Bankruptcy Costs and the Design of Preventive Restructuring Procedures

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Évaluation des Politiques Publiques

Motivation

- April 2019: adoption by the EP of the EU directive on **preventive restructuring frameworks**. Member States have 2 years to implement the propositions into their national law.
- France has had a preventive procedure, the "Sauvegarde" procedure, since January 2006.

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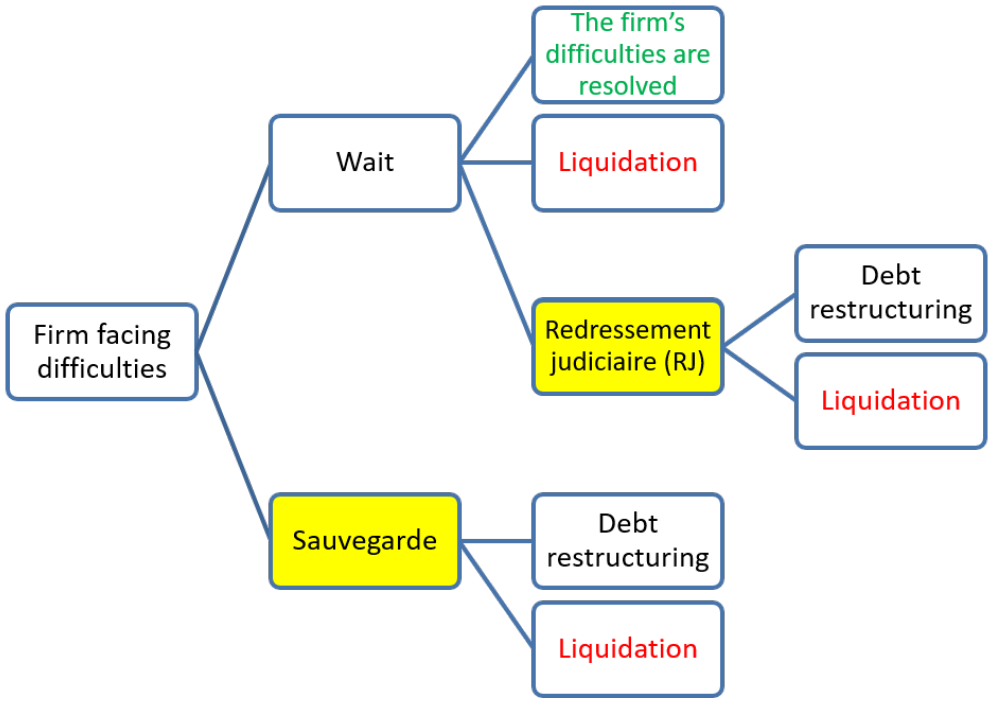

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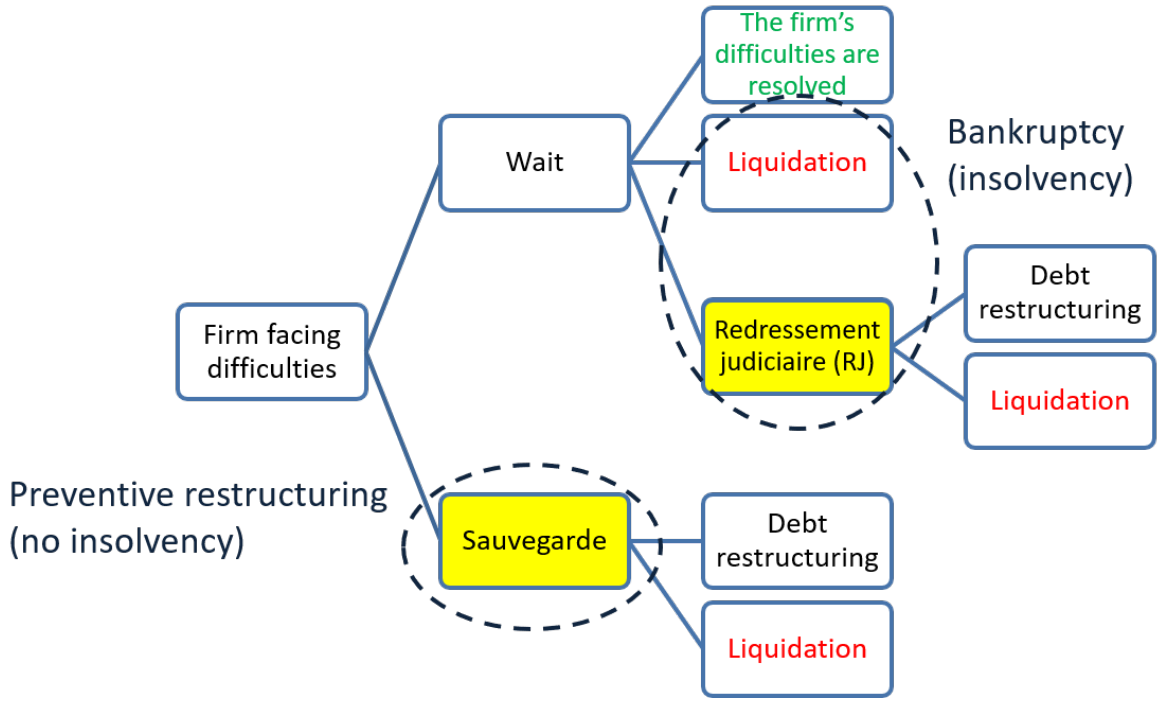
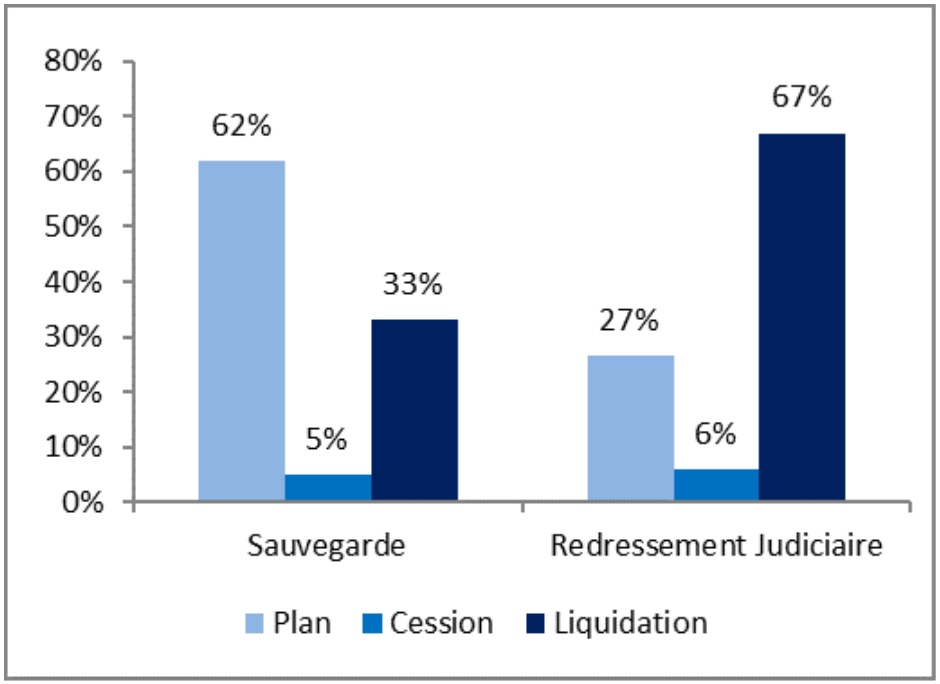
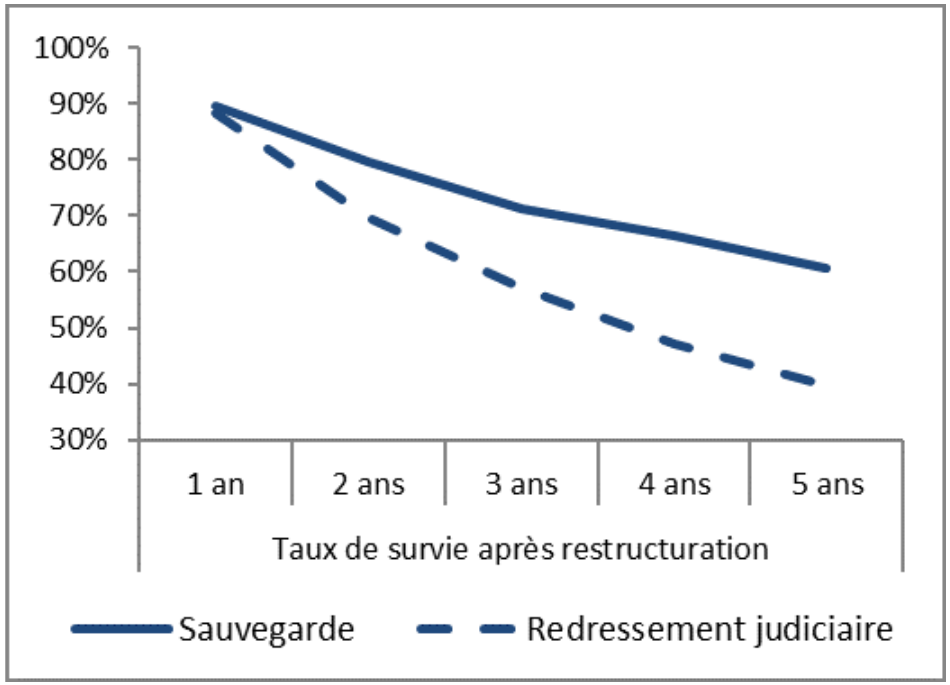


