

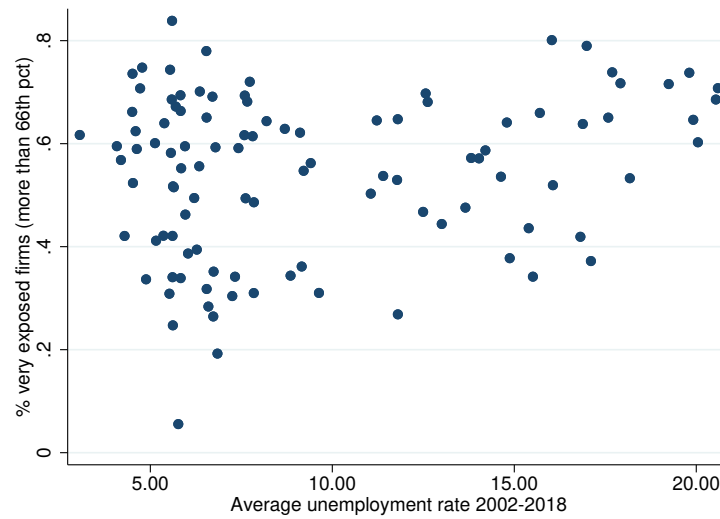
Online Appendix

The Long-term Earnings Effects of a Credit Market Disruption

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A. Appendix A - Robustness checks for the identification strategy

Figure A.1: Province level dispersion of interbank exposure



Note: Unemployment rate at the province level (average 2002-2018) and share of firms highly exposed to the interbank market (above the 66th percentile in 2006) in the same province.

Table A.1: Correlation between interbank funding ratio and bank characteristics

Dep var:	Interbank/Assets		
	[1]	[2]	[3]
capital ratio	-0.008 (0.013)	-0.012 (0.014)	-0.012 (0.012)
bank roa	0.725 (0.917)	0.732 (0.906)	0.643 (0.834)
liquidity ratio	-0.090 (0.035)	-0.090 (0.038)	-0.073 (0.035)
retail deposits/assets	-0.208 (0.044)	-0.204 (0.044)	-0.203 (0.044)
bad loans/assets	0.312 (0.214)	0.342 (0.221)	0.122 (0.219)
interest rate on assets	0.000 (0.000)	0.000 (0.001)	
log(bank assets)	0.176 (0.387)		0.413 (0.404)
2 nd size decile		0.102 (1.075)	
3 rd size decile		-0.712 (1.058)	
4 th size decile		-2.005 (0.824)	
5 th size decile		-0.838 (1.041)	
6 th size decile		-2.764 (0.986)	
7 th size decile		-2.266 (1.013)	
8 th size decile		-1.234 (1.140)	
9 th size decile		1.398 (1.852)	
10 th size decile		0.394 (3.293)	
2 nd interest rate decile			-2.287 (2.030)
3 rd interest rate decile			0.935 (2.659)
4 th interest rate decile			-1.958 (1.999)
5 th interest rate decile			-2.466 (1.957)
6 th interest rate decile			-2.840 (1.963)
7 th interest rate decile			-2.629 (2.279)
8 th interest rate decile			-2.455 (1.976)
9 th interest rate decile			-0.949 (2.232)
10 th interest rate decile			3.199 (3.118)
N	463	463	463

Note: Regression at the bank level of the interbank funding ratio (average interbank funding to total assets in 2003-2006) on bank characteristics. Bank balance sheet data from the Supervisory reports. Average of each variable from annual data between 2003 and 2006. Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Table A.2: Share of firm-level credit from banks more exposed to the interbank market in 2006

Dep var:	Delta % credit 2005-2000	
	[1]	[2]
interb. _b	0.000 (0.000)	0.000 (0.000)
% credit 2000		-1.030 (0.006)
N	812,493	812,493
Firm FE	Yes	Yes

Note: Regressions at the loan level. They show whether the change in the pre-crisis share of credit of different banks lending to firm f is correlated to the banks' exposure to interbank markets (average interbank funding to total assets in 2003-2006, denoted as interb._b). Loan-level data are from the Credit Register, bank balance sheet data (interbank funding and total assets) are from the Supervisory reports. Robust standard errors clustered at the banking group-level in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table A.3: Correlation between bank characteristics as of 2010-2011 and interbank exposure as of 2006 at the bank level

	capital/assets	tier1/assets	capital/rwa	roa	govt bonds/assets
	[1]	[2]	[3]	[4]	[5]
interb. _b	-0.022 (0.017)	-0.012 (0.017)	-0.022 (0.039)	-0.000 (0.005)	-0.162 (0.051)
N	469	469	469	469	469

