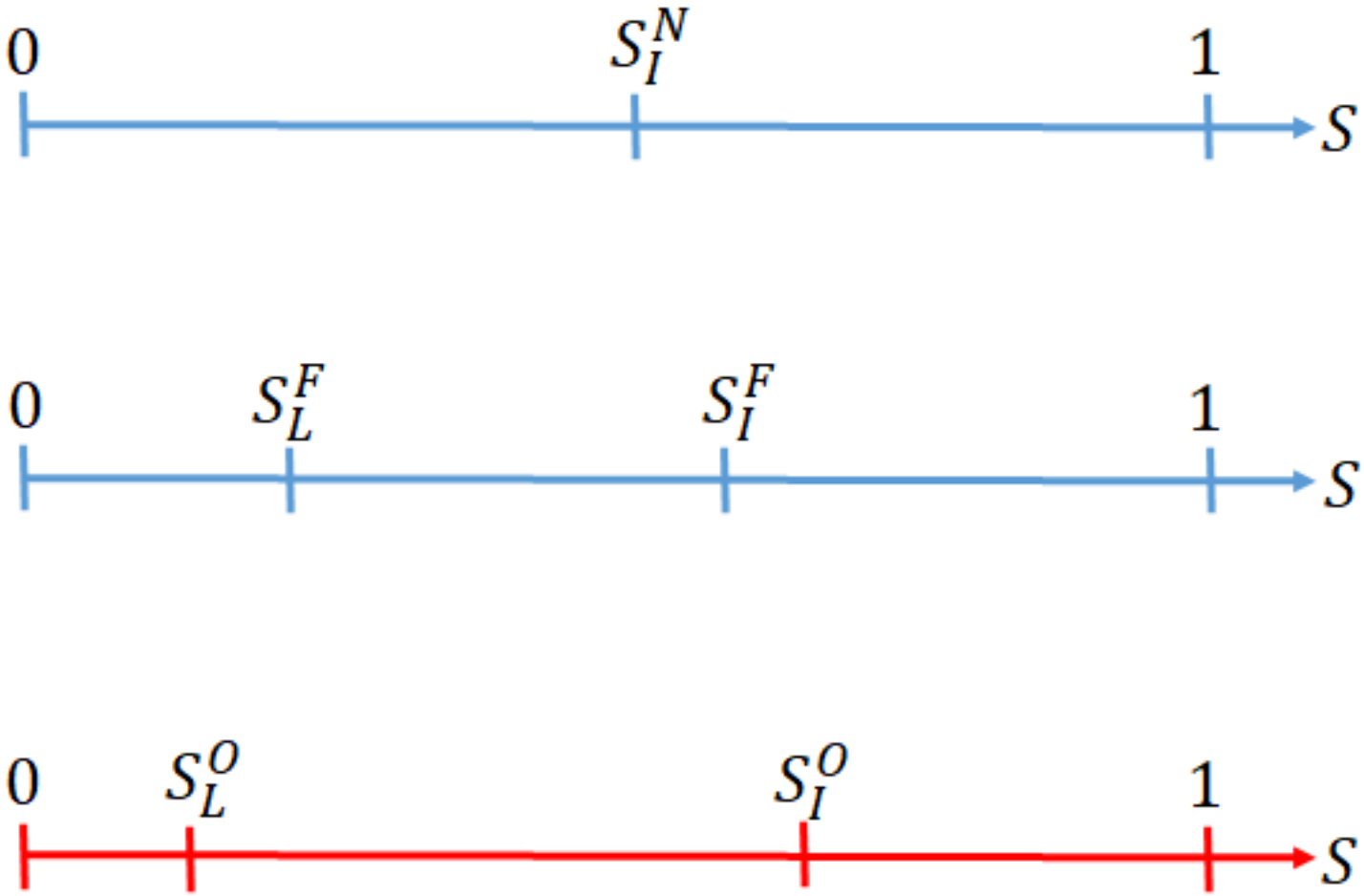
3. The difference in debt across settings increases in the quantity of the executory input
4. Welfare tradeoff between O and F: liquidation (with negative externalities) less likely, but bankruptcy cost more likely

Restructuring regimes



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- The model's broad intuition: when restructuring executory contracts is impossible, firms avoid leverage
  - Important when executory contracts are (exogenously) large

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- We interact use of E.C. with (a) a U.S. indicator or (b) an after 2019 indicator for Israeli firms.
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  - Israel introduced new Company Law in 2019, allows rejection
- Flow of new debt (amount and pricing) for U.S. vs R.o.W