⇒ After 10 years, what can we learn from the outcome of the Sauvegarde that can be useful for the implementation of the EU directive?

Motivation

- Sauvegarde : high rates of success in debt restructuring and survival
- RJ : low rates of success in debt restructuring and survival





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- Why is the Sauvegarde outcome so much better than that of the RJ?
- 3 possible (non-exclusive) explanations:
  1. Firms entering Sauvegarde are in a better financial situation that firms filing for RJ
  2. The two procedures are different
  3. Stakeholders differentiate between the two procedures

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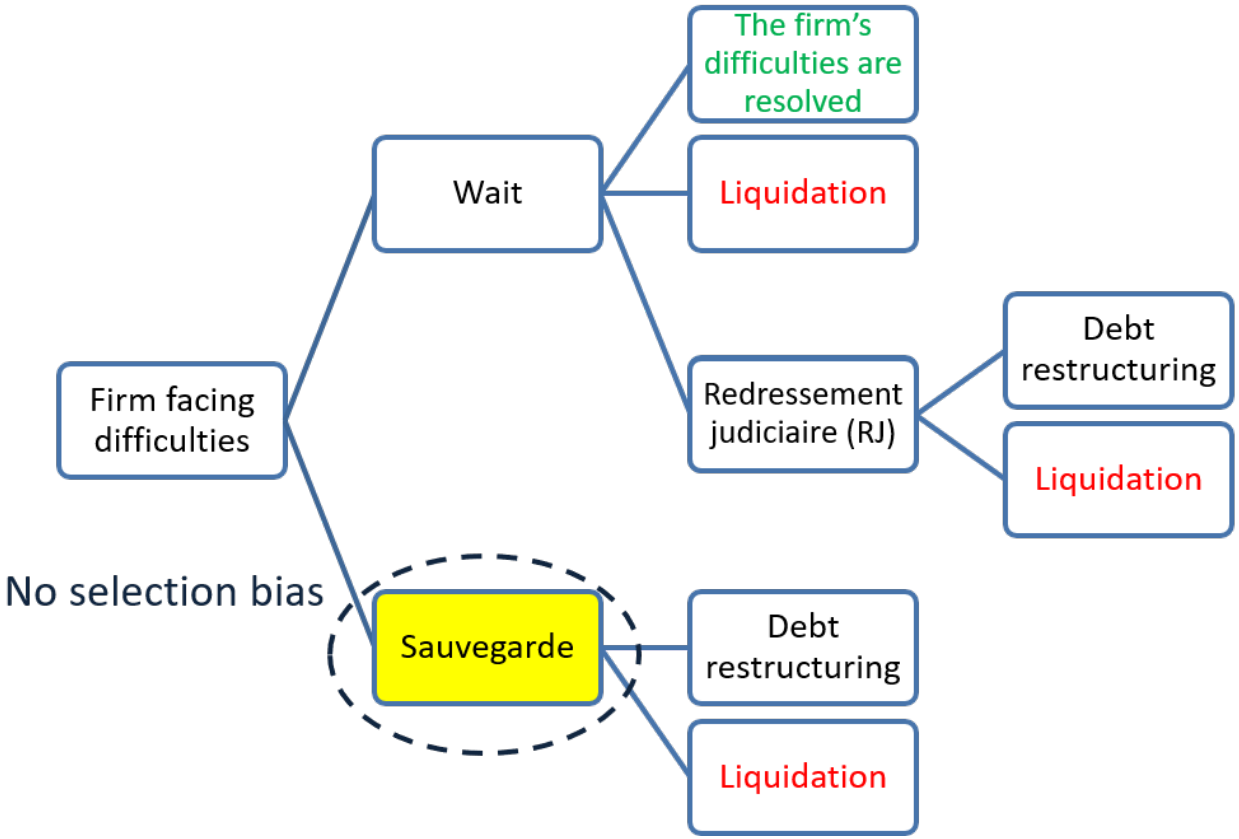
  3. Stakeholders differentiate between the two procedures $\rightarrow$**MAYBE**

$\Rightarrow$ We are going to use an identification strategy that gets ride of initial differences in financial situation (1.) to measure whether explanation 3. is part of the story behind the better outcome of the Sauvegarde procedure.