Note: Regressions at the bank level. They show correlations between banks' exposure to interbank markets (average interbank funding to total assets in 2003-2006, denoted as interb._b) and measures of capital, profitability, and exposure to the sovereign debt crisis (averages between June 2010 and June 2011). All regressions include dummies for deciles of bank assets. Data are from the Supervisory Reports. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A.4: Change in bank's average cost of funding

Dep var:	Change in average cost of funding	
	2006-2010	2010-2014
	[1]	[2]
interb. _b	0.048 (0.024)	0.001 (0.013)
initial cost of funding (level)	-1.282 (0.519)	-0.387 (0.166)
N	448	443

Note: Regressions at the bank level. They show correlations between banks' exposure to interbank markets (average interbank funding to total assets 2003-2006, denoted as interb._b) and the change in the average cost of funding between 2006 and 2010 in column 1, and 2010-2014 in column 2. All regressions include dummies for deciles of bank assets. Data are from the Supervisory Reports. Robust standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A.5: Effects on interest rates - loan level regressions

Dep. var:	Interest rate		
	[1]	[2]	[3]
interb.	0.098 (0.022)		
interb.×post 2006	0.026 (0.023)	0.031 (0.020)	0.012 (0.014)
N	814,727	814,727	785,239
Firm-year FE	Yes	Yes	Yes
Bank FE	No	Yes	No
Firm-bank FE	No	No	Yes

Note: Regressions at the loan level on the sample of firms included in the analysis in Table 4. They show that banks did not transmit the shock to interest rates. The regression in column [1] includes firm-year fixed effects, in column [2] firm-year and bank fixed effects, and in column [3] firm-year and firm-bank fixed effects. The variable *interb.* is banks' exposure to interbank markets (average interbank funding to total assets 2003-2006). In line with existing studies (Cingano, Manaresi and Sette, 2016; Rodano, Serrano-Velarde and Tarantino, 2018; Sette and Gobbi, 2015), the Table considers interest rates on overdraft loans, as these are a homogeneous type of loans, very common among firms, with no pre-specified maturity, as they are revolving facilities and typically uncollateralized. Note that these tests have some data limitations because of limited information on the maturity of the loan (only available in coarse categories, i.e. below 1 year, between 1 and 5 years, above 5 years) or on the value of the collateral (we only observe whether the loan is backed by real collateral or not, and in this case the minimum between the value of the loan and the value of the collateral, so we cannot compute a loan to value ratio). Robust standard errors clustered at the banking group level in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

B. Appendix B - Robustness checks and additional results for the firm level analysis

Table B.1: Robustness - firm level evidence - changing fixed effects

Dep var:	% Δ (Credit) [1]	1=Exit [2]	% Δ (Size) [3]	% Δ (Wage) [4]	Investment [5]	% Δ (K/L) [6]
interb. $\times$ post 2006	-0.388 (0.083)	0.004 (0.006)	-0.051 (0.011)	-0.004 (0.004)	-0.053 (0.016)	-0.002 (0.019)
N	620659	651451	651557	647348	651557	651557
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
<i>st</i> FE	Yes	Yes	Yes	Yes	Yes	Yes
<i>pt</i> FE	Yes	Yes	Yes	Yes	Yes	Yes

Note: Firm level analysis. The variable interb. is the 2006 firm's exposure to the interbank market as defined in equation 1. The dummy exit is equal to 0 for all years a firm operates in the market and 1 for the first year it exits the market. Sample column [1]: only years when receiving credit; sample columns [2], [3], [4], [5] and [6]: only years the firm operates in the market and when balance sheet information is available. The regressions include firm, province $\times$ years and 2-digit sector $\times$ year fixed effects. Standard errors clustered at the firm level and at the level of the main 2006 bank identifier in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table B.2: Firm level evidence - 2SLS

Dep var:	1=Exit [1]	% Δ (Size) [2]	% Δ (Wage) [3]	Investment [4]	% Δ (K/L) [5]
% Δ (Credit)	-0.021 (0.019)	0.132 (0.021)	0.008 (0.012)	0.140 (0.049)	0.009 (0.047)
N	619151	619235	615884	619235	619235
F-stat	19.313	19.256	18.277	19.256	19.256
Firm FE	Yes	Yes	Yes	Yes	Yes
<i>spt</i> FE	Yes	Yes	Yes	Yes	Yes