Data

- Compustat US: U.S. balance sheet and lease payment data
  - Executory contract liabilities by 30 Fama-French industry
  - Detailed data on lease and rent payments available US. We assume ranking applies everywhere
- Compustat-Capital IQ world: global corporate balance sheets 2007-2020
  - Key variables are book leverage (debt over assets) and total debt (log)
  - Control variables include profitability (ROS), firm size (assets and revenues)
  - Around 900k firm-year observations
- Dealscan: bank loans 2010-2023Q1 (around 492k loans)
- Automated text analysis of 10-K filings to extract data on long-term purchase obligations (Moon and Phillips 2020)

Purchase Obligations example - eBay Inc. 10-K FY-2018

Commitments and Contingencies

We have certain fixed contractual obligations and commitments that include future estimated payments for general operating purposes. Changes in our business needs, contractual cancellation provisions, fluctuating interest rates, and other factors may result in actual payments differing from the estimates. We cannot provide certainty regarding the timing and amounts of these payments. The following table summarizes our fixed contractual obligations and commitments (in millions):

Payments Due During the Year Ending December 31,	Debt	Leases	Purchase Obligations	Total
2019	$ 1,841	$ 136	$ 209	$ 2,186
2020	1,259	104	147	1,510
2021	983	91	128	1,202
2022	1,935	76	116	2,127
2023	1,284	51	38	1,373
Thereafter	5,220	119	—	5,339
	$ 12,522	$ 577	$ 638	$ 13,737

The significant assumptions used in our determination of amounts presented in the above table are as follows:

- Debt amounts include the principal and interest amounts of the respective debt instruments. For additional details related to our debt, please see “Note 10 – Debt” to the consolidated financial statements included in this report. This table does not reflect any amounts payable under our $2 billion revolving credit facility or $1.5 billion commercial paper program, for which no borrowings were outstanding as of December 31, 2018.
- Lease amounts include minimum rental payments under our non-cancelable operating leases for office space, data centers, as well as fulfillment centers and other corporate assets that we utilize under lease arrangements. The amounts presented are consistent with contractual terms and are not expected to differ significantly from actual results under our existing leases, unless a substantial change in our headcount needs requires us to expand our occupied space or exit an office facility early.
- Purchase obligation amounts include minimum purchase commitments for advertising, capital expenditures (computer equipment, software applications, engineering development services, construction contracts) and other goods and services entered into in the ordinary course of business.