Motivation

Our identification strategy relies on:



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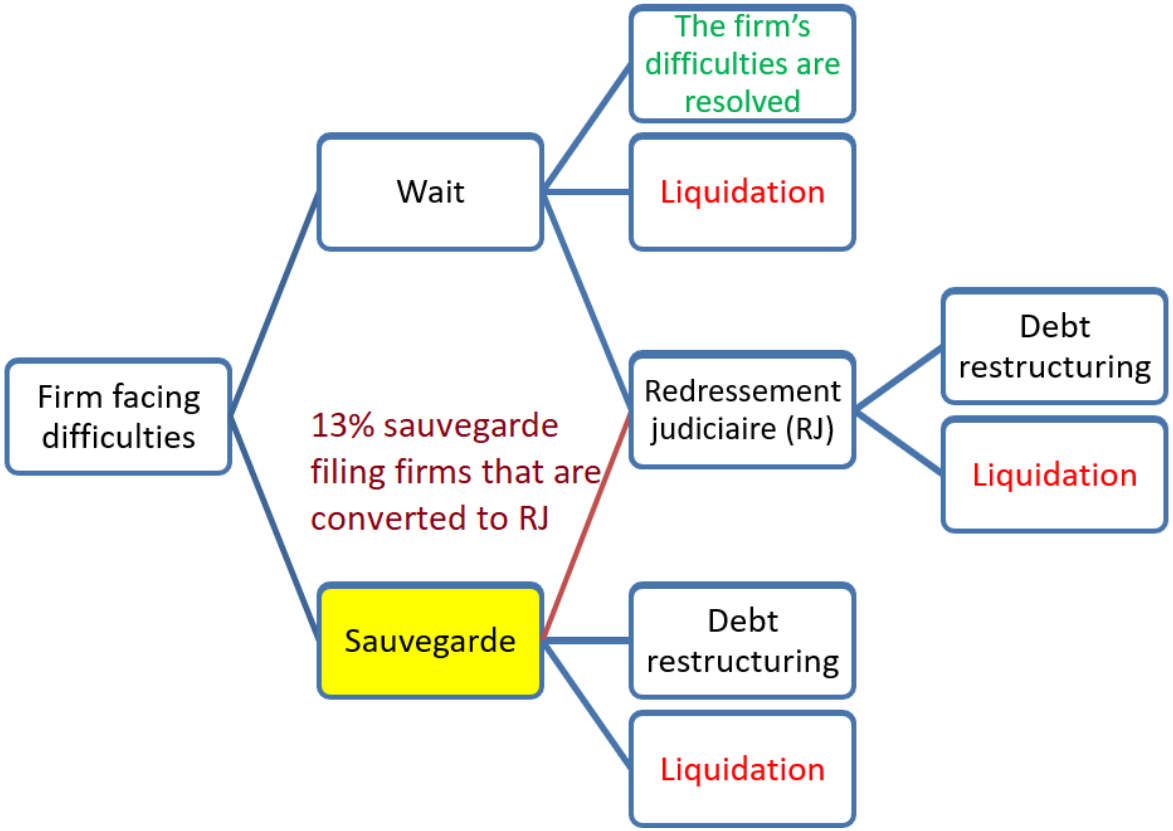

