

Online Appendix

Bankruptcy Costs and the Design of Preventive Restructuring Procedures

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In this online appendix, we provide additional tests to show that results presented in the main paper are solely driven by the instrument (yearly court conversion rate) and not by other economic variables. We collected a number of local variables that might influence the conversion rate and/or the restructuring. These local factors are :

- The local annual unemployment rate,
- The number of direct liquidations at the court-year level,
- The share of direct liquidations over total bankruptcy filings at the court-year level,
- The average number of employees per establishment at the court-year level,
- The share of manufacturing employment at the court-year level,
- The regional conversion rate (excluding the assigned court),
- The case-load per judge at the court-year level.

Summary statistics for these variables are presented in Table B.4. We use these variables in three different ways:

1. As control variables in the first and second stages (with the instrument being the conversion rate): see Table B.1,
2. As instruments (instead of the conversion rate): see Table B.2,
3. As potential explanatory variables for the conversion rate at the court-year level: see Table B.3.

Tables B.1, B.2 and B.3 show that in these estimations, these local factors have no significant role. This can be surprising. It should be remembered however that there are court (and year) fixed effects in all of our regressions. This means that all permanent local factors are already absorbed by the court fixed effects.

Table B.1: Controlling for local factors – as control variables

Specification: Dependent variable:	IV-2SLS 1st stage Conversion									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Share of other cases converted	0.264*** (5.28)	0.263*** (5.07)	0.264*** (5.11)	0.265*** (5.16)	0.264*** (5.16)	0.265*** (5.16)	0.265*** (5.14)	0.265*** (5.15)	0.264*** (5.09)	0.263*** (5.05)
Unemployment rate	-2.055 (-0.69)									
Log(# direct liquidations)		0.0447 (1.55)								
Share of direct liquidations			0.135 (1.30)							
Average # of employees per establishment				-0.0289 (-0.80)						
Share of manufacturing employment					-1.160 (-1.12)					
Regional share of cases converted (excluding assigned court)						0.0638 (1.28)				
Average # of Sauvegarde cases per judge							-0.0124 (-0.63)			-0.0125 (-0.62)
Average # of RJ cases per judge								-0.00201 (-0.32)		-0.00370 (-0.58)
Average # of liquidation cases per judge									0.00368 (1.08)	0.00415 (1.23)
All control variables	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
All fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678
Adjusted R-squared	0.044	0.044	0.043	0.044	0.044	0.044	0.043	0.044	0.044	0.044
F-statistic for instrument	27.83	25.74	26.08	26.59	26.60	26.63	26.57	26.43	25.87	25.53
Specification : Dependent variable:	IV-2SLS 2nd stage Debt Restructuring									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Conversion to RJ	-0.503*** (-3.34)	-0.500*** (-3.20)	-0.497*** (-3.19)	-0.493*** (-3.19)	-0.497*** (-3.22)	-0.496*** (-3.19)	-0.497*** (-3.22)	-0.497*** (-3.22)	-0.492*** (-3.17)	-0.491*** (-3.16)
Unemployment rate	-2.245 (-0.06)									
Log(# direct liquidations)		0.0131 (0.37)								
Share of direct liquidations			-0.0166 (-0.12)							
Average # of employees per establishment				0.465 (1.19)						
Share of manufacturing employment					0.0956 (0.07)					
Regional share of cases converted (excluding assigned court)						-0.104 (-1.51)				
Average # of Sauvegarde cases per judge							0.00210 (0.07)			0.00218 (0.07)
Average # of RJ cases per judge								0.00135 (0.17)		0.00280 (0.34)
Average # of liquidation cases per judge									-0.00277 (-0.81)	-0.00309 (-0.88)
All control variables	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
All fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678
Adjusted R-squared	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.199	0.199

t statistics in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B.1 presents the main specification as described in the paper with local variables as additional control variables. This is done at the firm-level (5,678 observations).