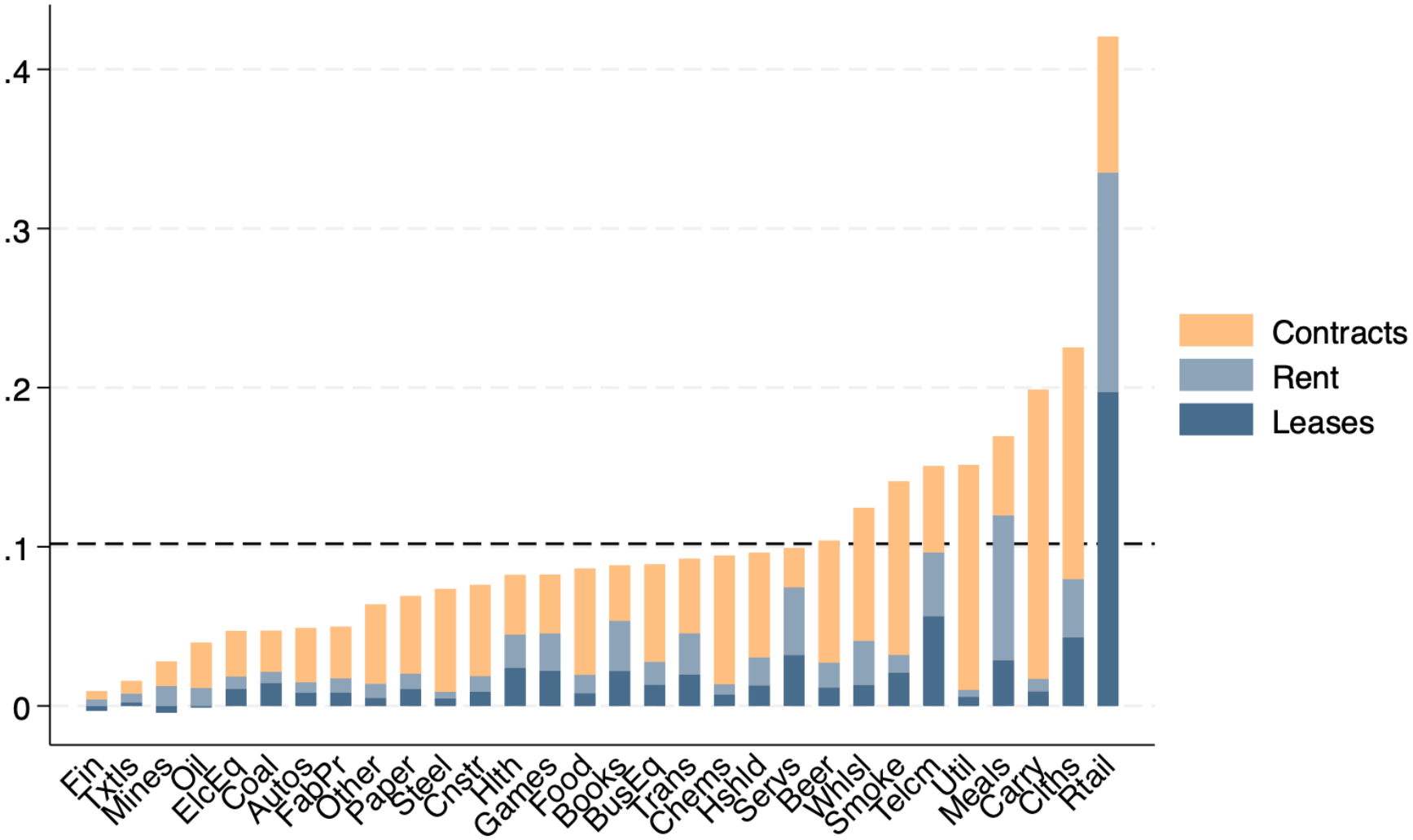
Executory contracts by industry

Table: Use of executory contracts in FF30 industries

Fama-French 30 Industry	Executory contracts over assets	Purchase obligations share of exec. contracts
Retail	0.421	20%
Apparel	0.225	65%
Aircraft, ships, and railroad equipment	0.199	91%
Restaurants, Hotels, Motels	0.169	29%
Utilities (*excluded from tests*)	0.151	93%
Communication	0.151	36%
Tobacco Products	0.141	77%
Wholesale	0.124	67%
Beer & Liquor	0.104	74%
Personal and Business Services	0.099	25%
Metals and Mining	0.024	65%
Textiles	0.016	51%
Finance and Real Estate (*partially excluded from tests*)	0.006	84%

Executory contract measure: "Debt Equivalent of Operating Leases", "Capital Leases" plus three times "Net Rental Expenses" plus purchase obligations from 10-K filings, relative to Assets.

Executory contracts by industry



Empirical tests

- We estimate the following DiD regression:

$$d_{it} = \theta X_{it} + \gamma E_j I_{ct}^{treated} + \mu F_i + \lambda G_{j \times t} + \eta H_{c \times t} + \epsilon_{it}$$

where:

$c(i)$ country	d debt over assets or debt over EBITDA
i firm	X vector of firm controls
t year	E executory contract intensity of industry j
$j(i)$ industry	$I_{ct}^{treated}$ either US (vs. RoW) or Post 2019 in Israel
F, G, H	firm, industry-year, and country-year dummies

- Standard errors double clustered, country-year and firm

Cross-sectional tests

Leverage of U.S. firms compared to those in other countries

Table: **Leverage of U.S. firms compared to those in other countries**

	All Countries		OECD	
	(1) Leverage	(2) Debt/EBITDA	(3) Leverage	(4) Debt/EBITDA
Dependent var. mean	0.229	2.836	0.233	2.836
Executory contr. / Assets	**0.199*** **	**3.422*** **	**0.179*** **	**3.486*** **
	(0.038)	(0.576)	(0.055)	(0.716)
Observations	655,854	537,497	340,805	277,107

Regressions of book leverage or debt over EBITDA on control variables (dependent variable indicated at the top of each column). Each column refers to one regression. Observations are firm-years. Executory contracts refers to the interaction of an indicator for U.S. firms and and the industry measure of executory contracts. All regressions include controls and fixed effects. Standard errors clustered by firm and by industry-year are reported in parentheses.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Time-series tests

Table: **Leverage of Israeli firms after the 2019 Company Law Reform**

	(1) Leverage	(2) Debt/EBITDA
Executory contracts / Assets	**0.632*** **	**2.471*** **
	(0.105)	(0.495)
Observations	606,173	542,197

Regressions of book leverage or debt on control variables (dependent variable indicated at the top of each column). Each coefficient refers to one regression. Observations are firm-years. Executory Contracts refers to the interaction of an indicator for Israeli firms after 2019 and the industry measure of executory contracts. All regressions include controls and fixed effects. Standard errors clustered by firm and by industry-year are reported in parentheses.