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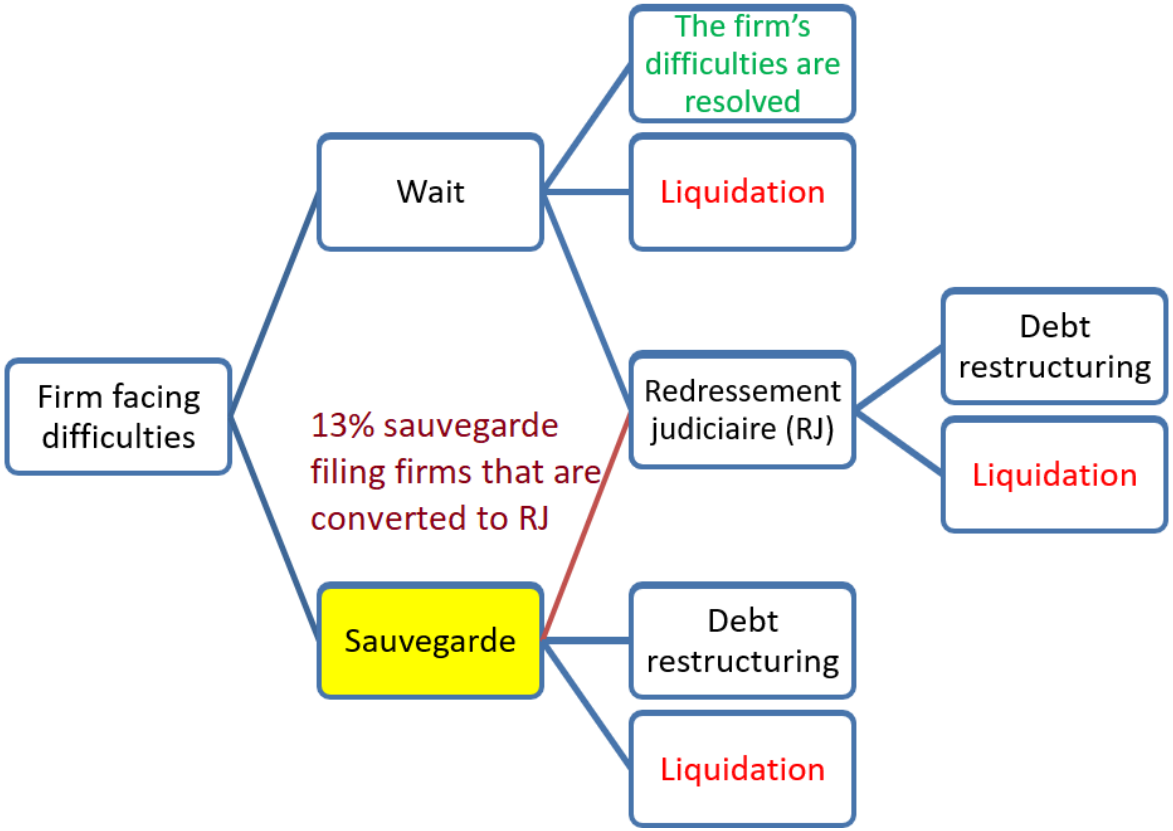
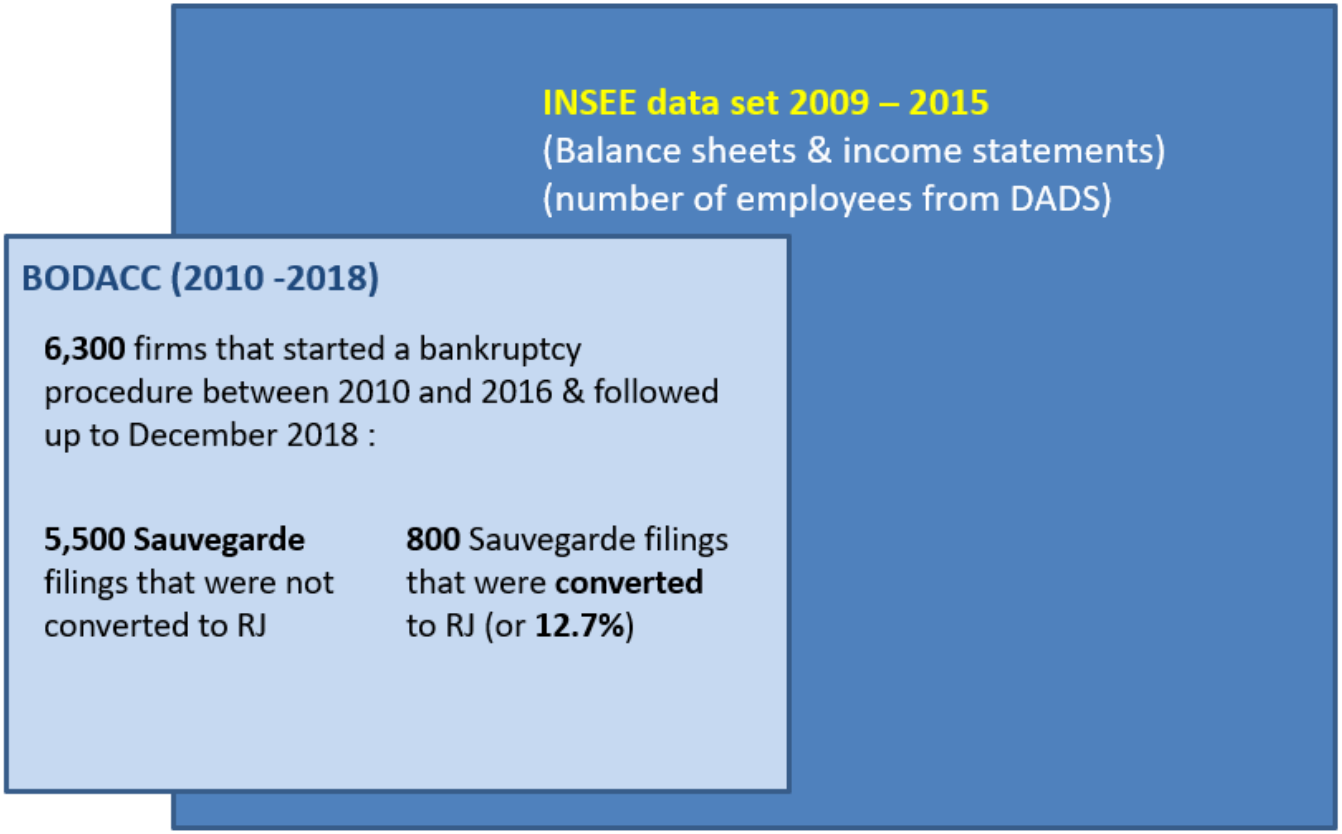


- The large heterogeneity in Commercial Courts' conversion rates of Sauvegarde to RJ. Hypothesis: it reflects heterogeneity in the interpretation of the insolvency state.
- Original dataset: almost all bankruptcy filings in France 2010 - 2016.

Main Results

- Using heterogeneity in Commercial Courts conversion rate, we show that being converted from Sauvegarde to RJ **decreases from 47% to 76%** the firm chances to reach a debt restructuring agreement with its creditors (for the marginal firm)
- Given creditors recovery rate (75% in continuation, 28% in liquidation, see Blazy et al., 2018), this translates to an indirect costs of **20% to 30% of the firm total book asset**
- Once the agreement is reached, the survival rate does not depend on the procedure anymore

Dataset


INSEE data set 2009 – 2015
(Balance sheets & income statements)
(number of employees from DADS)
BODACC (2010 -2018)
6,300 firms that started a bankruptcy procedure between 2010 and 2016 & followed up to December 2018 :
5,500 Sauvegarde filings that were not converted to RJ
800 Sauvegarde filings that were converted to RJ (or 12.7%)

Identification strategy

We are interested in the impact of conversion to RJ on the probability of restructuring the firm's debt with its creditors.

$$Y_{i,j,t'} = \alpha + \beta \cdot Conversion_{i,j,t'} + \gamma_1 X_{i,t} + \gamma_2 \Omega_{j,t'} + \mu_t + \mu_j + \epsilon_{i,j,t'}$$

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Conversion is endogenous : we need an instrument.

Court $\times$ *Year* instrument: share of cases converted by the Court j in a given year t', excluding the current case i:

$$\phi_{i,j,t'} = \frac{\#conversion_{j,t'} - 1(converted_{i,t'} = 1)}{\#cases_{j,t'} - 1}$$

This type of instrument is used by Bernstein et al. (JoF 2016, JoFE 2018), Maestas et al. (AER 2015).