Note: Firm level analysis. The instrument is the interaction of interbank exposure and the post 2006 dummy. The regressions include firm, province $\times$ 2-digits sector $\times$ year fixed effects. Standard errors clustered at the firm level and at the level of the main 2006 bank identifier in parentheses. Kleibergen-Paap rk Wald F statistics of the first stage are reported at the bottom of the Table. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table B.3: Summary statistics by $\widehat{K/L}$ - firm level

	High $\widehat{K/L}$	others	Diff.
interb.	0.133 (0.048)	0.133 (0.066)	0.000 (0.003)
firm age	22.757 (10.533)	18.610 (9.419)	4.147 (0.126)
Southern Italy	0.125 (0.331)	0.173 (0.378)	-0.048 (0.008)
manufacturing	0.477 (0.499)	0.444 (0.497)	0.033 (0.010)
utilities	0.014 (0.117)	0.005 (0.068)	0.009 (0.001)
construction	0.063 (0.243)	0.121 (0.326)	-0.057 (0.003)
services	0.393 (0.488)	0.409 (0.492)	-0.017 (0.010)
size	78.088 (97.554)	20.372 (27.883)	57.717 (1.045)
av. wage	2187.493 (653.746)	1741.015 (534.023)	446.478 (14.246)
net revenues	22939.063 (26586.844)	2656.982 (1978.494)	20282.08 (339.623)
credit/assets	56.339 (34.430)	55.350 (35.335)	0.988 (0.969)
cred. score > 6	0.177 (0.382)	0.270 (0.444)	-0.093 (0.005)
K/L	78.523 (111.313)	48.959 (81.761)	29.564 (1.120)
capital	19990.905 (27469.894)	2580.527 (3293.629)	17410.38 (382.887)
liquidity	0.771 (0.326)	0.642 (0.389)	0.129 (0.003)
leverage	0.757 (0.198)	0.809 (0.238)	-0.051 (0.003)
N	16364	30578	46942

Note: In columns 1 and 2 the table reports the mean of each variable, splitting the sample between high and low $\widehat{K/L}$ firms; standard deviation in parentheses. Column 3 reports the results of a test of the difference in means between the two groups; standard errors clustered at the main 2006 bank level in parentheses. High $\widehat{K/L}$ are firms that lie above the 66th percentile of the distribution of the average $\widehat{K/L}$ between 2002-2006. The variable interb. is the firm's exposure to the interbank market as defined in equation 1. Average wage refers to the average monthly wage paid to employees. Credit score > 6 is an indicator equal to 1 if the Z-score, computed by CERVED—which rates firms' risk of not repaying their debt on a scale from 1 (lowest risk) to 9 (highest risk)—is greater than 6, the threshold identifying risky firms (Rodano, Serrano-Velarde and Tarantino, 2018). Liquidity is measured as undrawn credit line over credit limit. Leverage is measured as (assets-equity)/assets. *** p<0.01, ** p<0.05, * p<0.1.

Table B.4: Effects on credit - loan level regressions

Dep. var:	Log(Credit)	
	[1]	[2]
interb. $\times$ post 2006	-0.841 (0.242)	
interb. $\times$ post 2006 $\times$ high $\widehat{K/L}$	-0.083 (0.313)	0.005 (0.216)
N	1,755,810	1,755,346
Firm-year FE	Yes	Yes
Bank-year FE	No	Yes

Note: Regressions at the loan level on the sample of firms included in the analysis in Table 4). They show that the effect on credit is homogeneous among firms of different $\widehat{K/L}$. The regression in column [1] includes firm-year fixed effects, and in column [2] firm-year and bank-year fixed effects. The variable interb. is banks' exposure to interbank markets (average interbank funding to total assets 2003-2006). Robust standard errors clustered at the banking group level in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table B.5: Firm level evidence. Robustness checks on the definition of K/L and bootstrapping standard errors

