

The Value of Bankruptcy Court: Evidence from Bond Market in China

Bo Li, Mai Li, Songnan Li & Laura Xiaolei Liu

Discussion by Randall Morck



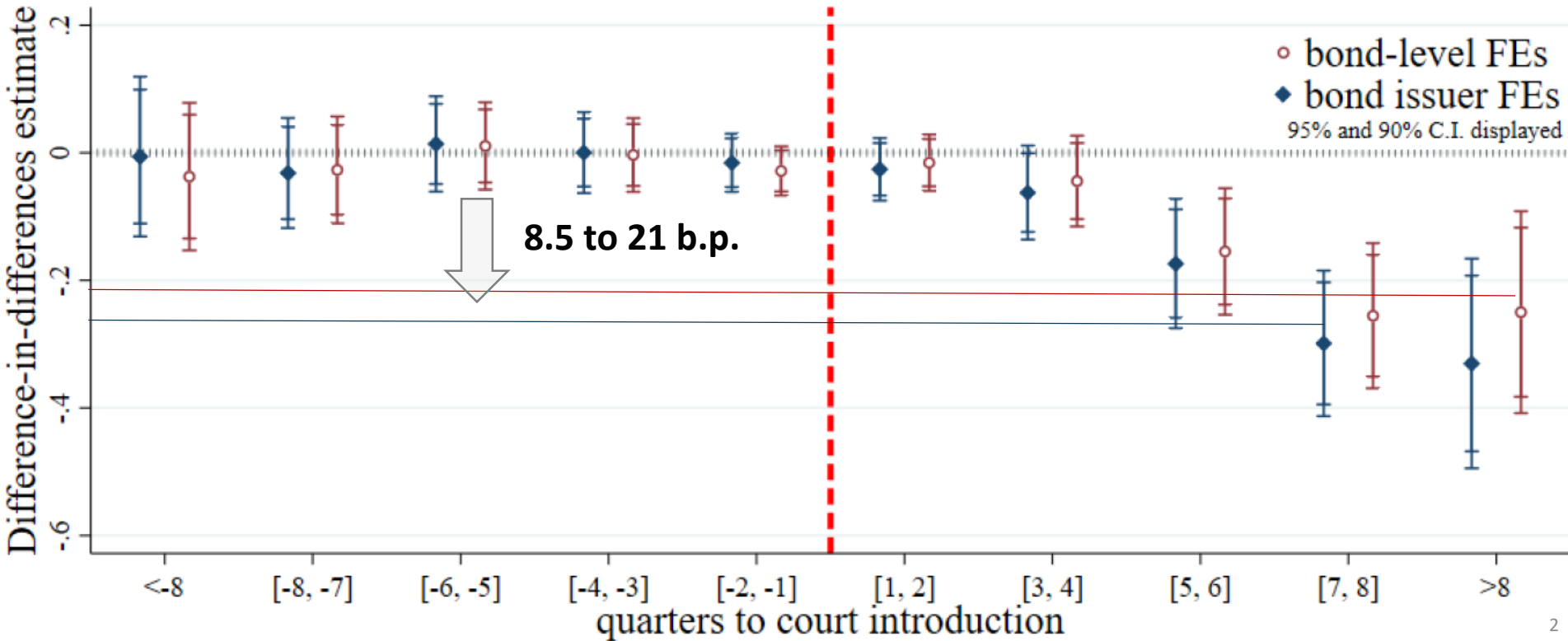
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For the uplifting of the whole people

Liquidation & Bankruptcy Tribunals

Basic Regression & Result

$$4 \times y_{b,c,f,t} = \sum_{q=-T}^{+T} \beta_q \delta_{c,t} + \Gamma \cdot \begin{bmatrix} size(?)_{f,t} \\ leverage(?)_{f,t} \\ ROA_{ft} \\ tangibility_{f,t} \\ \ln(ndi_b) \\ YTM_b \\ \ln GDP_{c,t} \\ \frac{FD_{c,t}}{GDP_{(c,t)}} \end{bmatrix} + \begin{matrix} FE_b \\ or \\ FE_f \end{matrix} + FE_t + u_{b,c,f,t}$$

N > 165K



Liquidation & Bankruptcy Tribunals

Regressions for Tables

$$4 \times y_{b,c,f,t} = b \delta_{b,c,f,t} + \Gamma \cdot \begin{bmatrix} size(?)_{f,t} \\ leverage(?)_{f,t} \\ ROA_{ft} \\ tangibility(?)_{f,t} \\ \ln(ndi_b) \\ YTM_b \\ \ln GDP_{c,t} \\ \frac{FD_{c,t}}{GDP_{(c,t)}} \end{bmatrix} + FE_f + FE_{p \times t} + F_{i \times t} + FE_{cat \times t} [+FE_b] + u_{b,c,f,t}$$

