Credit Supply and Monetary Policy:

Identifying the Bank Balance-Sheet Channel with Loan Applications

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Web Appendix

APPENDIX A -- NUMBER OF A LOAN APPLICATIONS AND PROBABILITY THE LOAN APPLICATION IS GRANTED

Panel A -- BY BANK AND FIRM CAPITAL RATIO

Bank capital ratio, percentiles	Firm capital ratio, percentiles					
	[0%-25%[	[25%-50%[	[50%-75%[	[75%-95%[	[95%-100%]	*Total Firms*
[0%-25%[	52,023	52,392	51,219	38,779	9,772	204,185
	(43.98)	(44.23)	(43.46)	(42.13)	(39.94)	(43.37)
[25%-50%[	51,685	52,450	51,916	38,979	8,973	204,003
	(43.36)	(43.83)	(43.79)	(41.03)	(34.96)	(42.78)
[50%-75%[	49,056	49,703	51,064	42,731	10,764	203,318
	(41.9)	(43.44)	(43.49)	(41.81)	(38.29)	(42.47)
[75%-95%[	40,434	39,268	40,294	35,088	9,358	164,442
	(41.35)	(42.89)	(43.11)	(42.)	(37.25)	(42.06)
[95%-100%]	11,012	10,401	9,722	7,793	1,976	40,904
	(36.64)	(39.39)	(39.5)	(37.62)	(33.81)	(38.07)
Total Banks	204,210	204,214	204,215	163,370	40,843	816,852
	(42.41)	(43.43)	(43.29)	(41.54)	(37.5)	(42.47)

Panel B -- BY BANK AND FIRM TOTAL ASSETS

Bank total assets, percentiles	Firm total assets, percentiles					
	[0%-25%[	[25%-50%[	[50%-75%[	[75%-95%[	[95%-100%]	*Total Firms*
[0%-25%[	54,919	50,170	48,251	39,802	11,086	204,228
	(52.9)	(46.09)	(39.89)	(34.69)	(31.24)	(43.43)
[25%-50%[	45,820	48,023	51,525	45,703	13,204	204,275
	(50.38)	(44.97)	(40.5)	(35.5)	(30.99)	(42.03)
[50%-75%[	45,970	51,035	54,140	42,862	9,699	203,706
	(48.16)	(42.98)	(39.24)	(34.9)	(30.38)	(40.85)
[75%-95%[	46,754	43,473	39,558	28,167	5,797	163,749
	(52.81)	(46.51)	(41.85)	(36.41)	(29.79)	(44.85)
[95%-100%]	10,728	11,530	10,734	6,847	1,055	40,894
	(43.12)	(40.49)	(37.12)	(30.47)	(27.49)	(38.28)
Total Banks	204,191	204,231	204,208	163,381	40,841	816,852
	(50.73)	(44.82)	(40.1)	(35.09)	(30.65)	(42.47)

Notes: The table reports the number of loan applications and below between brackets the probability (%) the loan application is granted, by bank and firm size percentiles. The number of observations equals 816,852.

	Units	Definition	Mean	SD	Min	P25	Median	P75	Max
Loan characteristics (l)									
SIZE OF THE LOAN DRAWN$_{lt}$	000 EUR	The loan amount that is granted	150.54	779.69	0	9	32	100	100,000
SIZE OF THE LOAN COMMITTED$_{lt}$	000 EUR	The loan amount that is committed	245.89	1,096.72	1	30	61	170	100,000
COLLATERAL$_{lt}$	0/1	=1 if the loan is collateralized, =0 otherwise	0.12	0.32	0	0	0	0	1
COMMERCIAL & FINANCIAL CREDIT$_{lt}$	0/1	=1 if the loan is either a commercial or financial credit, =0 otherwise. Financial credit includes all loans that are not used to finance the production of goods or services	0.89	0.32	0	1	1	1	1
MATURITY 0m.-1y.$_{lt}$	0/1	=1 if the loan matures between 3 months and 1 year, =0 otherwise	0.69	0.46	0	0	1	1	1
MATURITY 1y.-5y.$_{lt}$	0/1	=1 if the loan matures between 1 year and 5 years, =0 otherwise	0.22	0.42	0	0	0	0	1
CURRENCY$_{lt}$	0/1	=1 if the loan is granted in euros	0.9968	0.0562	0	1	1	1	1

Notes: The number of loans equals 346,884.