Dep var:	% $\Delta(\text{Credit})$ [1]	1=Exit [2]	% $\Delta(\text{Size})$ [3]	% $\Delta(\text{Wage})$ [4]	Investment [5]	% $\Delta(K/L)$ [6]
Panel a: sectoral K/L and 1 digit sector fixed effects						
interb. $\times$ post 2006	-0.394 (0.076)	-0.005 (0.009)	-0.053 (0.014)	-0.009 (0.006)	-0.036 (0.024)	0.017 (0.024)
interb. $\times$ post 2006 $\times$ high K/L sec.	-0.066 (0.079)	0.028 (0.011)	-0.024 (0.014)	0.008 (0.009)	-0.064 (0.038)	-0.040 (0.043)
N	620663	651451	651557	647348	651557	651557
Panel b: bootstrapped standard errors						
interb. $\times$ post 2006	-0.397 (0.046)	-0.002 (0.008)	-0.043 (0.014)	-0.012 (0.007)	-0.029 (0.021)	0.014 (0.020)
interb. $\times$ post 2006 $\times$ high $\widehat{K/L}$	-0.065 (0.071)	0.028 (0.013)	-0.052 (0.028)	0.014 (0.010)	-0.093 (0.034)	-0.041 (0.030)
N	619235	651437	651557	647179	651557	651557
Panel c: continuous $\widehat{K/L}$, bootstrapped standard errors						
interb. $\times$ post 2006	-0.442 (0.048)	-0.010 (0.008)	-0.039 (0.017)	-0.012 (0.008)	-0.019 (0.024)	0.020 (0.024)
interb. $\times$ post 2006 $\times$ cont. $\widehat{K/L}$	0.003 (0.004)	0.002 (0.001)	-0.002 (0.001)	0.001 (0.001)	-0.004 (0.002)	-0.002 (0.002)
N	618902	649839	649945	645725	649945	649945
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
<i>spt</i> FE	Yes	Yes	Yes	Yes	Yes	Yes

Note: Firm level analysis. The variable interb. is the 2006 firm's exposure to the interbank market as defined in equation 1. The dummy exit is equal to 0 for all years a firm operates in the market and 1 for the first year it exits the market. Sample column [1]: only years when receiving credit; sample columns [2], [3], [4], [5] and [6]: only years the firm operates in the market and when balance sheet information is available. The regressions include firm, province $\times$ 2-digit sector $\times$ year fixed effects. Additional controls: a dummy indicating whether the firm was high $\widehat{K/L}$ times post; dummies indicating high leverage and low liquidity firms, interacted with interbank exposure times post (and all corresponding interactions). High leverage is a dummy indicating whether the firm where the workers were employed in 2006 lies in the top tercile of the distribution of the average leverage level between 2002 and 2006; low liquidity is a dummy indicating whether the firm lies in the bottom tercile of the distribution of the average liquidity level between 2002 and 2006. Panel a: high K/L sec. are firms whose sectoral K/L (computed at the 2 digit sector level) lies in the top tercile of the distribution; in this case the regressions include 1 digit- instead of 2 digit-sector fixed effects. Standard errors clustered at the firm level and at the level of the main 2006 bank identifier in parentheses. Panel b: high $\widehat{K/L}$ are firms whose $\widehat{K/L}$ lies in the top tercile of the distribution. Panel c: the regressions use the continuous variable $\widehat{K/L}$ instead of the binary variable high $\widehat{K/L}$. Panels b and c: Bootstrapped standard errors (100 iterations). The bootstrap is performed in two stages (both for the prediction of $\widehat{K/L}$ and the regressions using high or continuous $\widehat{K/L}$) to account for the generated regressor problem. *** p<0.01, ** p<0.05, * p<0.1.

Table B.6: Firm level evidence - heterogeneity by high and low $\widehat{K/L}$ with 2SLS

Dep var:	1=Exit [1]	% $\Delta(\text{Size})$ [2]	% $\Delta(\text{Wage})$ [3]	Investment [4]	% $\Delta(K/L)$ [5]
% $\Delta(\text{Credit})$	-0.009 (0.023)	0.107 (0.021)	0.013 (0.012)	0.086 (0.052)	-0.021 (0.051)
% $\Delta(\text{Credit}) \times \text{high } \widehat{K/L}$	-0.046 (0.024)	0.081 (0.042)	-0.022 (0.024)	0.178 (0.052)	0.096 (0.055)
N	619151	619235	615884	619235	619235
F-stat	10.784	10.739	10.452	10.739	10.739
Firm FE	Yes	Yes	Yes	Yes	Yes
<i>spt</i> FE	Yes	Yes	Yes	Yes	Yes