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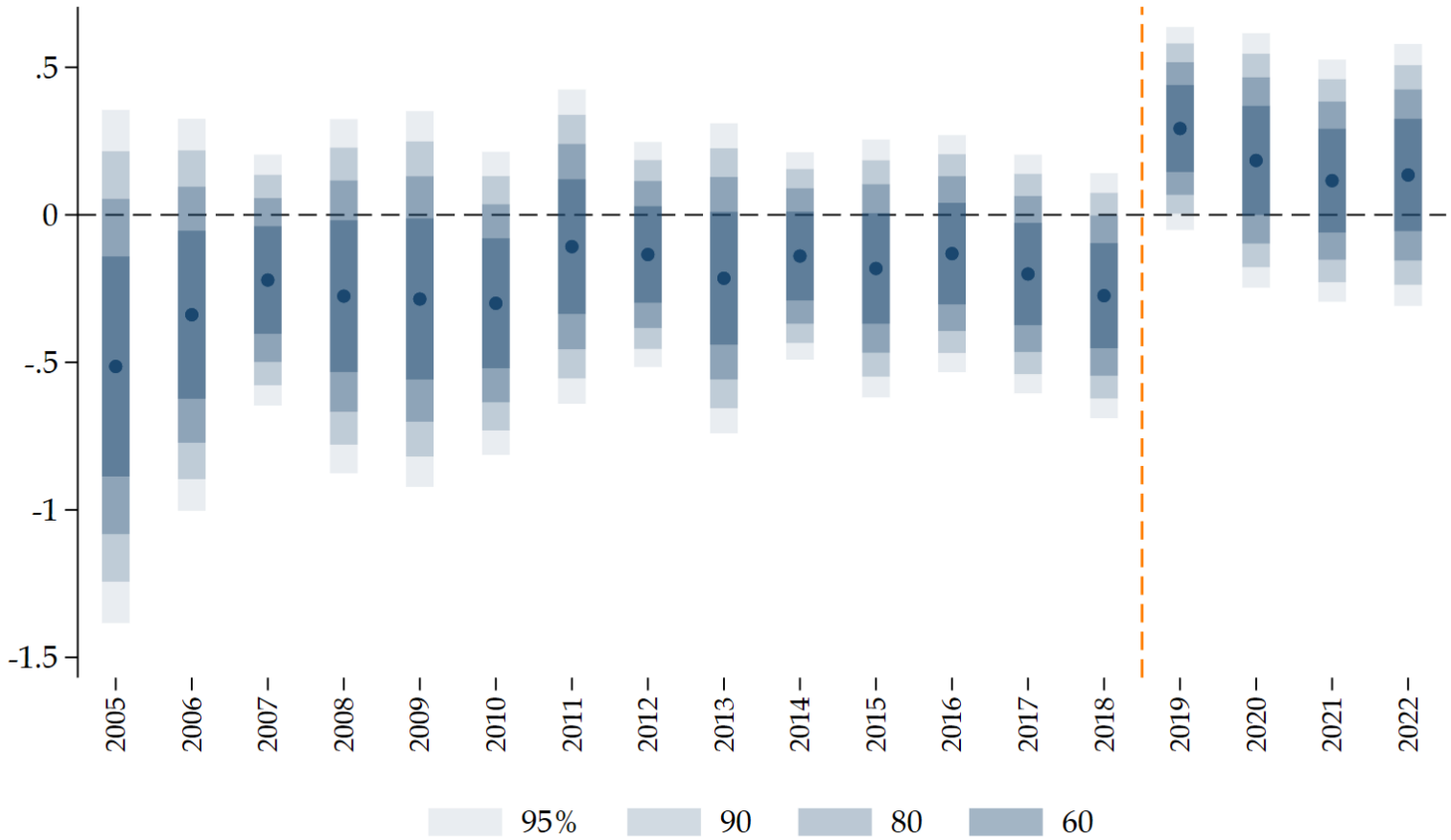
Time-series tests

Year-by-year coefficients (on interaction of Israel indicator and E.C., around 2019 reform



Cross-sectional tests

Dealscan loans by country-industry-year

Table: **Lending volume by country and industry**

	(1) Loan value	(2) Loan number
Dependent variable mean	7.845	2.858
Executory contracts / Assets	**5.202*** **	**2.649*** **
	(0.403)	(0.283)
Observations	8,308	8,318

Regressions of total term loan origination, easured by total value and number of loans (both in logs). The sample covers 2010-2023H2. Observations are industry-year-country. Each column refers to one regression. Executory Contracts refers to the interaction of an indicator for U.S. firms and the industry measure of executory contracts. All regressions include controls and fixed effects. Standard errors clustered by country are reported in parentheses.

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Conclusions

- A toolkit for **operational restructuring** of large/complex firms key for a well-functioning insolvency law
- Many firms have significant non-financial liabilities (NFL)
  - In a simple framework, we predict that treatment of NFL in insolvency impacts **insolvency outcomes** and **debt capacity**
- We find empirical support using cross-industry variation in Executory Contract use in three distinct econometric settings
  - Corporate leverage in U.S. vs R.o.W
  - Corporate leverage around Israeli reform
  - Dealscan loan flow in U.S. vs R.o.W