City-level clustering
N > 165K

Table 2: Specialized Court and Bond Spread, Baseline Regression

Notes: This table reports the results of the following model specification:

$$y_{b,f,t} = \beta \text{SpecialCourt}_{c,t} + \gamma X_{b,f,t} + \alpha_t + \alpha_f + \varepsilon_{b,f,t}$$

	Bond Spread _{b,t}					
	(1)	(2)	(3)	(4)	(5)	(6)
SpecialCourt _{c,t}	-0.179*** (0.058)	-0.218*** (0.053)	-0.185*** (0.052)	-0.189*** (0.053)	-0.190*** (0.053)	-0.085** (0.038)
log(GDP _{c,t-1})			-0.292 (0.246)	-0.139 (0.237)	-0.140 (0.237)	-0.113 (0.220)
govt. deficit/GDP _{c,t-1}			2.469** (1.110)	2.421** (1.093)	2.417** (1.093)	1.329 (0.844)
size _{f,t-1}				-0.249*** (0.064)	-0.249*** (0.063)	-0.424*** (0.061)

Heterogeneity of Spread Change

Tribunal impact greater as default more salient

- Bonds with lower ratings, worse performing issuers
- Cities with lower GDP growth, higher deficits, historical (SOE) bond defaults
- Larger form NonSOEs than for SOEs than for LGFVs
- After Yongmei default (high profile concerns about creditor protection)

Other Changes

Faster asset growth, more debt, longer maturity debt, more capex

	Δ Assets (%)	Δ Debt (%)	Δ Bonds (%)	Bond maturity	Δ Loans (%)	LTloan (%)	Δ Cash(%)	Δ Capex (%)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
years to court = -1	0.002 (0.007)	0.008 (0.012)	0.014 (0.014)	0.030 (0.020)	-0.004 (0.021)	0.004 (0.007)	-0.037 (0.031)	-0.011 (0.063)
years to court = 0	0.011 (0.008)	0.019 (0.013)	0.044*** (0.015)	0.055* (0.028)	-0.032 (0.025)	0.014 (0.009)	-0.034 (0.028)	0.041 (0.064)
years to court = 1	0.028*** (0.009)	0.043*** (0.015)	0.045*** (0.017)	0.089*** (0.031)	0.049* (0.028)	0.019* (0.010)	0.054* (0.031)	0.139* (0.081)
years to court \geq 2	0.040*** (0.009)	0.077*** (0.016)	0.094*** (0.017)	0.144*** (0.037)	0.054*** (0.021)	0.029*** (0.009)	0.122*** (0.028)	0.139*** (0.048)
bond issuer FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
province \times time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
sector \times time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
issuer, city controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.403	0.347	0.279	0.628	0.159	0.814	0.163	0.085
N	28588	28580	27792	21406	27797	28111	28556	27960

Quibble 1: Staggered Reforms Bump Into Each Other?

Lots of FEs needed because *ceteris seldom paribus* in China

1. Staggered rollout of circuit courts

Lai, S., Yang, L., Wang, Q. & Anderson, H.D., 2023. Judicial independence & corporate innovation: Evidence from the establishment of Circuit Courts. *Journal of Corporate Finance*,

3,323 commercial lawsuits involving listed companies in China

1. Chinese courts favor SOEs & firms with personal political ties
2. More evident in litigation than arbitration & in regions with worse legal institutions
3. Locally connected firms are favored in their home courts but outside their home province.
4. China's 2007 Property Law reduces the advantage of state

2. Staggered rollout of social credit reforms

Wang QS., Chen L., Lai S. & Anderson HD. 2023. Social Credit Reform & Trade Credit: Quasi-Natural Experimental Evidence from China.

China's staggered rollout of social credit reform

1. Improves firms' access to trade credit financing in treatment cities (esp. for private firms without political connections, small firms, those located in regions with weak formal institutions, and when key suppliers are geographically distant.

3. Staggered rollout of local court financial and HRM reforms

Peng, E.L.Y.L.W & Wang, S., 2022. Judicial Independence, Local Protectionism, and Economic Integration: Evidence from China.

1. Staggered roll-out since 2014 removed local governments' control over local courts' financial and personnel decisions
2. Local defendants' rate of winning court cases against non-local plaintiffs declined by 7.0%
3. More salient for politically connected local defendants.
4. Encouraged smaller non-local firms to file lawsuits against larger local firms.
5. Could attract 8.4% more inward investment flows into reformed localities & increase China's GDP by 1.9%

4. Staggered rollout of environmental courts

Gao, Weiyan, Yuzhang Wang, Fengrong Wang & William Mbanyele. 2022. Local Governance and Corporate Green Innovation: Quasi-Experimental Evidence from the Establishment of Environmental Courts in China.