Heterogeneity in Commercial Court conversion rates

Between-Court heterogeneity

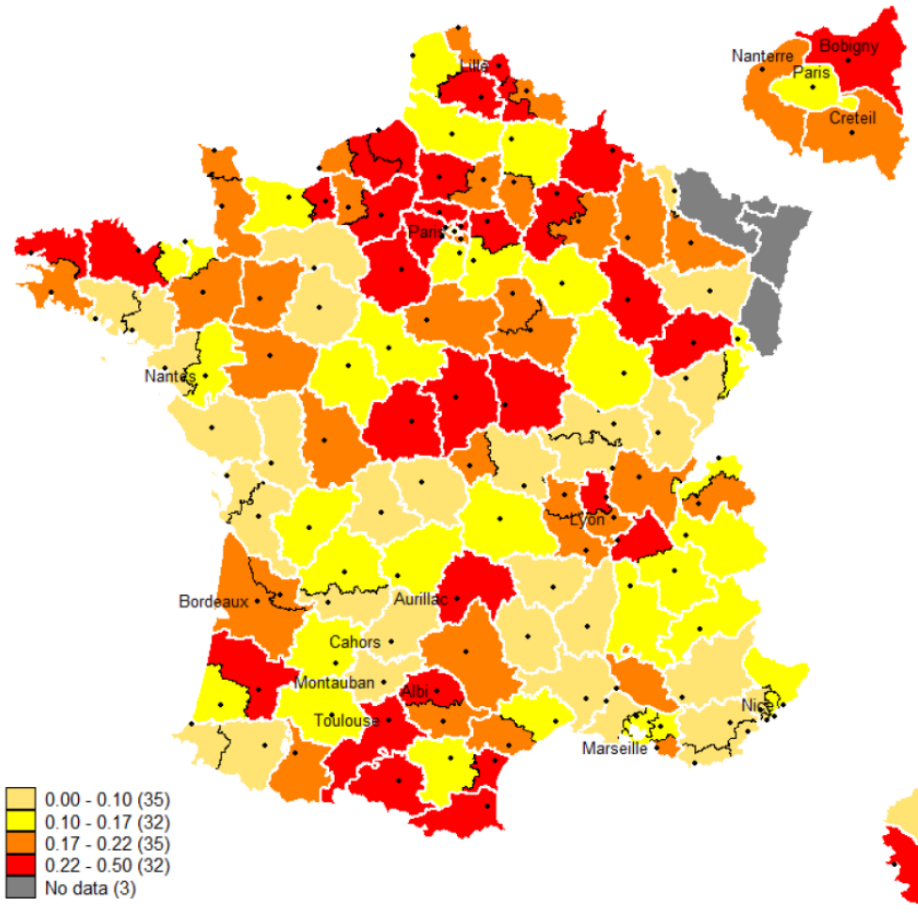

Figure: Commercial Courts' average conversion rate over 2010 - 2018

Within-Court heterogeneity

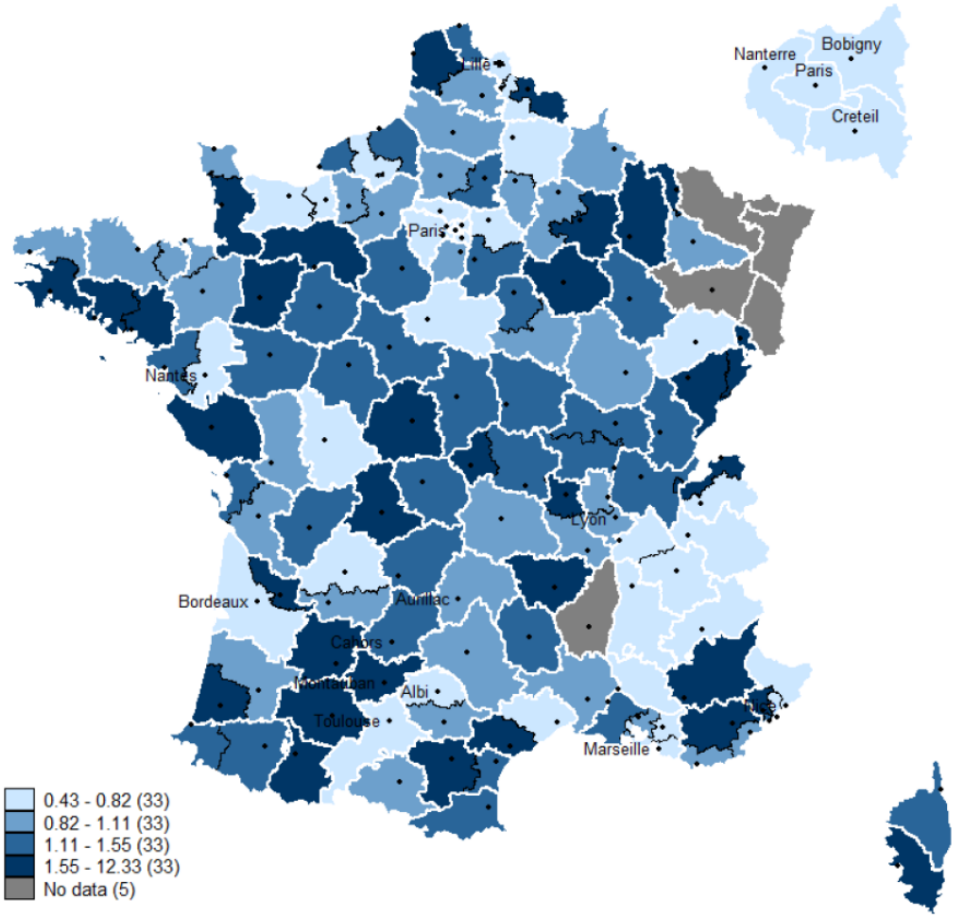

Figure: Coefficient of variation of the Commercial Courts' conversion rate

Heterogeneity in Commercial Court conversion rates

- This between- and within-Courts heterogeneity may come from:
  - The lay Judges (elected amongst entrepreneurial leaders and executive)
  - Their high turnover (elected every year, 2-year mandate renewable for 4-year mandates up to 14 years)
- Hypothesis: the large heterogeneity in conversion rates reflects reflects heterogeneity in interpretation of the insolvency state

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- Assignment to Courts is not random but based on the firm's headquarters location
  - The good point is that there is no "forum shopping"
  - We can consider that there is no "time-shopping" either ▸ Proof

$\Rightarrow$ We are close to a random assignment.