APPENDIX C -- MEAN LOAN CHARACTERISTICS, BY FIRM TOTAL ASSETS

Loan characteristics	Firm total assets, percentiles				
	[0%-25%[	[25%-50%[	[50%-75%[	[75%-95%[	[95%-100%]
SIZE OF THE LOAN DRAWN$_{lt}$	41	66	108	245	957
SIZE OF THE LOAN COMMITTED$_{lt}$	59	99	173	403	1,651
COLLATERAL$_{lt}$	0.11	0.12	0.12	0.13	0.13
COMMERCIAL & FINANCIAL CREDIT$_{lt}$	0.88	0.88	0.89	0.89	0.90
MATURITY 0m.-1y.$_{lt}$	0.63	0.69	0.72	0.74	0.73
MATURITY 1y.-5y.$_{lt}$	0.26	0.22	0.20	0.20	0.25
CURRENCY$_{lt}$	0.9988	0.9974	0.9959	0.9952	0.9952

Notes: The number of loans equals 346,884.

APPENDIX D -- SUMMARY STATISTICS FOR ALL THE LOAN GRANTING SAMPLES THAT ARE STUDIED IN TABLES 2 AND 3

Number of Observations =	816,852		328,891		263,042		427,364		55,025	
Variable	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Dependent variable										
LOAN APPLICATION IS GRANTED$_{ibt}$	0.42	0.49	0.37	0.48	0.24	0.43	0.35	0.48	0.43	0.49
Independent Variables										
Macroeconomic conditions (t)										
ΔIR_t	0.19	0.83	0.40	0.76	0.39	0.76	-0.28	1.53	0.39	0.77
ΔGDP_t	3.13	0.93	3.08	1.03	3.04	1.07	1.71	2.71	3.20	0.93
ΔCPI_t	3.33	0.77	3.40	0.84	3.41	0.85	2.68	1.56	3.35	0.81
Bank characteristics (b)										
BANK CAPITAL RATIO$_{bt-1}$	5.37	2.07	5.40	2.07	5.40	2.07	5.43	2.08	5.46	1.98
BANK LIQUIDITY RATIO$_{bt-1}$	17.02	8.03	15.71	7.83	15.69	7.79	14.90	7.53	15.47	7.60
Ln(TOTAL ASSETS$_{bt-1}$)	17.39	1.47	17.35	1.46	17.37	1.45	17.49	1.47	17.39	1.52
TOTAL ASSETS$_{bt-1}$	78.00	87.60	77.00	92.10	78.20	93.10	89.20	107.00	83.00	94.90
ROA$_{bt-1}$	0.94	0.55	0.97	0.54	0.97	0.55	0.90	0.52	0.99	0.54
DOUBTFUL LOANS RATIO$_{bt-1}$	0.83	0.85	0.89	0.90	0.90	0.92	1.69	1.93	0.85	0.86
HERFINDAHL BY INDUSTRY$_{bt-1}$	26.35	8.86	28.24	9.31	28.16	9.29	27.90	8.84	28.13	9.26
Firm characteristics (i)										
FIRM CAPITAL RATIO$_{it-1}$	24.52	20.73								
FIRM LIQUIDITY RATIO$_{it-1}$	41.14	26.91								
TOTAL ASSETS$_{it-1}$	6.98	75.95								
Ln(TOTAL ASSETS$_{it-1}$)	7.26	1.62								
AGE$_{it-1}$	10.30	9.25								
Ln(1+AGE$_{it-1}$)	2.10	0.86								
ROA$_{it-1}$	6.46	9.74								
I(DOUBTFUL LOANS AT THE TIME OF THE REQUEST$_{it-1}$)	0.01	0.09								
I(DOUBTFUL LOANS BEFORE THE TIME OF THE REQUEST$_{it-1}$)	0.09	0.29								
NUMBER OF MONTHS WITH THE BANK$_{ibt-1}$	7.84	23.48	3.93	16.81	3.92	16.79	4.86	19.40	1.52	9.71
Ln(1+NUMBER OF MONTHS WITH THE BANK$_{ibt-1}$)	0.63	1.36	0.33	1.03	0.33	1.02	0.38	1.11	0.15	0.68
NUMBER OF BANK RELATIONSHIPS$_{ibt-1}$	3.90	3.66	3.68	4.12	3.57	4.00			0.00	0.00
Ln(1+NUMBER OF BANK RELATIONSHIPS$_{ibt-1}$)	1.35	0.65	1.23	0.80	1.21	0.78			0.00	0.00
Industry characteristic (s)										
INDUSTRY DOUBTFUL LOANS RATIO$_{st-1}$	0.91	0.60	0.84	0.63	0.84	0.66			0.74	0.56
Province characteristic (p)										
NUMBER OF BANKS$_{pt-1}$	116.52	32.52	119.19	32.60	119.21	32.68			116.64	32.77
Ln(NUMBER OF BANKS$_{pt-1}$)	4.72	0.29	4.74	0.29	4.74	0.29			4.72	0.30

