

Going Bankrupt in China

Bo Li
Tsinghua University

Jacopo Ponticelli
Northwestern & CEPR

2018 Reforms and Liberalization of China's Capital Market Conference
September 2018

Motivation

- China debt boom:
 - Stimulus policies of 2009-2010: ↑ bank credit
 - Corporate bond market, shadow banking

Motivation

- China debt boom:
 - Stimulus policies of 2009-2010: ↑ bank credit
 - Corporate bond market, shadow banking

- Growing concerns:
 - Increase in insolvency (bank loans, bond market, LGFV)
 - “Zombie” firms

Motivation

- China debt boom:
 - Stimulus policies of 2009-2010: ↑ bank credit
 - Corporate bond market, shadow banking
- Growing concerns:
 - Increase in insolvency (bank loans, bond market, LGFV)
 - “Zombie” firms
- Problems in local civil courts:
 - The influence of local politicians in bankruptcy
 - Weak law enforcement, less judicial independence
 - Delays in bankruptcy resolution

Motivation

- China debt boom:
 - Stimulus policies of 2009-2010: ↑ bank credit
 - Corporate bond market, shadow banking
- Growing concerns:
 - Increase in insolvency (bank loans, bond market, LGFV)
 - “Zombie” firms
- Problems in local civil courts:
 - The influence of local politicians in bankruptcy
 - Weak law enforcement, less judicial independence
→ Delays in bankruptcy resolution
- Scarce direct empirical evidence on:
 - How firms go bankrupt in China (case-level data)
 - Effect of bankruptcy reform

Figure: Insolvency

Chinese business & finance

Zombie cull fuels China bankruptcy rise

Wider economic struggles reflected in courts' drive to weed out failing groups



Chinese politics & policy

China steps up war on banks' bad debt

Value of loans-for-bonds programme surges by \$100bn in two months

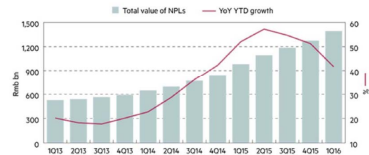


China Business

China bankruptcies surge as government targets zombie enterprises

After years of reluctance, courts join campaign against overcapacity and debt

Growth of NPLs among Chinese commercial banks



Sources: China Banking Regulatory Commission, FT Confidential Research

Notes: Financial Times.

This paper

- Study effect of **introduction of courts specialized in bankruptcy**
- Bankruptcy regime changed from **state-oriented** to **market-based**

This paper

- Study effect of **introduction of courts specialized in bankruptcy**
- Bankruptcy regime changed from **state-oriented** to **market-based**
- Identification
 - Staggered introduction of specialized courts
 - introduced at different times in different provinces
 - timing uncorrelated with local economic conditions

This paper

- Study effect of **introduction of courts specialized in bankruptcy**
- Bankruptcy regime changed from **state-oriented** to **market-based**
- Identification
 - Staggered introduction of specialized courts
 - introduced at different times in different provinces
 - timing uncorrelated with local economic conditions
- Outcomes
 - bankruptcy resolution: liquidations/reorganizations, time in court
 - credit markets: lending, interest rates
 - real effects: investment, survival of zombies

This paper

- Study effect of **introduction of courts specialized in bankruptcy**
- Bankruptcy regime changed from **state-oriented** to **market-based**
- Identification
 - Staggered introduction of specialized courts
 - introduced at different times in different provinces
 - timing uncorrelated with local economic conditions
- Outcomes
 - bankruptcy resolution: liquidations/reorganizations, time in court
 - credit markets: lending, interest rates
 - real effects: investment, survival of zombies
- Data
 - Case-level data (hand-collected)
 - Loan and firm-level data from WIND and CSMAR

Preview of Results

Provinces introducing specialized courts experienced:

- 1 Bankruptcy outcomes:
 - Higher share of liquidation cases regarding SOEs
 - Lower time in court (for SOEs cases)

Preview of Results

Provinces introducing specialized courts experienced:

- 1 Bankruptcy outcomes:
 - Higher share of liquidation cases regarding SOEs
 - Lower time in court (for SOEs cases)
- 2 Local credit markets heterogeneous effects (SOEs and privately owned firms):
 - SOEs: lower loan amount (intensive), lower loan access (extensive)
 - Privately owned firms: higher access to credit

Preview of Results

Provinces introducing specialized courts experienced:

- 1 Bankruptcy outcomes:
 - Higher share of liquidation cases regarding SOEs
 - Lower time in court (for SOEs cases)
- 2 Local credit markets heterogeneous effects (SOEs and privately owned firms):
 - SOEs: lower loan amount (intensive), lower loan access (extensive)
 - Privately owned firms: higher access to credit
- 3 Real outcomes:
 - Decrease capital investment for SOEs, increase for privately owned firms
 - At provincial level: decrease in the share of zombies

Related Literatures

- Law and Finance:
La Porta et al. (1997), La Porta et al. (1998), Djankov et al. (2008), Claessens and Klapper (2005), Safavian and Sharma (2007), Qian and Strahan (2007), Haselmann, Pistor, and Vig (2010)
- Bankruptcy reforms within-country:
Visaria (2009), Ponticelli and Alencar (2016), Vig (2013), Rodano et al. (2016)
- China debt boom:
Bai et al. (2016), Cong et al. (2018), Hachem and Song (2016), Chen et al. (2018), Jin et al. (2018), Gao et al. (2017).

Structure of the Talk

- 1 Bankruptcy reforms
- 2 Empirical strategy
- 3 Results

Bankruptcy Reforms

- 1 1986: Republic of China Bankruptcy Law
 - SOE insolvencies
 - Employees have priority over secured creditors

Bankruptcy Reforms

- 1 1986: Republic of China Bankruptcy Law
 - SOE insolvencies
 - Employees have priority over secured creditors
- 2 2007: New Enterprise Bankruptcy Law (the “New Law”)
 - Uniform bankruptcy law applies to private firms and foreign companies
 - Increase priority of secured creditors
 - Introduce reorganization as in US Chapter 11

Bankruptcy Reforms

- 1 1986: Republic of China Bankruptcy Law
 - SOE insolvencies
 - Employees have priority over secured creditors
- 2 2007: New Enterprise Bankruptcy Law (the “New Law”)
 - Uniform bankruptcy law applies to private firms and foreign companies
 - Increase priority of secured creditors
 - Introduce reorganization as in US Chapter 11
- Challenges
 - Written law versus enforcement
 - Weak secured creditor power over local government
 - Lengthy procedures, low bankruptcy filings, low case acceptance

Bankruptcy Reforms

- 2007-2017: introduction of specialized courts
 - Government concerns: NPLs, zombies, systemic risk
 - Staggered: different times in different provinces in three phases
- Fundamental change in judicial system
- State-oriented to market-based bankruptcy regime
 - *before*: local civil courts
 - local government influence
 - incentive to keep financially distressed SOEs alive
 - *after*: specialized courts
 - professional trustees administer process, follows a random draw (lower political influence)
 - empower creditor committee
 - streamline procedure, faster resolution through creditor coordination

Data

- Hand-collected introduction dates of specialized courts
 - Ministry of Justice/Supreme Court interviews
 - Political outcome following sudden bankruptcies

Data

- Hand-collected introduction dates of specialized courts
 - Ministry of Justice/Supreme Court interviews
 - Political outcome following sudden bankruptcies
- Case-level data
 - 1,285 bankruptcy cases filed both in civil courts and specialized courts (2002-2017)
 - Both liquidations (84.3%) and reorganizations (16.2%)
 - Creditor, debtor, judicial characteristics

Data

- Hand-collected introduction dates of specialized courts
 - Ministry of Justice/Supreme Court interviews
 - Political outcome following sudden bankruptcies
- Case-level data
 - 1,285 bankruptcy cases filed both in civil courts and specialized courts (2002-2017)
 - Both liquidations (84.3%) and reorganizations (16.2%)
 - Creditor, debtor, judicial characteristics
- Bank credit and investment
 - Quarterly CSMAR