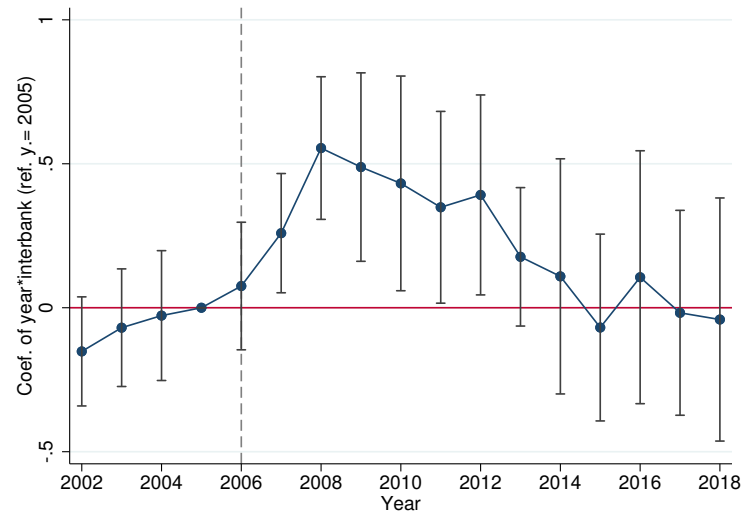
Note: Firm level analysis. Sample of firm-years for which the first stage is defined and for which balance sheet information is available. % $\Delta(\text{Credit})$ and % $\Delta(\text{Credit}) \times \text{high } \widehat{K/L}$ are instrumented with $\text{interb.} \times \text{post } 2006$ and $\text{interb.} \times \text{post } 2006 \times \text{high } \widehat{K/L}$ as defined in equation 1. High $\widehat{K/L}$ if the firm lied above the 66th percentile of the distribution of the average $\widehat{K/L}$ between 2002 and 2006. The regressions include firm, province $\times$ 2-digit sector $\times$ year fixed effects. Additional controls: a dummy indicating whether the firm was high $\widehat{K/L}$ times post; dummies indicating high leverage and low liquidity firms, interacted with interbank exposure times post (and all corresponding interactions). High leverage is a dummy indicating whether the firm where the workers were employed in 2006 lies in the top tercile of the distribution of the average leverage level between 2002 and 2006; low liquidity is a dummy indicating whether the firm lies in the bottom tercile of the distribution of the average liquidity level between 2002 and 2006. Standard errors clustered at the firm level and at the level of the main 2006 bank identifier in parentheses. Kleibergen-Paap rk Wald F statistics of the first stage are reported at the bottom of the Table. *** p<0.01, ** p<0.05, * p<0.1.

Table B.7: Direct and spillover effects

Dep. var:	% $\Delta(\text{Size})$ [1]
Direct effect	
interb. _{<i>f</i>} × post 2006	-0.048 (0.012)
Spillover effect	
interb. _{<i>sp(f)</i>} × post 2006	-0.207 (0.123)
N	651557
Firm FE	Yes
<i>spt</i> FE	Yes