Notes: There are no firm characteristics for the columns 2 to 5 as these samples are drawn directly from the 2,335,321 observation dataset.

APPENDIX E -- REGRESSION RESULTS, LOAN GRANTING AND MONETARY CONDITIONS: AGGREGATION AND CLUSTERING
(*dependent variable: LOAN APPLICATION IS GRANTED $_{ibt}$*)

Model	(1)		(2)		(3)		(4)	
Model feature of interest	Quarterly aggregation		Bank-firm-month clustering		Bank-firm-month clustering		Bank-firm-month clustering	
Independent variable	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.
Macroeconomic controls (t)								
ΔIR_t	-5.802	0.948 ***	-5.960	1.290 ***				
ΔIR_t*BANK CAPITAL RATIO$_{bt-1}$	35.046	10.142 ***	33.384	16.351 **	28.566	12.051 **	30.081	13.520 **
ΔIR_t*BANK LIQUIDITY RATIO$_{bt-1}$	14.989	2.916 ***	15.396	3.859 ***	11.548	3.529 ***	12.269	4.021 ***
ΔGDP_t	6.255	0.716 ***	6.769	1.198 ***				
ΔGDP_t*BANK CAPITAL RATIO$_{bt-1}$	-28.368	8.153 ***	-28.580	11.230 **	-31.426	8.125 ***	-37.078	9.041 ***
ΔGDP_t*BANK LIQUIDITY RATIO$_{bt-1}$	-5.591	2.939 *	-3.340	5.334	-1.602	2.849	-1.877	3.291
ΔCPI_t	-0.357	0.279	-0.027	0.219				
Bank characteristics (b)								
BANK CAPITAL RATIO$_{bt-1}$	0.145	0.262	0.225	0.479	0.308	0.289	0.389	0.312
BANK LIQUIDITY RATIO$_{bt-1}$	0.108	0.097	0.032	0.167	-0.075	0.110	-0.062	0.125
LN(TOTAL ASSETS$_{bt-1}$)	0.001	0.001	0.001	0.005	-0.001	0.003	-0.003	0.004
ROA$_{bt-1}$	0.739	0.410 *	0.473	0.774	1.252	0.628 **	1.355	0.681 **
DOUBTFUL LOANS RATIO$_{bt-1}$	0.432	0.222 *	0.355	0.429	0.158	0.346	0.136	0.360
HERFINDAHL BY INDUSTRY$_{bt-1}$	0.065	0.024 ***	0.057	0.071	0.016	0.048	0.018	0.051
Firm characteristics (i)								
FIRM CAPITAL RATIO$_{it-1}$	0.016	0.009 *	0.015	0.011				
FIRM LIQUIDITY RATIO$_{it-1}$	-0.002	0.005	-0.003	0.005				
Ln(TOTAL ASSETS$_{it-1}$)	0.001	0.002	0.000	0.003				
Ln(1+AGE$_{it-1}$)	0.023	0.007 ***	0.018	0.007 **				
ROA$_{it-1}$	0.083	0.010 ***	0.083	0.013 ***				
I(DOUBTFUL LOANS AT THE TIME OF THE REQUEST$_{it-1}$)	-0.110	0.009 ***	-0.092	0.009 ***				
I(DOUBTFUL LOANS BEFORE THE TIME OF THE REQUEST$_{it-1}$)	-0.042	0.007 ***	-0.037	0.009 ***				
LN(1+NUMBER OF MONTHS WITH THE BANK$_{ibt-1}$)	0.006	0.001 ***	0.007	0.001 ***	0.010	0.002 ***	0.013	0.002 ***
Ln(1+NUMBER OF BANK RELATIONSHIPS$_{ibt-1}$)	-0.163	0.004 ***	-0.162	0.007 ***				
Industry characteristic (s)								
INDUSTRY DOUBTFUL LOANS RATIO$_{st-1}$	-0.707	0.194 ***	-0.712	0.274 ***				
Province characteristic (p)								
LN(NUMBER OF BANKS$_{pt-1}$)	0.108	0.018 ***	0.110	0.021 ***				
Firm Fixed Effects	yes		yes		--		--	
Month Fixed Effects	no		no		--		--	
Firm-Month Fixed Effects	no		no		yes		no	
Loan Fixed Effects	no		no		no		yes	
Number of Observations	791,693		816,852		328,891		263,042	
Number of Bank-Quarter Clusters	3,720		--		--		--	
Number of Bank-Firm-Month Clusters	--		267,885		103,723		88,680	
Sample Period	2002:I-2008:IV		2002:02-2008:12		2002:02-2008:12		2002:02-2008:12	