5. Staggered rollout of environmental liability insurance

Chen, S., Ding, X., Lou, P. and Song, H., 2022. New evidence of moral hazard: Environmental liability insurance & firms' environmental performance. *Journal of Risk and Insurance* 89(3)581-613.

Multiple Simultaneous Overlapping Treatments ...



... with Complicated Chinese Characteristics ...



... Many Fixed-Effects

Bond issuer (f) fixed-effects

- Subsume all time- invariant firm-level latent variables

Sector \times time fixed-effects

- Subsume all time- varying sector-level latent variables
- How is a firm's "sector" defined?

Province \times time fixed-effects

- Subsume all time-varying province-level variables

Bond category \times time fixed effects

- Issuer (non-SOE, SOE, or LGFV) **If privatization/nationalization does firm switch categories?**
- Platform (interbank or exchange)
- Security (medium-term note, exchange-traded corporate bond, or enterprise bond)
- Rating (AAA, AA+, or other) **If rating revised, does bond switch categories?**

Notes: This table reports the results of the following model specification:

where y_{it} is the log of the bond spread, α_i is the fixed effect for issuer i , γ_t is the fixed effect for time t , δ_{st} is the fixed effect for sector s at time t , η_{pt} is the fixed effect for province p at time t , θ_{ct} is the fixed effect for bond category c at time t , and ϵ_{it} is the error term. The dependent variable is set to be 1 if the bond is issued in the specialized court and 0 otherwise.

log(issuance)

0.011
(0.011)

-0.097***
(0.011)

-0.074***
(0.011)

-0.047
(0.188)

-0.047
(0.188)

0.172
(0.163)

0.042**
(0.020)

Can we understand how these multiple interacting fixed-effects screen out effects of other drugs a city is taking?

bond issuer FEs	Yes	Yes	Yes	Yes	Yes	Yes	0.042** (0.020)
province \times time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
sector \times time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
bond category \times time FEs	No	Yes	Yes	Yes	Yes	Yes	Yes
bond-level FEs	No	No	No	No	No	Yes	Yes
R^2	0.548	0.581	0.580	0.583	0.583	0.778	0.778
N	166935	166935	165001	163455	163455	161977	161977
Mean of dependent variable	2.362	2.362	2.352	2.348	2.348	2.350	2.350

Quibble 2. Economic Significance

Large sample ($N < 160,000$ obs.) “everything is significant” issue

- ❑ But everything isn't significant & the post-special court dummy always is.
- ❑ Annualized (x4) cost of debt $\downarrow 17.9$ b.p. = $\downarrow 7.6\%$ of ca. 2.35% LHS mean

Is this a “big deal”?

- ❑ Reductions are annualized (x 4) but this washes out
- ❑ In regression 1.6 (most conservative) $\downarrow 8.5$ b.p. = $\downarrow 2.35\%$ of LHS mean
- ❑ Drug cuts diabetes risk 7.6% = from 2.35% to 2.17% \rightarrow weigh cost & side effects?



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Simpler arguments for economic significance in this table?

	<u>Δ Assets (%)</u>	<u>Δ Debt (%)</u>	<u>Δ Bonds (%)</u>	<u>Bond maturity</u>	<u>Δ Loans (%)</u>	<u>LTloan (%)</u>	<u>Δ Cash(%)</u>	<u>Δ Capex (%)</u>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
years to court = -1	0.002 (0.007)	0.008 (0.012)	0.014 (0.014)	0.030 (0.020)	-0.004 (0.021)	0.004 (0.007)	-0.037 (0.031)	-0.011 (0.063)
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province×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
sector×time FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
issuer, city controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>R</i> ²	0.403	0.347	0.279	0.628	0.159	0.814	0.163	0.085
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Quibble 3: Impact on Shareholder Value

Impact on equity matters because

$$k_{wacc} = \frac{D}{D + E} k_d + \frac{E}{D + E} k_e$$

Quarterly stock price gains do not change on average
 But not a good test for shareholder impact

1. $k_e = r_e = \frac{div_{t+1} + P_{t+1} - P_t}{P_t} \neq \frac{P_{t+1} - P_t}{P_t} \ \& \ \frac{div_{t+1}}{P_t} \approx 4\%$

Dividends might wash out, but data readily available

2. Stock returns obey an asset pricing model e.g. CAPM

$$E[r_e] = r_f + \beta_e (E[r_m] - r_f)$$

& bankruptcy costs shifted to shareholders $\uparrow \beta_e$

3. As $E[r_e]$ rises to $E_{post}[r_e]$ stock drop from

$$P = \sum_t \frac{E[D_t]}{(1 + E[r_e])^t} \text{ to } P' = \sum_t \frac{E_{post}[D_t]}{(1 + E_{post}[r_e])^t}$$

Shareholder harm in Table A5 would present as

First, low $\Delta P_t / P_t$ (discount rates rise & stocks drop)

Then, higher $\Delta P_t / P_t$ (higher beta)

which $\Delta P_t / P_t \times \delta_{SpecialCourt_{c,t}}$ can't capture well

Why not test for $\Delta \beta_e$ in higher freq. (daily, weekly?) stock returns pre and post a dropped window around event?