Figure: Number of first specialized court introduced by quarter

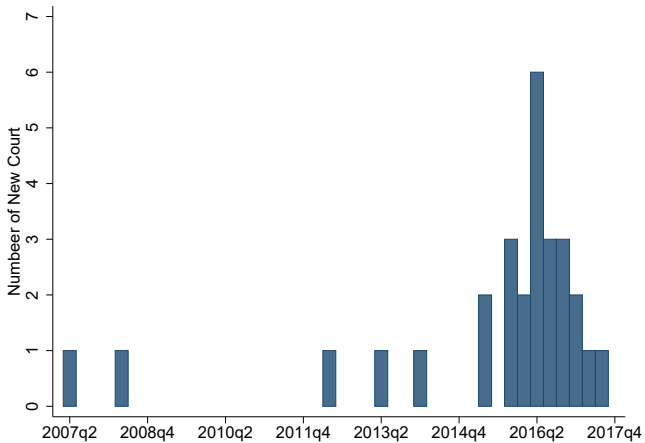


Figure: Distribution of bankruptcy cases by province

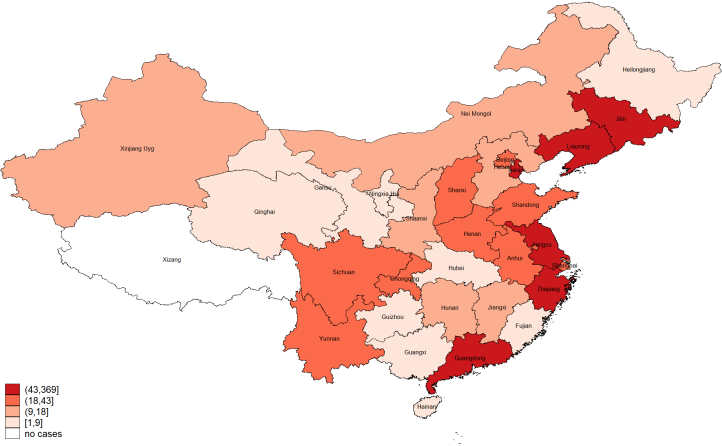
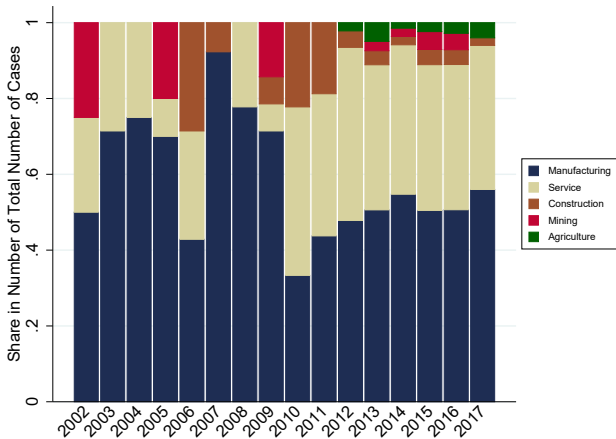


Figure: Share of bankruptcy cases by sector



Empirical Strategy

Exploits staggered introduction of specialized courts across provinces as follows:

$$y_{isjt} = \alpha_s + \alpha_j + \alpha_t + \beta(\text{AfterSpecialCourt})_{st} + \varepsilon_{isjt} \quad (1)$$

i : cases, loans or firms, s : provinces, j : sectors, t : quarters.

$$\text{AfterSpecialCourt}_{st} = \begin{cases} 1 & \text{if } t \geq \text{quarter of introduction specialized court} \\ 0 & \text{otherwise} \end{cases}$$

- Heterogeneous effects

$$\begin{aligned} y_{isjt} &= \alpha_s + \alpha_j + \alpha_t + \beta_1(\text{AfterSpecialCourt})_{st} \times I(\text{SOE})_{isjt} \\ &+ \beta_2(\text{AfterSpecialCourt})_{st} + \beta_3 I(\text{SOE})_{isjt} + \varepsilon_{isjt} \end{aligned} \quad (2)$$