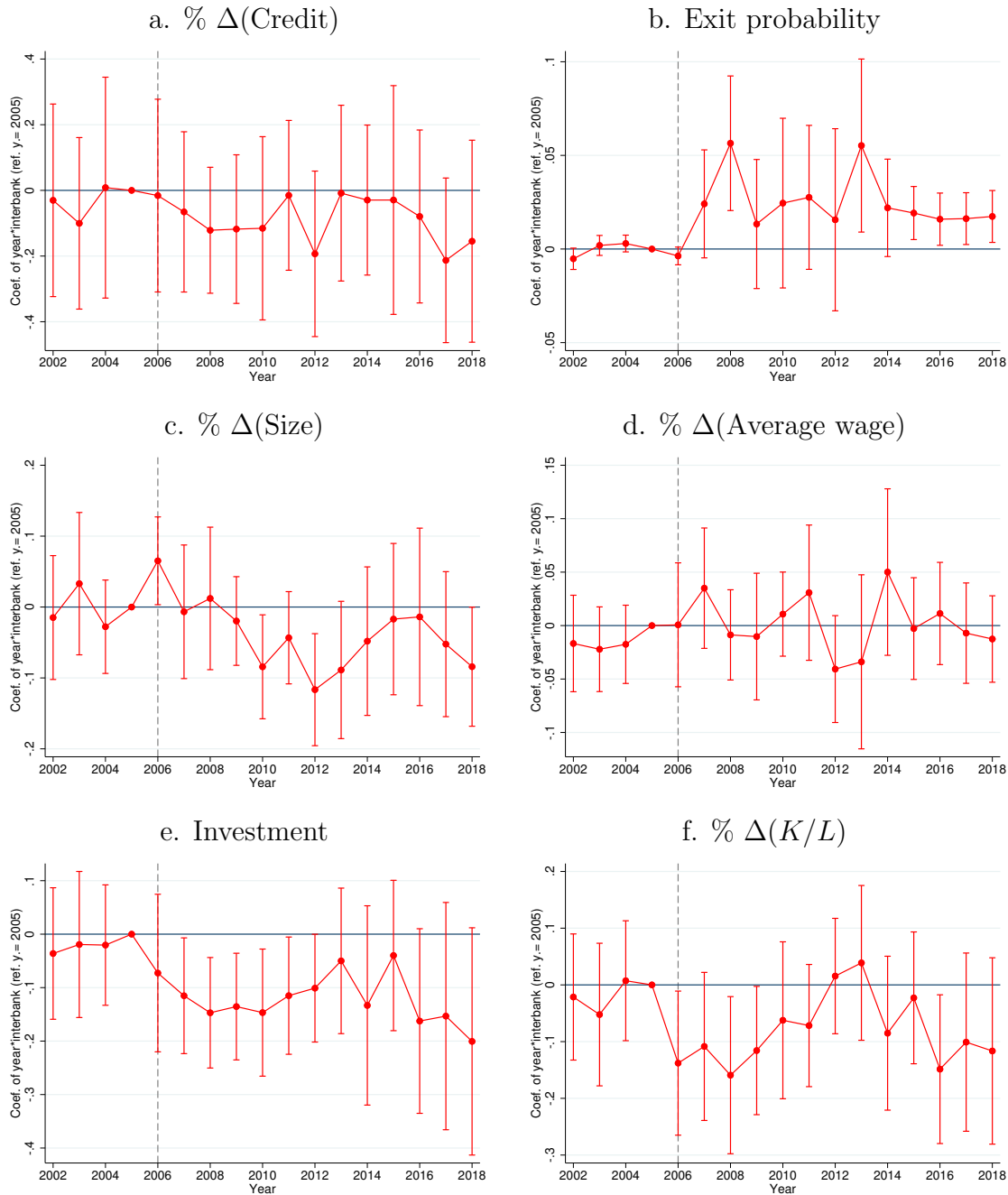
Note: Firm level analysis. The sample includes only years the firm operates in the market, when balance sheet information is available and for which the leave-out mean $\overline{interb}_{sp(f)}$ can be computed. The variable interb. is firm's *f* exposure to the interbank market as defined in equation 1. The leave-out mean is the average exposure to the interbank market of all other firms in the same province-2 digit sector as firm *f* (excluding the exposure of firm *f*), weighted by firm sales. The regressions include firm and 2-digit sector×province×year fixed effects. Standard errors clustered at the firm level and at the level of the main 2006 bank identifier in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Figure B.1: Effect on firms' Z-score



Note: Firm level analysis. The dependent variable is the CERVED Z-score—a discrete indicator of firm-level credit risk, where higher values (1 to 9) indicate a higher credit risk. The graph displays coefficients of the interactions of firms' exposure to the interbank market with year dummies. Vertical bars represent 95% confidence intervals. Interbank is defined in equation 1. Additional controls: firm and province $\times$ 2-digit sector $\times$ year fixed effects. Standard errors clustered at the firm and at the level of the main 2006 bank identifier in parentheses.

Figure B.2: Effect on firm level variables, interaction by initial capital intensity



Note: Firm level analysis. The graph displays coefficients of the triple interactions of firms' exposure to the interbank market with year dummies and with an indicator for whether the firm is high $\widehat{K/L}$. Vertical bars represent 95% confidence intervals. Interbank is defined in equation 1. High $\widehat{K/L}$ if the firm's average $\widehat{K/L}$ in 2002-2006 is above the 66th percentile. The regressions include firm, province $\times$ 2-digit sector $\times$ year fixed effects. Additional controls: a dummy indicating whether the firm was high $\widehat{K/L}$ times post; dummies indicating high leverage and low liquidity firms, interacted with interbank exposure times post (and all corresponding interactions). High leverage is a dummy indicating whether the firm where the workers were employed in 2006 lies in the top tercile of the distribution of the average leverage level between 2002 and 2006; low liquidity is a dummy indicating whether the firm lies in the bottom tercile of the distribution of the average liquidity level between 2002 and 2006. Standard errors clustered at the firm level and at the level of the main 2006 bank identifier in parentheses.

C. Appendix C - Robustness checks and additional results for the worker level analysis

Table C.1: Robustness - worker level evidence

Dep var:	Earnings	N days worked		Log daily wage	
		2006 firm (0 if moving)	any firm	any firm	if they stay (. if moving)
	[1]	[2]	[3]	[4]	[5]
Panel a: Sector 2d×year FE and province×year FE					
interb.×post 2006	-1776.548 (838.985)	-42.035 (11.917)	-15.579 (5.012)	-0.025 (0.017)	-0.003 (0.022)
N	1877532	1877532	1877532	1686219	1317708
Worker FE	Yes	Yes	Yes	Yes	Yes
<i>st, pt</i> FE	Yes	Yes	Yes	Yes	Yes
Panel b: All workers in the 2006 firm for at least 100 days between 2003 and 2005					
interb.×post 2006	-2365.301 (973.189)	-28.789 (12.908)	-24.203 (7.047)	-0.005 (0.017)	0.008 (0.019)
N	2461886	2461886	2461886	2140792	1558378
Worker FE	Yes	Yes	Yes	Yes	Yes
<i>spt</i> FE	Yes	Yes	Yes	Yes	Yes