Table A5: Equity Return and Bond Spread of the Listed Issuers

Notes: This table compares the responses of bond spread and equity holding period return using the subsample of bond issuers that are listed in equity market. Columns (1) and (2) estimate the baseline model using the bond spread in the subsample. Columns (3) and (4) replace the dependent variable by the equity holding period return. The equity return is computed at the quarterly frequency, and is defined as $R_{f,t} = \frac{P_{f,t} - P_{f,t-1}}{P_{f,t-1}} \times 400$, where $P_{f,t}$ is the closing price at the end of each quarter t . The bond category-time fixed effects in columns (1) and (2) include market place-time fixed effects (interbank or exchange market), security type-time fixed effects (medium-term notes, enterprise bonds or exchange-traded corporate bonds), and bond rating bin-time fixed effects (AAA, AA+, or below). Standard errors are clustered at city level.

subsample of listed companies	Bond Spread _{b,t}		Equity Return _{f,t}	
	(1)	(2)	(3)	(4)
SpecialCourt _{c,t}	-0.401*** (0.120)	-0.311** (0.112)	-0.869 (1.726)	-0.633 (1.891)
log(GDP _{c,t-1})		0.353 (0.931)	0.673 (8.027)	0.673 (8.027)
govt. deficit/GDP _{c,t-1}		8.533** (3.792)		-81.519 (54.026)
size _{f,t-1}		-0.465*** (0.146)		-13.427*** (1.480)
leverage _{f,t-1}		1.855*** (0.478)		28.467*** (7.457)
ROA _{f,t-1}		-0.114*** (0.017)		-0.047 (0.180)
tangibility _{f,t-1}		0.684* (0.412)		41.584*** (6.610)
log(issuance amount _b)		0.073 (0.054)		
years to maturity _{b,t}		-0.014 (0.019)		
lag equity return $R_{s,t-1}$				-0.091*** (0.010)
bond issuer FEs	Yes	Yes	Yes	Yes
province×time and sector×time FEs	Yes	Yes	Yes	Yes
issuer's ownership×time FEs	Yes	Yes	Yes	Yes
bond category×time FEs	Yes	Yes	No	No
R ²	0.660	0.677	0.453	0.464
N	17762	17555	20698	20290
Mean of dependent variable	2.586	2.563	8.000	8.203
S.D. of dependent variable	1.865	1.830	91.977	91.763

Standard errors in parentheses
 * p < 0.10, ** p < 0.05, *** p < 0.01

Quibble 4. A Puzzling “Placebo Test”

- ❑ Insignificant if use $\delta_{Tribunal\ in\ HQ\ city}$ instead of $\delta_{Tribunal\ in\ reg.\ city}$
- ❑ Tribunal in city of debt registration doesn't matter
- ❑ Puzzling

Table 4: Falsification Test based on Bond Issuer’s Registry Location and Office Location

Notes: This table reports the falsification test based on the subsample in which the city of issuer’s registry location differs from that of office location. Column (1) and (2) use $SpecialCourt_{c,t}$ same as the baseline, while Column (3) and (4) use $SpecialCourt_{c,t}$ (Office Location) defined according to issuer’s office location.

	Yield Spread _{b,t}			
	(1)	(2)	(3)	(4)
$SpecialCourt_{c,t}$	-1.215** (0.489)	-0.850** (0.408)		
$SpecialCourt_{c,t}$ (Office Location)			0.205 (0.494)	-0.159 (0.598)

What kind of company has no office?

Firm can choose where to register bonds, but can't easily move HQ ?

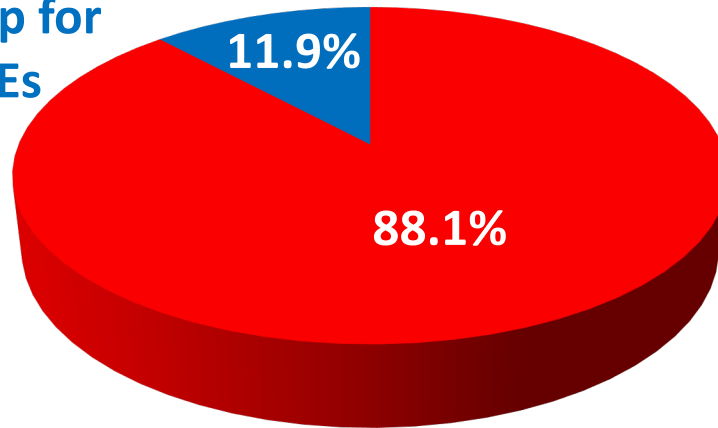
?!?

is domiciled in Bar... The domicile of the debtor refers to the location of debtor’s main office....
 has no office, the bankruptcy shall be under the jurisdiction of the people’s court in the loc...
registration, which alleviate the possibility of “forum shopping” as in the U.S. in bankruptcy....
 the unique legal provisions and judicial practice on the location of bankruptcy filings, we use the
introduction of specialized court in city where the bond issuer is registered to isolate other
 confounding effects.