Identification Strategy

First stage:

$$Conversion_{i,j,t'} = \rho + \pi \cdot \phi_{i,j,t'} + \gamma_1 X_{i,t} + \gamma_2 \Omega_{j,t'} + \mu_t + \mu_j + \epsilon_{i,j,t'}$$

Second stage:

$$Y_{i,j,t'} = \alpha + \beta \cdot \widehat{Conversion}_{i,t'} + \gamma_1 X_{i,t} + \gamma_2 \Omega_{j,t'} + \mu_t + \mu_j + \epsilon_{i,j,t'}$$

- We use firm-level control variables $X_{i,t}$, local-level control variables $\Omega_{j,t'}$, time fixed effect μ_t, and, importantly, Court fixed effects μ_j.
- If the instrument is valid, then β captures the causal effect of RJ conversion on the firm's probability of debt restructuring
- This effect is a LATE (Angrist et al., 1996)

First-stage results

Dependent variable:	Conversion to RJ		
	(1)	(2)	(3)
Share of other cases converted	0.242***	0.240***	0.230***
	(5.46)	(5.56)	(5.42)
Firm-level control variables			
Ln(#employees)		0.0240***	0.0235***
		(5.96)	(5.82)
Age(> 5 years old)		-0.0157*	-0.0139
		(-1.76)	(-1.57)
Zombies		0.0178**	0.0178**
		(2.06)	(2.06)
Fixed asset/Asset		-0.0107	-0.00886
		(-0.62)	(-0.51)
Financial asset/Fixed asset		0.0144	0.0131
		(0.97)	(0.89)
Total debt/Asset		0.00322	0.00311
		(0.45)	(0.43)
Supplier debt/Debt		0.0112	0.0115
		(0.42)	(0.43)
Industry dummies	Yes	Yes	Yes
Legal status dummies	Yes	Yes	Yes
Annual local-level control variables			
Unemployment rate			-3.033
			(-1.49)
Share of direct Liquidations			0.109
			(1.13)
Ln(#bankruptcy filings)			0.187***
			(4.30)
Court fixed effects	Yes	Yes	Yes
Year of filing fixed effects	Yes	Yes	Yes
Observations	6,334	6,334	6,334
Adjusted R-squared	0.0072	0.015	0.018
F-statistic for instrument	29.83	30.90	29.43

There is 23% of marginal firms. ▸ More

Exclusion Restriction

- Court's conversion rate must have no impact on the probability of debt restructuring other than the one that goes through conversion
- Difficult to test
- Our strategy: checking if for firms that initially filled for RJ (i.e. using an outside sample), Court's conversion rate has no impact on the probability of a successful debt renegotiation

- Reduced form on the sample of RJ filing firms:

$$Y_{i,j,t'} = \alpha + \pi \cdot \phi_{i,j,t'} + \gamma_1 X_{i,t} + \gamma_2 \Omega_{j,t'} + \mu_t + \mu_j + \epsilon_{i,j,t'}$$

Exclusion Restriction

Dependent variable:	Debt restructuring in RJ	
	All RJ	Voluntary RJ
	(1)	(2)
Share of cases converted	-0.00245	-0.00746
	(-0.13)	(-0.38)
Firm-level control variables		
Ln(#employees)	0.00735***	0.00224
	(3.87)	(1.02)
Age(> 5 years old)	0.133***	0.123***
	(33.41)	(24.20)
Zombies	-0.0251***	-0.0411***
	(-6.07)	(-7.88)
Fixed asset/asset	0.00499	0.00172
	(0.82)	(0.66)
Financial asset/fixed asset	-0.0186	-0.0596***
	(-1.42)	(-5.42)
Total debt/asset	-0.0109***	-0.0128***
	(-4.31)	(-3.84)
Supplier debt/debt	-0.123***	-0.110***
	(-11.57)	(-8.84)
Industry dummies	Yes	Yes
Legal status dummies	Yes	Yes
Annual local-level control variables		
Unemployment rate	6.515***	-1.838
	(3.71)	(-1.04)
Share of direct Liquidations	-0.0490	-0.117
	(-0.52)	(-1.20)
Ln(#bankruptcy filings)	-0.343***	-0.288***
	(-7.50)	(-6.01)
Court fixed effects	Yes	Yes
Year of filing fixed effects	Yes	Yes
Observations	66,927	39,607
Adjusted R-squared	0.054	0.071

Main Results: Debt Restructuration

Dependent variable:	Debt Restructuring (YES/NO)	
Model:	OLS	IV-2SLS
	(1)	(2)
Conversion to RJ	-0.473***	-0.764***
	(-23.83)	(-4.05)
Firm-level control variable		
Ln(#employees)	0.0494***	0.0562***
	(9.84)	(8.70)
Age(> 5 years old)	0.125***	0.122***
	(9.25)	(8.75)
Zombies	-0.0666***	-0.0611***
	(-5.21)	(-4.63)
Fixed asset/asset	0.104***	0.101***
	(4.39)	(4.21)
Financial asset/fixed asset	-0.0454*	-0.0415
	(-2.10)	(-1.89)
Total debt/asset	-0.0277*	-0.0269*
	(-2.05)	(-1.99)
Supplier debt/debt	-0.0558	-0.0530
	(-1.64)	(-1.52)
Industry dummies	Yes	Yes
Legal status dummies	Yes	Yes
Annual local-level control variable		
Unemployment rate	4.301	3.151
	(1.77)	(1.24)
Share of direct Liquidations	0.0189	0.0630
	(0.13)	(0.09)
Ln(#bankruptcy filings)	-0.205**	-0.145*
	(-3.24)	(-2.03)
Court fixed effects	Yes	Yes
Year of filing fixed effects	Yes	Yes
Observations	6,334	6,334
Adjusted R-squared	0.175	0.098

Robustness Checks

Robustness tests:

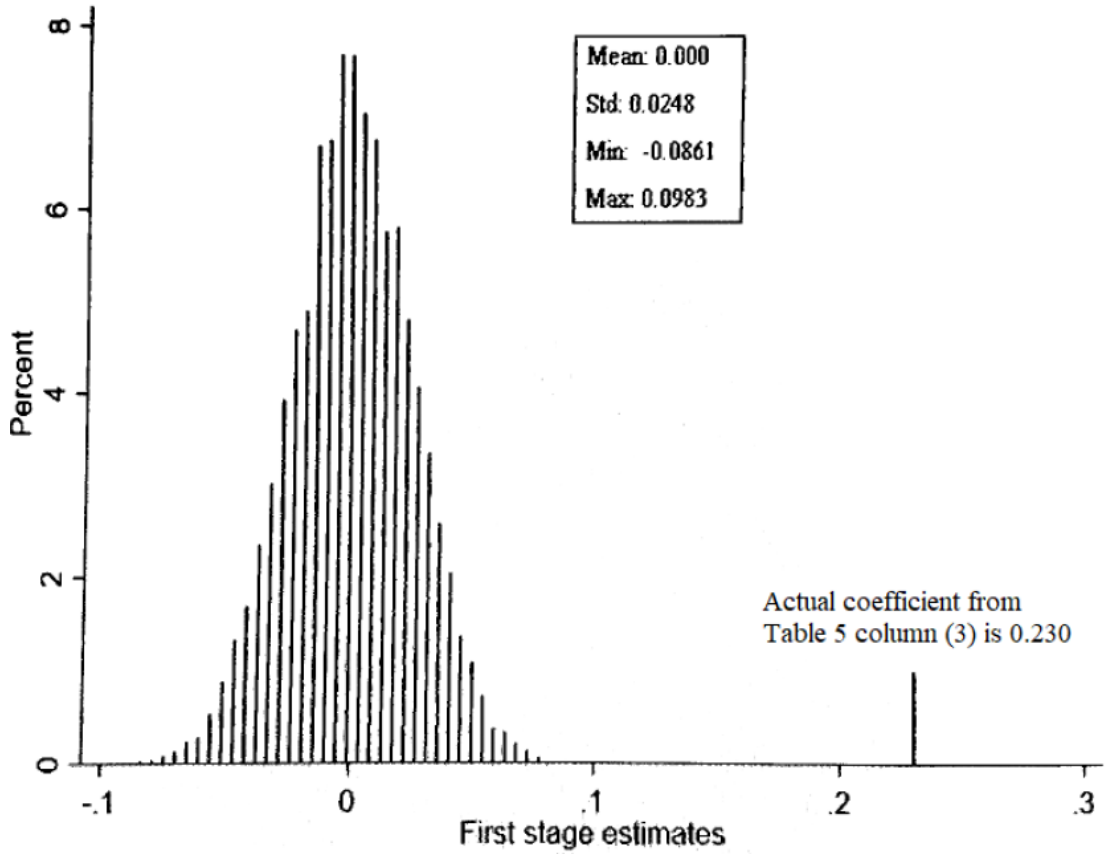
- Using different samples Go to test
  - excluding Sauvegarde cases liquidated under 3 months
  - excluding Sauvegarde cases liquidated under 6 months
  - excluding the 50% smallest Courts
- Assigned Court VS closest Court Go to test

Placebo test: 10,000 regressions using a randomly assigned instrument

Placebo

10,000 placebo first stages where the instrument is randomly assigned within the sample.

$$Conversion_{i,j,t'} = \rho + \pi \cdot \phi_{i,j,t'} + \gamma_1 X_{i,t} + \gamma_2 \Omega_{j,t'} + \mu_t + \mu_j + \epsilon_{i,j,t'}$$



Main Results: Survival after Debt Restructuration

Dependent variable:	Survival rate at different horizons			
Horizon	Two years		Five years	
	OLS	IV 2nd stage	OLS	IV 2nd stage
	(1)	(2)	(3)	(4)
Conversion to RJ	0.0359	0.149	-0.0701	-0.216
	(-0.87)	(-0.32)	(1.04)	(0.40)
Firm-level control variable				
Ln(#employees)	0.0180***	0.0182***	0.0406***	0.0419***
	(-2.94)	(-2.65)	(-3.50)	(-3.51)
Age(> 5 years old)	0.0843***	0.0857***	0.131***	0.127***
	(-5.22)	(-5.03)	(-4.22)	(-3.81)
Zombies	-0.0302**	-0.0299**	-0.0575*	-0.0572**
	(2.00)	(2.02)	(1.93)	(2.03)
Fixed asset/asset	0.0516	0.0524*	0.147**	0.145**
	(-1.60)	(-1.65)	(-2.20)	(-2.28)
Financial asset/fixed asset	-0.0322	-0.0307	-0.0154	-0.0168
	(1.17)	(1.11)	(0.26)	(0.30)
Total debt/asset	-0.00614	-0.00623	-0.0472	-0.0456
	(0.41)	(0.23)	(1.39)	(1.38)
Supplier debt/debt	-0.118***	-0.117***	-0.113	-0.113
	(2.62)	(2.66)	(1.32)	(1.41)
Industry dummies	Yes	Yes	Yes	Yes
Legal status dummies	Yes	Yes	Yes	Yes
Annual local-level control variable				
Unemployment rate	-4.514	-3.855	-6.843	-9.770
	(1.34)	(0.88)	(0.84)	(0.70)
Share of direct Liquidations	0.259	0.265	0.986**	0.930**
	(-1.38)	(-1.43)	(-2.17)	(-2.09)
Ln(#bankruptcy filings)	0.0473	0.0491	0.409***	0.383**
	(-0.64)	(-0.68)	(-2.67)	(-2.17)
Court fixed effects	Yes	Yes	Yes	Yes
Year of filing fixed effects	Yes	Yes	Yes	Yes
Observations	3,333	3,333	1,414	1,414
Adjusted R-squared	0.035	-0.010	0.085	-0.031

Main results

- Using heterogeneity in Commercial Court conversion rate, we measure the impact of being converted from Sauvegarde to RJ
- For a marginal firm, being converted from Sauvegarde to RJ **decreases from 47% to 76%** its chances to reach a debt restructuring agreement with its creditors
- Given creditors recovery rate (75% in continuation, 28% in liquidation, see Blazy et al., 2018), this translates to an indirect cost of **20% to 30% of the firm total book asset**
- Once the agreement is reached, the survival rate does not depend on the procedure anymore

Conclusion

- The indirect cost attached to RJ is substantial, part of it could come from the bad track-record of the procedure and self-fulfilling effects.
- Choosing a different name for the Sauvegarde procedure in 2006 was a good idea: it allows financial stakeholders to differentiate firms from the average firm filing for bankrupty.
- The "best" firms among RJ filers could be encouraged to fill for Sauvegarde:
  - By better informing firms and their creditors of the existence of the Sauvegarde procedure and its good results.
  - By increasing the attractiveness of Sauvegarde, e.g. shorter observation period in Sauvegarde than in RJ.
- Implementation of the EU directive on preventive procedure into the French commercial law could help differentiate the two procedure.

Thank you!