Empirical Strategy

Exploits staggered introduction of specialized courts across provinces as follows:

$$y_{isjt} = \alpha_s + \alpha_j + \alpha_t + \beta(\text{AfterSpecialCourt})_{st} + \varepsilon_{isjt} \quad (1)$$

i : cases, loans or firms, s : provinces, j : sectors, t : quarters.

$$\text{AfterSpecialCourt}_{st} = \begin{cases} 1 & \text{if } t \geq \text{quarter of introduction specialized court} \\ 0 & \text{otherwise} \end{cases}$$

- Heterogeneous effects

$$\begin{aligned} y_{isjt} &= \alpha_s + \alpha_j + \alpha_t + \beta_1(\text{AfterSpecialCourt})_{st} \times I(\text{SOE})_{isjt} \\ &+ \beta_2(\text{AfterSpecialCourt})_{st} + \beta_3 I(\text{SOE})_{isjt} + \varepsilon_{isjt} \end{aligned} \quad (2)$$

- Outcomes:

- 1 Share of SOEs in liquidations
- 2 Time in court
- 3 Firm borrowing: amount; access
- 4 Investment
- 5 Share of zombie firms

Table: Timing of Introduction and Local Economic Conditions

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) |
|----------------------------|-------------------|-------------------|--------------------|------------------|------------------|------------------|
| $\Delta \log GRP$ | -4.473 (4.227) | | | | | |
| $\Delta \log Agriculture$ | | -3.502 (2.525) | | | | |
| $\Delta \log Construction$ | | | -2.491* (1.296) | | | |
| log number of firms | | | | 0.148 (0.156) | | |
| log number of SOEs | | | | | 0.289 (0.288) | |
| log average firm size | | | | | | 0.153 (0.331) |
| Observations | 1,021 | 1,016 | 1,021 | 1,019 | 1,019 | 1,019 |
| Quarter FE | YES | YES | YES | YES | YES | YES |

Table: Effect of Specialized Courts on SOE Liquidations

| VARIABLES | Total cases | SOE cases | % SOE liquidate | % SOE reorganize |
|----------------------------|-------------------|---------------------|----------------------|-----------------------|
| AfterSpecialCourt | 1.711 (3.041) | 0.140** (0.060) | 0.130** (0.061) | 0.0275 (0.030) |
| $\Delta \log GRP$ | -0.859 (4.485) | -0.0577 (0.0946) | 0.265*** (0.0693) | -0.444*** (0.0531) |
| $\Delta \log Agriculture$ | 9.752 (7.363) | 0.338* (0.192) | 0.298 (0.192) | -0.156 (0.261) |
| $\Delta \log Construction$ | 7.676 (17.28) | 0.125 (0.155) | 0.118 (0.160) | 0.107 (0.215) |
| Observations | 333 | 333 | 301 | 82 |
| R-squared | 0.655 | 0.486 | 0.498 | 0.729 |
| Quarter FE | YES | YES | YES | YES |
| Province FE | YES | YES | YES | YES |
| Weight | Total cases | Total cases | Liquidation cases | Reorganize cases |
| N clusters | 29 | 29 | 28 | 17 |

Table: Effect of Specialized Courts on SOE Liquidations

| VARIABLES | Total cases | SOE cases | % SOE liquidate | % SOE reorganize |
|----------------------------|-------------------|---------------------|----------------------|-----------------------|
| AfterSpecialCourt | 1.711 (3.041) | 0.140** (0.060) | 0.130** (0.061) | 0.0275 (0.030) |
| $\Delta \log GRP$ | -0.859 (4.485) | -0.0577 (0.0946) | 0.265*** (0.0693) | -0.444*** (0.0531) |
| $\Delta \log Agriculture$ | 9.752 (7.363) | 0.338* (0.192) | 0.298 (0.192) | -0.156 (0.261) |
| $\Delta \log Construction$ | 7.676 (17.28) | 0.125 (0.155) | 0.118 (0.160) | 0.107 (0.215) |
| Observations | 333 | 333 | 301 | 82 |
| R-squared | 0.655 | 0.486 | 0.498 | 0.729 |
| Quarter FE | YES | YES | YES | YES |
| Province FE | YES | YES | YES | YES |
| Weight | Total cases | Total cases | Liquidation cases | Reorganize cases |
| N clusters | 29 | 29 | 28 | 17 |