Quibble 5. Cui Bono

The State & nonSOEs permitted to issue bonds?

↓ 31.6 b.p for nonSOEs



Share of Chinese Bonds

■ SOEs & LGFVs

■ nonSOEs

↓ 20.8 b.p for SOEs

↓ 5.5 b.p. for LGFVs

Total benefit calculation in paper $\Delta I = \sum_t \sum_c L_{c,t} \Delta r_{c,t} = \text{¥}158\text{B}$, but...

- ❑ Demand for & supply determined set debt level $L_{c,t}(r_{c,t})$ & interest rate jointly
- ❑ Both plausibly set jointly with equity quantity and cost (or shadow cost)
- ❑ Time discounting in financial cost-benefit analysis?

$$\Delta I = \sum_t \frac{1}{(1 + \rho)^t} \sum_c (L_{c,t-1} \Delta r_{c,t} + r_{c,t} \Delta L_{c,t} - E_{c,t-1} \Delta r_{e,c,t} - r_{e,c,t} \Delta E_{c,t}) = ?$$

Help the reader put impact in context?

- ❑ Looming ¥66 T LGFV debt crisis & ↓0.0055% saves LGs ¥35B/yr (rounding error?)
- ❑ Biggest unit cost cut is for nonSOEs OKed by the State to issue bonds

Quibble 6. Loose Ends?