Note: Worker level analysis. Panel a includes worker, province (of the 2006 firm)×year, sector (2 digit, of the 2006 firm)×year fixed effects; panel b includes worker, sector (2 digit, of the 2006 firm)×province (of the 2006 firm)×year fixed effects (as in the baseline regressions) and enlarges the sample to all workers employed by the 2006 firm for at least 100 days in the 3 years previous to the shock (instead of 600 days). All regressions control additionally for tenure categories in 2006 interacted with a linear and a quadratic trend. Sample columns [1], [2] and [3]: all individuals employed in 2006; sample column [4] all individuals employed; sample column [5]: all individuals employed in the same firms as in 2006. The variable *interb.* is the 2006 firm's exposure to the interbank market as defined in equation 1. Standard errors are clustered at the worker level and at the level of the main 2006 bank of the firms where these workers were employed in 2006. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table C.2: Allocation after the shock - Earnings decomposition by $\widehat{K/L}$

	Overall		Movers			
	Any	2006	higher		lower	
	firm	firm	$\widehat{K/L}$		$\widehat{K/L}$	
	[1]	=	[2]	+	[3]	+ [4]
Panel a: Baseline						
interb. $\times$ post 2006	-2109.794	-3638.261	-626.593		2155.061	
	(1059.752)	(1174.728)	(921.906)		(1203.583)	
N	1864687	1864687	1864687		1864687	
Panel b: Interacting by $\widehat{K/L}$						
interb. $\times$ post 2006	-239.428	494.133	-860.407		126.846	
	(1049.287)	(2156.581)	(1162.027)		(1627.088)	
interb. $\times$ post 2006 $\times$ high $\widehat{K/L}$	-3221.245	-8680.951	638.391		4821.315	
	(1861.393)	(3648.204)	(2039.317)		(3239.281)	
N	1850325	1850325	1850325		1850325	
Worker FE	Yes	Yes	Yes		Yes	
spt FE	Yes	Yes	Yes		Yes	

Note: Worker level analysis. The sum of the coefficients of columns [2], [3] and [4] gives the coefficient displayed in column [1]. The dependent variable is in column [1] overall labor earnings (and in column [1] of Table 5); in column [2] labor earnings earned working in the 2006 firm (or 0 if earned working in a different firm); in column [3] labor earnings earned working in firms different from the 2006 firm and with higher $\widehat{K/L}$ relative to the 2006 firm (and 0 otherwise); in column [4] labor earnings earned working in firms different from the 2006 firm and with lower $\widehat{K/L}$ relative to the 2006 firm (and 0 otherwise). In the few cases when workers relocate to firms for which we could not compute $\widehat{K/L}$ because they were small firms with missing balance sheet information, we assume that these firms have lower $\widehat{K/L}$ than the 2006 firm (this assumption does not drive the results). Interbank is the 2006 firm's exposure to the interbank market as defined in equation 1. High $\widehat{K/L}$ if the 2006 firm lies in the top tercile of the distribution of the average $\widehat{K/L}$ in 2002-2006. Additional controls in panel a: worker fixed effects; 2-digit sector s (of the 2006 firm) $\times$ province p (of the 2006 firm) $\times$ year y fixed effects and tenure categories in 2006 interacted with a linear and a quadratic trend. Additional controls in panel b: worker fixed effects; 2-digit sector s (of the 2006 firm) $\times$ province p (of the 2006 firm) $\times$ year y fixed effects; tenure categories in 2006 interacted with a linear and a quadratic trend; years $\times$ a dummy indicating whether the firm was high $\widehat{K/L}$; dummies indicating high leverage and low liquidity firms, interacted with interbank exposure times post (and all corresponding interactions). High leverage is a dummy indicating whether the firm where the workers were employed in 2006 lies in the top tercile of the distribution of the average leverage level between 2002 and 2006; low liquidity is a dummy indicating whether the firm lies in the bottom tercile of the distribution of the average liquidity level between 2002 and 2006. Standard errors are clustered at the worker level and at the level of the main 2006 bank of the firm where the workers were employed in 2006.