Provinces that introduced special courts experienced:

- 13% higher share of SOE liquidations

Table: Time in Count (in Days): Before vs. Post First Specialized Court

| | Time in Bankruptcy | | |
|--------------------------------|--------------------|--------------------------|------------------|
| | POE | SOE | Total |
| Before First Specialized Court | 362.7 (364.6) | 908.6 (1419.0) | 446.7 (675.3) |
| After First Specialized Court | 182.2 (186.2) | 291.4 (557.2) | 194.6 (255.3) |
| Change (in days) | -180.5 | -617.2 | -252.1 |
| Pct Change | -50% | -68% | -56% |

Table: Time in Count (in Days): Before vs. Post First Specialized Court

| | Time in Bankruptcy | | |
|--------------------------------|--------------------|--------------------------|------------------|
| | POE | SOE | Total |
| Before First Specialized Court | 362.7 (364.6) | 908.6 (1419.0) | 446.7 (675.3) |
| After First Specialized Court | 182.2 (186.2) | 291.4 (557.2) | 194.6 (255.3) |
| Change (in days) | -180.5 | -617.2 | -252.1 |
| Pct Change | -50% | -68% | -56% |

On average, cases started after introduction of specialized courts

- 68 percent faster resolution
- lower gap between private and state-owned firms

Table: Financial Outcomes: Loan Amount and Loan Access

| VARIABLES | Loan Amount | | Loan Access | |
|-----------------------------|-------------------|----------------------|-------------------|----------------------|
| | (1) | (2) | (3) | (4) |
| After SpecialCourt | -0.076 (0.148) | 0.325* (0.185) | -0.004 (0.008) | 0.018* (0.010) |
| After SpecialCourt × I(SOE) | | -0.960*** (0.248) | | -0.052*** (0.014) |
| I(SOE) | | -0.239 (0.228) | | -0.006 (0.012) |
| Provincial controls | YES | YES | YES | YES |
| Firm controls | YES | YES | YES | YES |
| Observations | 88,770 | 88,770 | 88,770 | 88,770 |
| R-squared | 0.313 | 0.314 | 0.224 | 0.225 |
| Quarter FE | YES | YES | YES | YES |
| Industry FE | YES | YES | YES | YES |
| Province FE | YES | YES | YES | YES |
| N clusters | 784 | 784 | 784 | 784 |

Table: Financial Outcomes: Loan Amount and Loan Access

| VARIABLES | Loan Amount | | Loan Access | |
|-----------------------------|-------------------|----------------------|-------------------|----------------------|
| | (1) | (2) | (3) | (4) |
| After SpecialCourt | -0.076 (0.148) | 0.325* (0.185) | -0.004 (0.008) | 0.018* (0.010) |
| After SpecialCourt × I(SOE) | | -0.960*** (0.248) | | -0.052*** (0.014) |
| I(SOE) | | -0.239 (0.228) | | -0.006 (0.012) |
| Provincial controls | YES | YES | YES | YES |
| Firm controls | YES | YES | YES | YES |
| Observations | 88,770 | 88,770 | 88,770 | 88,770 |
| R-squared | 0.313 | 0.314 | 0.224 | 0.225 |
| Quarter FE | YES | YES | YES | YES |
| Industry FE | YES | YES | YES | YES |
| Province FE | YES | YES | YES | YES |
| N clusters | 784 | 784 | 784 | 784 |

Provinces that introduced special courts experienced:

- Loan amount: 6.4 percent smaller for SOEs; 2.9 percent larger for POEs
- Loan access: 6.6 percent less likely for SOEs; 3.0 percent more likely for POEs