After specialized court est. LGFVs, SOEs & non-SOEs exhibit

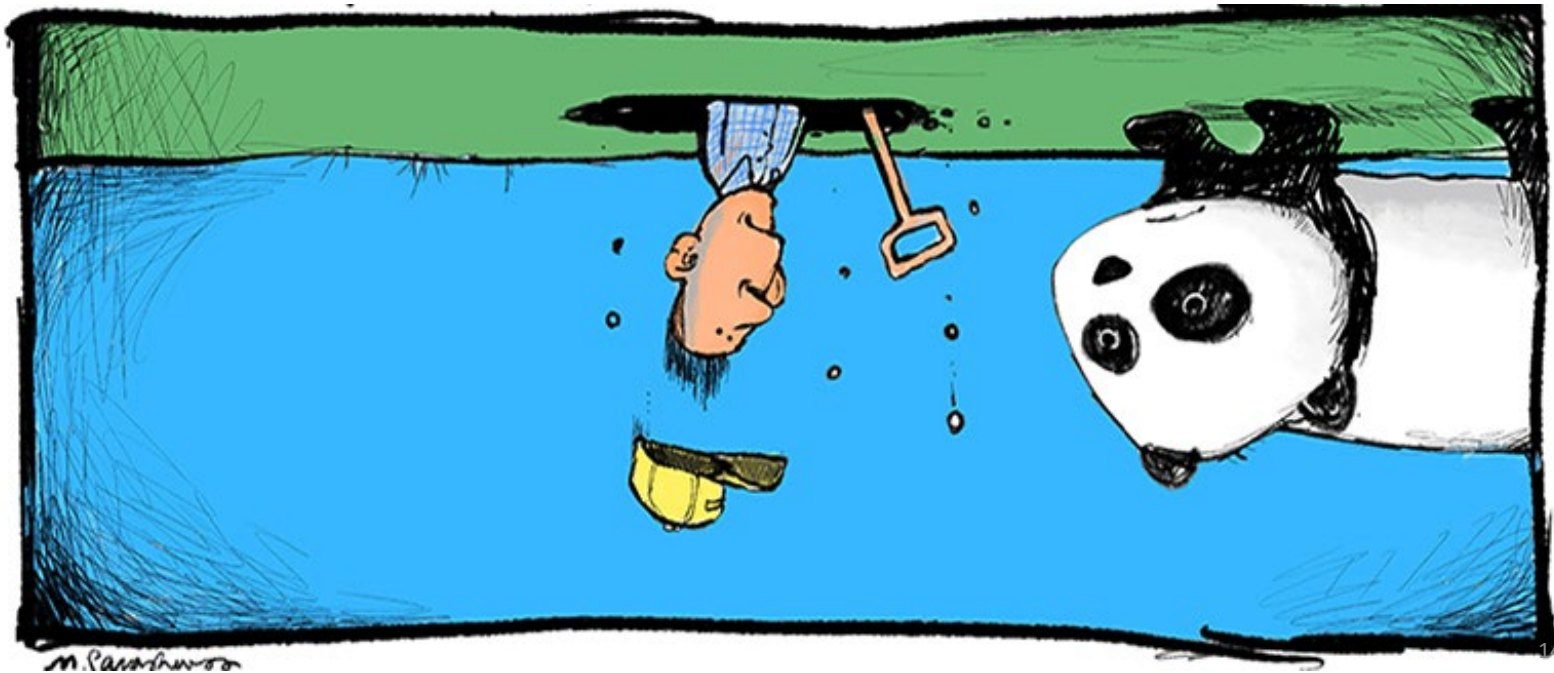
In general

- Faster growth in assets, debt financing, debt maturities
 - Faster asset growth (highly significant)
 - More capital spending (marginal)
 - Real outcomes by LGFVs, SOEs, nonSOEs? By productivity of enterprise?
 - Is growth internal or external margin?
- } Special courts find White Knight acquirers

In bankruptcy

- Fewer liquidations, more resolutions in bankruptcy

Western
economic
assumptions
sometimes
look upside
down in Asia



Quibble 6. Loose Ends?

After specialized court est. LGFVs, SOEs & non-SOEs exhibit

In general

- Faster growth in assets, debt financing, debt maturities
 - Faster asset growth (highly significant)
 - More capital spending (marginal)
 - By LGFVs, SOEs, nonSOEs or all?
 - Is growth internal or external margin?
- } Special courts find White Knight acquirer



In bankruptcy

- Fewer liquidations, more resolutions in bankruptcy
 - Specialized courts find (designate?) White Knight buyers to acquire distressed entities?
 - How political is the selection of White Knights & how are they compensated
- Comparable to Japanese M&A where $CAR_{target} \ll 0$ & $CAR_{bidder} > 0$?
Mehrotra V, Van Schaik D, Spronk J, Steenbeek O. 2022. Creditor-focused corporate governance: Evidence from M&A in Japan. Journal of Financial and Quantitative Analysis 46(4)1051-72
- Bank organizes takeover if cost of propping up target > cost of incentivising White Knight
 - This is perhaps associated with ongoing Zombie firm problems in Japan
- Less state-intervention (trustee with LG connections) in bankruptcy
 - Are special court magistrates careers determined by local, provincial or central Orgburo?
 - Does less LG intervention mean more provincial or central government intervention?
- What actually happens to the defaulting firms: resolution or real reorganization?
 - Resolution → Zombie firms & Zombified White Knights?

Quibble 7. Prior Work on Chinese Bankruptcy Tribunals

Li, Bo & Ponticelli, J. 2022. Going bankrupt in China. *Review of Finance* 26(3)449-486

Staggered rollout of specialized courts across Chinese cities

1. Decrease case duration by 36%
2. Reallocation of employment out of zombie firm-intensive sectors
3. Faster firm entry
4. Larger increase in average capital productivity

Overall, a positive development

- “The introduction of specialized bankruptcy courts in China produces great economic benefits, saving around 2.5 billion dollars in annual interest payments for China’s corporate bond issuers.”



“Anytime things appear to be going better,
you have overlooked something.”

– Richard P. Feynman

Quibble 7. Prior Work on Chinese Bankruptcy Tribunals

Huang, X., Teng, F., Xin, Y. & Xu, L., 2022. Bankruptcy courts & the marketization of bond issuance. *China Accounting & Finance Review*

“Exploiting the staggered introduction of bankruptcy courts across cities in China, we use a differences-in-differences approach to estimate the effect of bankruptcy courts on bond issuance spreads.”

1. **Bond spreads rise** & become more sensitive to firm size, profitability & risk
2. Riskier firms issue more bonds

Overall, a positive development

- “Specialized bankruptcy courts enables bondholders to price risk [better] ... [and] increases of bond financing by high-risk issuers.”



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use a diff
on bond
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□ “Specia
of bond

4.2 Empirical model

To investigate the impact of bankruptcy courts on bond issuance, we examine changes of bond issuance spreads before and after bankruptcy court establishments. Table 1 shows the staggered introduction of bankruptcy court. Accordingly, we implement the time-varying DID (differences-in-differences) strategy as shown in Equation (1):

$$IssueSpread_{i,t} = \alpha + \beta_1 Post_{i,t} + \beta_2 Bond + \beta_3 Firm + \beta_4 Issuenum_{j,t} + \beta_5 GDPg + Date + City + Ind + \varepsilon_{i,t} \tag{1}$$

In Equation (1), $IssueSpread_{i,t}$ is the credit spread of bond i at issuance date t . Following Jiang (2008) and Wang and Gao (2017), $IssueSpread_{i,t}$ is computed as the yield to maturity on the bond issuing date minus the yield to maturity on duration-equivalent treasury bond on that date. $Post$ is a dummy variable coded 1 for periods after bankruptcy court establishments and 0 otherwise. For bonds whose issuers are located in cities with no bankruptcy court, $Post$ equals 0 all the time. We expect β_1 to be positive if the establishment of bankruptcy courts leads to higher credit spreads.