Top panel of Table B.1 shows the results of the first-stage equation:

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

with $Conversion_{i,j,t'}$ equals to 1 if the Sauvegarde case i has been converted to an RJ at t' in court j . $\phi_{i,j,t'}$ is the instrument, the share of cases converted, excluding the current case. $X_{i,t}$ is a set of firm-level characteristics measured the year before the filing, and $Local_Var$ are the local variables listed above. The specification contains industry $\times$ year fixed effects $\mu_{s,t'}$ and court fixed effects μ_j . Standard errors are clustered at the court $\times$ year-of-judgement level.

Bottom panel of Table B.1 presents second-stage estimates, following the equation:

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

with $Y_{i,j,t'}$ the probability of debt restructuring, and $\widehat{Conversion}_{i,j,t'}$ the values predicted from the first-stage regression. Standard errors are clustered at the court $\times$ year-of-judgement level.

We are interested in γ_2 , the impact of the local variables on our dependent variables. The results in Table B.1 show that none of these variables help explain the conversion nor the debt restructuring. Moreover, the coefficient of the instrument is not affected. While these additional specifications are important for robustness, one has to be aware that adding these local factors could very well bring back some endogeneity in our specification, notably if the local variables are correlated with the firms' performance (which is arguably likely to be the case).

Table B.2: Controlling for local factors – as new instruments

Specification: Dependent variable:	IV-2SLS 1st stage Conversion									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Unemployment rate	-2.964 (-0.67)									
Log(# direct liquidations)		0.0601* (1.73)								
Share of direct liquidations			0.180 (1.43)							
Average # of employees per establishment				-0.0389 (-0.89)						
Share of manufacturing employment					-1.607 (-1.24)					
Regional share of cases converted (excluding assigned court)						0.0671 (1.08)				
Average # of Sauvegarde cases per judge							-0.0136 (-0.57)			-0.0135 (-0.56)
Average # of RJ cases per judge								-0.00281 (-0.37)		-0.00516 (-0.66)
Average # of liquidation cases per judge									0.00494 (1.20)	0.00557 (1.36)
All control variables	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
All fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678
Adjusted R-squared	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031
F-statistic for instrument	0.45	3.01	2.05	0.78	1.54	1.18	0.33	0.14	1.44	0.75
Specification : Dependent variable:	IV-2SLS 2nd stage Debt Restructuring									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Conversion to RJ	0.255 (0.24)	-0.284 (-0.48)	-0.589 (-0.82)	-1.687 (-0.95)	-0.557 (-0.64)	-2.051 (-1.23)	-0.652 (-0.31)	-0.977 (-0.33)	-1.052 (-1.48)	-1.003 (-1.59)
All control variables	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
All fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678	5,678
Adjusted R-squared	-0.183	0.158	0.202	-0.530	0.202	-1.08	0.198	0.102	0.063	0.089

t statistics in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table B.2 presents the results of our main specification with local variables as new instruments (and without the conversion rate). This is done at the firm-level (5,678 observations).

Top panel of Table B.2 presents the results of the following first-stage equation:

$$Conversion_{i,j,t'} = \rho + \pi \cdot Local_Var + \gamma_1 X_{i,t} + \mu_{s,t'} + \mu_j + \epsilon_{i,j,t'}$$

And the bottom panel of Table B.2 presents the estimates of the second-stage equation:

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

Standard errors are clustered at the court $\times$ year-of-judgement level. We are interested in π and the validity of the local variables as potential instruments to explain the conversion of Sauvegarde cases into RJ. Table B.2 shows that none of the estimates are significantly different from 0, and the F-stat of the first-stage is well below the threshold of 10. It suggests that the local variables could not be plausible instruments. The second-stage estimates are not any more significant.