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

Table C.3: Responses at the extensive and intensive margin - worker level evidence

Dep var:	<i>Extensive margin</i>			<i>Intensive margin</i>	
	Employed any firm [1]	Employed 2006 firm [2]	Retired [3]	Days worked if empl. [4]	Part time if empl. [5]
interb. $\times$ post 2006	-0.032 (0.025)	0.024 (0.073)	-0.006 (0.007)	-8.179 (4.000)	0.003 (0.026)
interb. $\times$ post 2006 $\times$ high $\widehat{K/L}$	-0.035 (0.035)	-0.297 (0.104)	0.039 (0.016)	1.376 (6.723)	-0.051 (0.041)
N	1850325	1850325	1850325	1662827	1662753
Worker FE	Yes	Yes	Yes	Yes	Yes
<i>spt</i> FE	Yes	Yes	Yes	Yes	Yes

Note: Worker level analysis. Sample columns [1], [2] and [3]: all individuals employed in 2006; sample columns [4] and [5] all employed individuals. The variable interb. is the 2006 firm's exposure to the interbank market as defined in equation 1. The regressions include worker, 2-digit sector s (of the 2006 firm) $\times$ province p (of the 2006 firm) $\times$ year y fixed effects and controls for tenure categories in 2006 interacted with a linear and quadratic trend. Standard errors are clustered at the worker level and at the level of the main 2006 bank of the firms where these workers were employed in 2006. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure C.1: Effect on workers' earnings, days worked and daily wages interaction by $\widehat{K/L}$ 

Note: Worker level analysis. The graph displays coefficients of the triple interactions of exposure to interbank of the firms where the worker was employed in 2006 times year dummies times an indicator for high $\widehat{K/L}$. A firm is considered high $\widehat{K/L}$ if the average $\widehat{K/L}$ was above the 66th percentile of its distribution. Vertical bars represent 95% confidence intervals. Interbank is defined in equation 1. Additional controls: worker fixed effects; 2-digit sector s (of the 2006 firm) $\times$ province p (of the 2006 firm) $\times$ year y fixed effects; tenure categories in 2006 interacted with a linear and a quadratic trend; years $\times$ a dummy indicating whether the firm was high $\widehat{K/L}$; dummies indicating high leverage and low liquidity firms, interacted with interbank exposure times post (and all corresponding interactions). High leverage is a dummy indicating whether the firm where the workers were employed in 2006 lies in the top tercile of the distribution of the average leverage level between 2002 and 2006; low liquidity is a dummy indicating whether the firm lies in the bottom tercile of the distribution of the average liquidity level between 2002 and 2006. Standard errors are clustered at the worker level and at the level of the main 2006 bank of the firm where the workers were employed in 2006.

D. Appendix D - Decomposing earnings losses

To assess how much of the drop in yearly earnings is due to a reduction in the number of days worked per year or a reduction in daily wages (for those who work), we perform a decomposition in the spirit of Schmieder, von Wachter and Heining (2023).

The change in earnings between year t and the base year (2006) $\Delta E_t = E_t - E_{06}$ can be written as:

$$\Delta E_t = \Delta L_t * w_{06} + \Delta w_t * L_{06} + \Delta L_t \Delta w_t. \quad (\text{D.1})$$

The first term denotes the contribution of changes in days worked, keeping wages fixed at the 2006 level; the second term denotes the role of changes in wages (for those who work) keeping days fixed at the 2006 level. The third term is an interaction term, which indicates whether those who experience greater losses in days worked also experience greater losses in daily wages. A negative value of the interaction term suggests that workers who experience larger losses in days worked per year experience smaller losses in daily wages.

Figure D.1 applies this decomposition to our difference-in-differences framework for all workers. It plots the overall effect and the contribution of days worked and of the wage and interaction effect (collapsed together). The graph shows that the change in days worked accounts for roughly two-thirds of the loss in labor earnings.

Figure D.1: Decomposing earnings losses



Note: Worker level analysis. Interactions of 2006 exposure to interbank of the firms where the worker was employed in 2006 with year dummies. The overall size of the bars is the earnings loss of workers. The red bars use as dependent variable $L_t w_{06}$ and display the effect of changes in days (L_t) keeping wages fixed at the value in 2006 (w_{06}); the light blue bars indicate the difference between the overall effect and the effect due to wages (the effect of wages and interaction/selection effect). Usual controls.

References

Schmieder, J., T. von Wachter, and J. Heining (2023). The Costs of Job Displacement over the Business Cycle and its Sources: Evidence from Germany. *American Economic Review*, 113(5): 1208-54.