Following Wang and Gao (2017) and Wang and Xu (2019), we control for a range of bond-level characteristics ($Bond$) and firm-level financial variables ($Firm$) in the model. The bond-level characteristics include issuance size ($Bondsize$), duration ($Bondterm$), credit rating ($Bondrate$), whether the bond is puttable ($Bondput$) or callable ($Bondcall$), and whether the bond is secured ($Bondsecu$). The firm-level variables are firm size ($Firmsize$), leverage (Lev), the growth rate of operating income ($Growth$), return on asset (ROA), coverage ratio ($Cover$), tangibility ($Tangibility$), current ratio ($Current$), auditing quality ($Big4$), state ownership (SOE) and shareholdings of the largest stockholder ($Top1$). We also control for the number of bond issuance ($Issuenum$) and the growth of regional GDP ($GDPg$). In addition, we include issuing date, city and industry fixed effects in our regression. The detailed definition of variables is listed in Table 2.

China, we
cy courts

increases

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Overall, a positive development

- “Specialized bankruptcy courts enables bondholders to price risk [better] ... [and] increases of bond financing by high-risk issuers.”



“The ultimate truth is that there is no ultimate truth“

– Nagarjuna (c. 150 – c. 250 CE)

Quibble 8. The Fabric of the Space-time Continuum

In drug trials, control group get placebo (sugar pill) & feel better

Placebo Effect: Sugar pills seem to work

- Triumph of hope over experience?
- A genuine immune response triggered by brain?
- An effective drug must work better than sugar pills
- Placebo effect here = fake courts cut spreads too

Group	Before	After
Treatment	No drug	Drug
Control	No drug	Placebo

Placebo test: Run massive random tests & show they mostly don't reject H_0

specialized courts. In the first placebo test, we randomly select the cities to introduce the specialized courts with the probability equal to the actual proportion of the sample. Each selected city is assigned the introduction time that is independently drawn from the uniform distribution.

After each random assignment, we construct the pseudo version of the primary variable $SpecialCourt_{c,t}$, and estimate the baseline model to get the pseudo coefficient. We repeat the

procedure for 1000 times to draw the empirical distribution of the pseudo coefficient. Figure 7

shows that the distribution of pseudo coefficient has a mean close to 0 and statistically insignificant,

supporting that our baseline results are not driven by alternative events.

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Control	No drug	Placebo

Placebo test: Run massive random tests & show they mostly don't reject H_0

- Assessing significance at 5% means tolerating a 5% false positives rate
- What does a "Placebo test" showing 5% of random tests reject H_0 at 5% p-level?

How would a "placebo test" fail?

- Random tests reject H_0 at 5% signif. never?
- 10% of random tests reject H_0 at 5% sign.?

Interpretation of placebo test "failure"

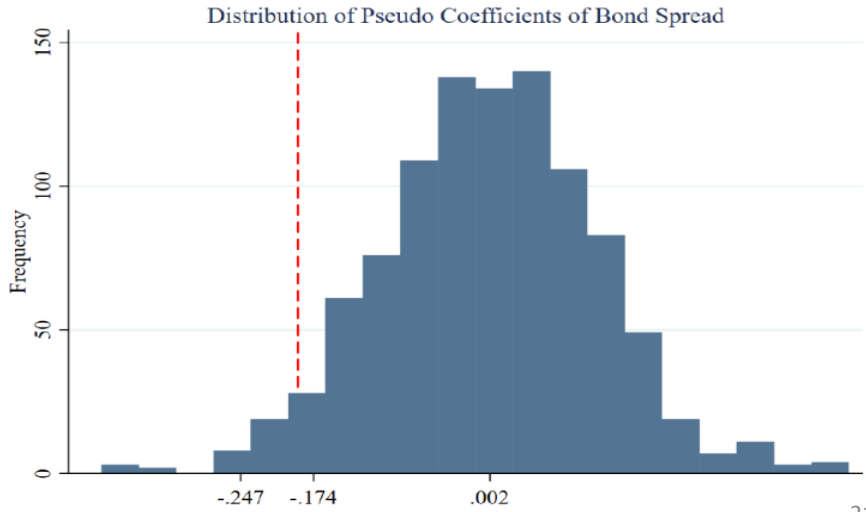
- Space-time continuum unravelling?

Interpretation of placebo test "success"?

- Basic laws of statistics still work?
(Reassuring, but outside scope of study?)
- Tables fit within 5% false positive rate?
(Perhaps not something to bring up?)