Table B.3: Controlling for local factors – as explanatory variables of the conversion rate at the Court-year level

Specification:	OLS									
Dependent variable:	Share of cases converted									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Unemployment rate	-3.591 (-1.54)									
Log(# direct liquidations)		0.0305 (0.87)								
Share of direct liquidations			0.0596 0.43							
Average # of employees per establishment				-0.0210 (-0.44)						
Share of manufacturing employment					-1.678 (-1.36)					
Regional share of cases converted (excluding assigned court)						-0.0155 (-0.22)				
Average # of Sauvegarde cases per judge							0.0272 (0.76)			0.0252 (0.71)
Average # of RJ cases per judge								0.00249 (0.27)		-0.000630 (-0.06)
Average # of liquidation cases per judge									0.00573 (1.14)	0.00563 (1.07)
Court fixed effect	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations (Court × Year)	1,132	1,132	1,132	1,132	1,132	1,132	1,132	1,132	1,132	1,132
Adjusted R-squared	0.041	0.040	0.043	0.039	0.041	0.039	0.040	0.039	0.040	0.039

t statistics in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Tables B.3 presents the results of the following equation :

$$\phi_{j,t'} = \rho + \beta \cdot Local_Var + \mu_{t'} + \mu_j + \epsilon_{j,t'}$$

where $\phi_{i,j,t'}$ is our instrument, the share of cases converted. Estimations are made at the court-year level (1,132 observations), and standard errors are clustered at the court × year-of-judgement level. We are interested in β , the correlation between our instrument and the local variables to explore if there is court-year level exogenous variations that could affect the conversion rate. The results Table B.3 show that this is not the case: none of the local variables help explain the court conversion rate.

Tables B.1 to B.3 use information retrieved from URSSAF and its open data website Acoss (see <https://www.open.urssaf.fr>). Acoss publishes on-line the annual number of employees and establishments in the private sector (aggregation at the level 732) in each city of France between 2010 and 2018. Thanks to this data, we created at the court-year level the average number of employees per establishment, and the share of manufacturing employment.

We also use information on unemployment retrieves from INSEE (see <https://www.insee.fr>). The French unemployment rates are obtained at the *département* level between 2010 and 2018.

We obtain information about the number of judges and chambers per commercial court in the decrees fixing the number of judges (see the governmental website that publish French legislative and regulatory texts : <https://www.legifrance.gouv.fr>). The decision to modify the number of judges or the number of chambers can be taken at any time of the year but come into force the 1st of January of the following year. When necessary, election of judges takes place in November each year (recall that a judge is elected for 4 years and can serve up to 14 years).

Table B.4: Summary statistics of local variables

	Number of observations (1)	Mean (2)	Median (3)	Standard deviation (4)	Min. (5)	Max. (6)
Unemployment rate	1,206	0.0956	0.0938	0.0181	0.0483	0.155
# of direct liquidations	1,206	226.63	143	287.67	2	3,213
Share of direct liquidations	1,206	0.662	0.665	0.0917	0.0244	0.940
Average # of employees per establishment	1,206	9.046	9.016	2.054	4.913	18.83
Share of manufacturing employment	1,206	0.184	0.184	0.0736	0.0301	0.404
Regional share of cases converted (excluding assigned court)	1,206	0.162	0.147	0.108	0	0.767
Average # of Sauvegarde cases per judges	1,206	0.343	0.267	0.311	0	2.678
Average # of RJ cases per judges	1,206	4.013	3.822	1.538	0.889	12.552
Average # of liquidation cases per judges	1,206	8.157	7.544	3.459	0.133	29.151

Table B.4 presents the summary statistics of local variables for the 134 French Commercial Courts between 2010 and 2018. The share of direct liquidations is the number of direct liquidations over the number of direct liquidations and direct RJs. The average number of employee per establishment is total number of employees over the total number of establishment. The share of manufacturing employment is total number of employees in the manufacturing sector over the total number of employees. The average Sauvegarde (RJ, LJ) cases per judges is the number of Sauvegarde (RJ, LJ) over the number of judges.