Table: Real Outcomes:Cash Ratio and Investment

| VARIABLES | Cash Ratio | | Investment | |
|-----------------------------|------------|-----------|------------|-----------|
| | (1) | (2) | (3) | (4) |
| After SpecialCourt | -0.005* | -0.019*** | 0.662*** | 1.331*** |
| | (0.003) | (0.004) | (0.181) | (0.206) |
| After SpecialCourt × I(SOE) | | 0.033*** | | -1.603*** |
| | | (0.005) | | (0.281) |
| I(SOE) | | -0.003 | | -0.986*** |
| | | (0.004) | | (0.196) |
| Provincial controls | YES | YES | YES | YES |
| Firm controls | YES | YES | YES | YES |
| Observations | 88,770 | 88,770 | 88,770 | 88,770 |
| R-squared | 0.325 | 0.327 | 0.200 | 0.205 |
| Quarter FE | YES | YES | YES | YES |
| Industry FE | YES | YES | YES | YES |
| Province FE | YES | YES | YES | YES |
| N clusters | 784 | 784 | 784 | 784 |

Table: Real Outcomes:Cash Ratio and Investment

| VARIABLES | Cash Ratio | | Investment | |
|-----------------------------|------------|-----------|------------|-----------|
| | (1) | (2) | (3) | (4) |
| After SpecialCourt | -0.005* | -0.019*** | 0.662*** | 1.331*** |
| | (0.003) | (0.004) | (0.181) | (0.206) |
| After SpecialCourt × I(SOE) | | 0.033*** | | -1.603*** |
| | | (0.005) | | (0.281) |
| I(SOE) | | -0.003 | | -0.986*** |
| | | (0.004) | | (0.196) |
| Provincial controls | YES | YES | YES | YES |
| Firm controls | YES | YES | YES | YES |
| Observations | 88,770 | 88,770 | 88,770 | 88,770 |
| R-squared | 0.325 | 0.327 | 0.200 | 0.205 |
| Quarter FE | YES | YES | YES | YES |
| Industry FE | YES | YES | YES | YES |
| Province FE | YES | YES | YES | YES |
| N clusters | 784 | 784 | 784 | 784 |

Provinces that introduced special courts experienced:

- 21.2 percent decrease for SOEs
- 18.6 percent increase for POEs

Table: Share of Zombie Firms

| VARIABLES | Share of zombie firms | |
|--------------------------------------|-----------------------|-------------|
| | (1) | (2) |
| After SpecialCourt | -0.0139* | -0.0140* |
| | (0.00727) | (0.00727) |
| $\Delta \log GRP_{t-(t-4)}$ | | -0.00681 |
| | | (0.0155) |
| $\Delta \log Agriculture_{t-(t-4)}$ | | -0.00499 |
| | | (0.0176) |
| $\Delta \log Construction_{t-(t-4)}$ | | -0.0150 |
| | | (0.0152) |
| Observations | 1,483 | 1,483 |
| R-squared | 0.604 | 0.604 |
| Time FE | YES | YES |
| Province FE | YES | YES |
| Weight | Firm Number | Firm Number |
| N clusters | 31 | 31 |

Table: Share of Zombie Firms

| VARIABLES | Share of zombie firms | |
|--------------------------------------|-----------------------|-------------|
| | (1) | (2) |
| After SpecialCourt | -0.0139* | -0.0140* |
| | (0.00727) | (0.00727) |
| $\Delta \log GRP_{t-(t-4)}$ | | -0.00681 |
| | | (0.0155) |
| $\Delta \log Agriculture_{t-(t-4)}$ | | -0.00499 |
| | | (0.0176) |
| $\Delta \log Construction_{t-(t-4)}$ | | -0.0150 |
| | | (0.0152) |
| Observations | 1,483 | 1,483 |
| R-squared | 0.604 | 0.604 |
| Time FE | YES | YES |
| Province FE | YES | YES |
| Weight | Firm Number | Firm Number |
| N clusters | 31 | 31 |

Provinces that introduced special courts experienced:

- 1.4 percentage points decrease in survival probability of zombie firms (8.8 percent reduction)

Concluding Remarks

- Legal reforms: state to market regime
- Exploit staggered introduction of specialized courts in China
- Bankruptcy outcomes, credit markets and real outcomes
- Our results indicate that specialized courts
 - (i) higher and faster liquidation of SOEs, less survival of zombie firms,
 - (ii) positive effect on credit markets (decrease lending for SOEs),
 - (iii) positive effect on investment
- Efficiency in bankruptcy resolution
- Policy implication of judicial system change