Figure 7: Placebo Test

Notes: This figure shows the distribution of the pseudo coefficients of bond spreads. We randomly select the cities to introduce the specialized court, and each one of the selected cities is randomly assigned the period of court introduction. After each random assignment, we construct the pseudo version of the variable $SpecialCourt_{c,t}$, and estimate the baseline model to get the coefficient. We repeat the procedure for 1000 times to draw the histogram of the pseudo coefficients. The red vertical dash line indicates the baseline result. The values of p1, p5 and mean of the empirical distribution are displayed on the horizontal axis.



p1, p5 and mean are displayed on the axis. Red vertical dash line indicates the baseline estimation.

Quibble 8. The Fabric of the Space-time Continuum

Moor, James. 1981. AI and cargo cult science. *Behavioral and Brain Sciences* 4.4 544-545

New religions of isolated tribes in former Pacific Ocean warzone



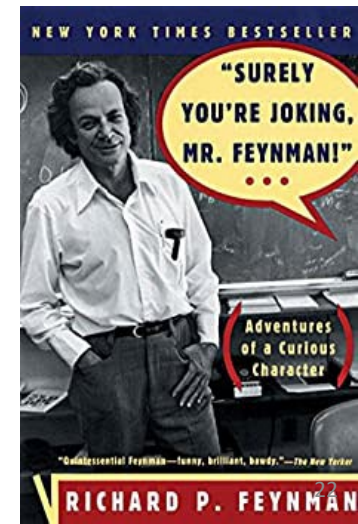
Feynman, Richard P. 1998. Cargo cult science. *The art and science of analog circuit design*. Newnes, 55-61

Some academics build shaky structures to “look like science” by

- ❑ Writing complicated sentences using Latin or Greek-sounding terms
- ❑ Using complicated mathematics to describe simple things
- ❑ Going through the motions of science without really doing science
- ❑ Using science terms or concepts, often incorrectly

“The form is perfect. But it doesn't work. No airplanes land.
So I call these things cargo cult science”

– Richard P. Feynman



Quibble 8. The Fabric of the Space-time Continuum

McCloskey, Deirdre N. 2002. Samuelsonian Economics. Eastern Economic Journal 28.3 425-30.

McCloskey, Deirdre N. 2002. The Trouble with Mathematics and Statistics in Economics History of Economic Ideas 13(3)85-102

- “[Economics is] stuck on the ground waiting at the cargo-cult airport”
- Personal view: I disagree, but worry we may “want to be scientists” too badly
- Do such “Placebo tests” imitate “the form of science” as statistical rhetoric?
- Who do they make work more credible?

$$E_t \bar{P}_{t+1} = (1-\theta\beta) \sum_{k=0}^{\infty} (\theta\beta)^k E_t P_{t+k+1}^*$$

$$E_t P_{t+1}^* + \theta\beta E_t P_{t+2}^* + (\theta\beta)^2 E_t P_{t+3}^* + \dots$$

“

So multiplying by $\theta\beta$ and subtracting from \bar{P}_t :

$$\bar{P}_t - \theta\beta E_t \bar{P}_{t+1} = (1-\theta\beta) \sum_{k=0}^{\infty} (\theta\beta)^k E_t P_{t+k}^* - (1-\theta\beta)\theta\beta \sum_{k=0}^{\infty} (\theta\beta)^k E_t P_{t+k+1}^*$$

but we can see that

$$\sum_{k=0}^{\infty} (\theta\beta)^k E_t P_{t+k}^* - \theta\beta \sum_{k=0}^{\infty} (\theta\beta)^k E_t P_{t+k+1}^*$$



Deirdre McCloskey

Bottom Lines

I basically like the paper

- ❑ That specialized bankruptcy courts reduce credit spreads makes sense

But ...

- ❑ What's with the other paper?
 - ❑ What did they do wrong?
 - ❑ What explains the difference?
 - ❑ Is the difference informative?
- ❑ Suppose this paper is right, is the debt spread decline economically significant?
 - ❑ Small spread change point estimate, but big changes in asset growth, debt growth, etc.
 - ❑ Are big "real effects" driven by spread cut or mobilization of White Knights?
- ❑ Suppose the spread cut is economically significant, what's with equity costs?
 - ❑ Investment depends on cost of capital, not cost of debt alone
 - ❑ Social welfare consequences unclear if risk is merely shifted to equity holders?
- ❑ Suppose cost of capital falls, who benefits?
 - ❑ SOEs, LGFVs & governments backing them? }
 - ❑ NonSOEs permitted to issue bonds? }
 - ❑ Small firms? Innovative upstarts? Entrants challenging monopolies? }
- ❑ Zombification risk in era of demographic challenges & decelerating growth?
 - ❑ Wise foreigners want Chinese to be rich and contented
 - ❑ Specialized bankruptcy courts may be a policy change in this direction?

Social welfare pluses & minuses?

A+

Congratulations on a fine research project!