The probability of filing for Sauvegarde does not depend on the Court's past or current conversion rate

Dependent variable:	Filing for Sauvegarde in year t	
	(1)	(2)
Share of cases converted		
in year t	-0.00730	
	(-1.24)	
in year $t-1$		-0.00861
		(-1.38)
Firm-level control variables		
Ln(#employees)	0.0133***	0.0134***
	(10.82)	(10.37)
Age(> 5 years old)	0.0267***	0.0267***
	(11.87)	(11.43)
Zombies	-0.0177***	-0.0195***
	(-7.58)	(-8.01)
Fixed asset/Asset	0.00132	0.00126
	(0.90)	(0.89)
Financial asset/Fixed asset	0.0223	0.0222
	(1.25)	(1.24)
Total debt/Asset	-0.0230***	-0.0236***
	(-16.19)	(-15.79)
Supplier debt/Debt	-0.0502***	-0.0491***
	(7.74)	(-7.17)
Industry dummies	Yes	Yes
Legal status dummies	Yes	Yes
Annual local-level control variables		
Unemployment rate	0.799*	0.674
	(1.78)	(1.35)
Share of direct Liquidations	0.133***	0.114***
	(4.50)	(3.67)
Ln(#bankruptcy filings)	-0.0617***	-0.0573***
	(-4.66)	(-3.88)
Court fixed effects	Yes	Yes
Year of filing fixed effects	Yes	Yes
Observations (Firms)	73,261	68,782
Adjusted R-squared	0.0627	0.0634

Back

The share of Sauvegarde filings does not depend on the Court's past or current conversion rate

Dependent variable:	Share of Sauvegarde filings in year t	
	(1)	(2)
Share of cases converted		
in year t	0.0103	
	(1.55)	
in year $t-1$		-0.0117
		(-1.60)
Annual local-level control variables		
Share of direct Liquidations	0.0846***	0.0921***
	(2.85)	(2.74)
Unemployment rate	0.0308	-0.0830
	(0.13)	(-0.32)
Ln(#bankruptcy filings)	-0.0268*	-0.00968
	(-1.95)	(-0.64)
Court fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Observations (Court × Year)	1,042	895
Adjusted R-squared	0.086	0.077

▸ Back

Robustness

Using different subsamples

Specification:	IV-2SLS excluding Sauvegarde cases liquidated under 3 months		IV-2SLS excluding Sauvegarde cases liquidated under 6 months		IV-2SLS exluding the 50% smallest courts	
Dependent variable:	1*st* stage Conversion	2*nd* stage Debt Restructuring	1st stage Conversion	2*nd* stage Debt Restructuring	1st stage Conversion	2*nd* stage Debt Restructuring
	(1)	(2)	(3)	(4)	(5)	(6)
Share of other cases converted	0.241***		0.257***		0.252***	
	(5.58)		(5.65)		(4.21)	
Conversion to RJ		-0.729***		-0.550***		-0.597**
		(-4.32)		(-3.66)		(-2.43)
Firm-level control variables	Yes	Yes	Yes	Yes	Yes	Yes
Annual local-level control variables	Yes	Yes	Yes	Yes	Yes	Yes
Court fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year of filing fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,094	6,094	5,665	5,665	5,179	5,179
Adjusted R-squared	0.019	0.131	0.022	0.201	0.025	0.146
F-statistic for instrument	31.15		31.87		17.73	

Back

Robustness

We consider firms for which the assigned Court is not the closest one.
$CC = 1$ if the assigned Court is the closest one, 0 otherwise.

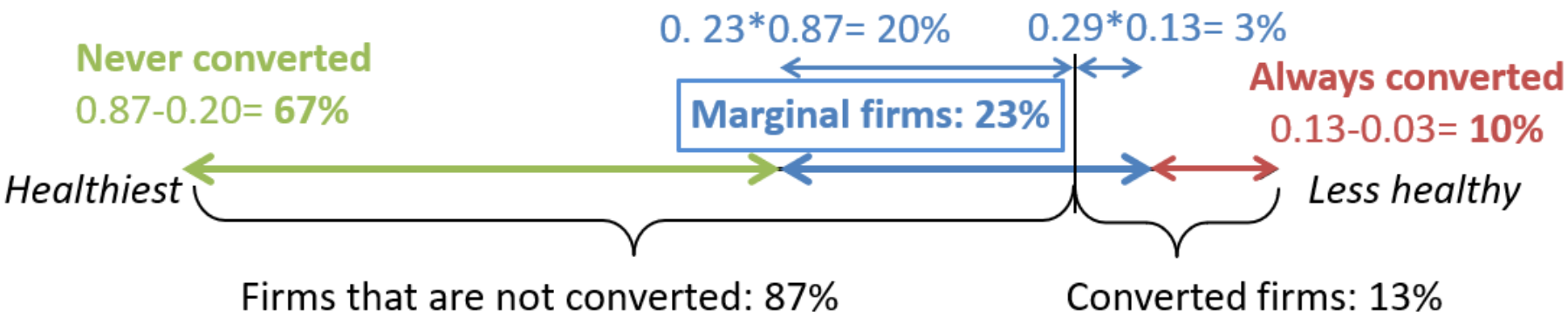
Dependent variable:	1st stage Conversion (3)	*2nd* stage Debt Restructuring (4)
Share of other cases converted of assigned Court × CC	0.334***	
	(7.64)	
Share of other cases converted of assigned Court × (1-CC)	0.226***	
	(2.99)	
Share of cases converted of closest Court × (1-CC)	-0.116	
	(-0.90)	
Conversion to RJ		-0.693***
		(-5.03)
Firm-level control variables	Yes	Yes
Assigned Court's annual local-level control variables × CC	Yes	Yes
Assigned Court's annual local-level control variables × (1-CC)	Yes	Yes
Closest Court's annual local-level control variables × (1-CC)	Yes	Yes
Court fixed effects	No	No
Court of Appeal fixed effects	Yes	Yes
Year of filing fixed effects	Yes	Yes
Observations	6,334	6,334
Adjusted R-squared	0.044	0.130
F-statistic for instrument	21.93	

▸ Back

Figure: French Commercial Courts

Marginal firm

Firms ranked from the most financially healthy to the less financially healthy:



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Calculation of the indirect cost

A 55 pp loss in probability of continuation corresponds to an indirect cost of 29% ($= 0,55 \times (0,75 - 0,22)$) of total book asset value of the firm

	Share in total asset	Recovery rate in continuation	Recovery rate in liquidation
Secured creditors	60%	76%	35%
Insecured creditors	20%	73%	5%
Shareholders	20%	73%	0%
Total	100%	75%	22%