Notes : The table reports the estimated coefficients and robust standard errors (S.E.) clustered at the indicated level from linear probability models estimated using least squares. Fixed effects are included ("yes"), not included ("no"), or comprised by another set of fixed effects that are included ("--"). The set of month fixed effects includes a fixed effect for every (but one) year:month during the sample period. The variable definitions and summary statistics are in Table 1.

   *** Significant at the 1 percent level.

   ** Significant at the 5 percent level.

   * Significant at the 10 percent level.

APPENDIX F -- REGRESSION RESULTS, LOAN GRANTING AND MONETARY CONDITIONS: CONCENTRATION IN THE LOCAL BANKING MARKET
(*dependent variable: LOAN APPLICATION IS GRANTED $_{ibt}$*)

Model	(1)		(2)		(3)		(4)	
Variable	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Macroeconomic controls (t)								
ΔIR_t	-1.572	0.255 ***	-6.137	0.628 ***	-5.379	1.446 ***		
ΔIR_t*HERFINDAHL OF BANKING MARKET$_{pt-1}$					-10.218	15.971		
ΔIR_t*BANK CAPITAL RATIO$_{bt-1}$			33.112	6.978 ***	12.630	17.442	21.978	20.517
ΔIR_t*BANK CAPITAL RATIO$_{bt-1}$*HERFINDAHL OF BANKING MARKET$_{pt-1}$					280.200	197.300	103.400	251.900
ΔIR_t*BANK LIQUIDITY RATIO$_{bt-1}$			15.429	1.955 ***	24.724	4.492 ***	21.537	6.085 ***
ΔIR_t*BANK LIQUIDITY RATIO$_{bt-1}$*HERFINDAHL OF BANKING MARKET$_{pt-1}$					-121.900	49.100 **	-136.400	74.700 *
ΔGDP_t	4.735	0.257 ***	6.805	0.553 ***	5.883	1.222 ***		
ΔGDP_t*HERFINDAHL OF BANKING MARKET$_{pt-1}$					12.041	13.804		
ΔGDP_t*BANK CAPITAL RATIO$_{bt-1}$			-28.726	6.726 ***	1.810	16.082	-25.063	16.857
ΔGDP_t*BANK CAPITAL RATIO$_{bt-1}$*HERFINDAHL OF BANKING MARKET$_{pt-1}$					-405.100	188.000 **	-91.500	222.000
ΔGDP_t*BANK LIQUIDITY RATIO$_{bt-1}$			-3.521	2.437	-11.917	4.896 **	-20.128	5.463 ***
ΔGDP_t*BANK LIQUIDITY RATIO$_{bt-1}$*HERFINDAHL OF BANKING MARKET$_{pt-1}$					111.900	51.200 **	253.200	69.500 ***
ΔCPI_t	-0.067	0.183	-0.012	0.183	-0.008	0.183		
Characteristics of the bank (b)								
BANK CAPITAL RATIO$_{bt-1}$	-0.669	0.058 ***	0.231	0.218	-0.966	0.513 *	-0.244	0.539
BANK LIQUIDITY RATIO$_{bt-1}$	-0.069	0.017 ***	0.038	0.081	0.396	0.160 **	0.549	0.175 ***
LN(TOTAL ASSETS$_{bt-1}$)	0.000	0.001	0.000	0.001	0.001	0.001	-0.001	0.001
ROA$_{bt-1}$	0.439	0.276	0.463	0.268 *	0.453	0.268 *	1.251	0.233 ***
DOUBTFUL LOANS RATIO$_{bt-1}$	0.296	0.154 *	0.347	0.151 **	0.345	0.151 **	0.149	0.145
HERFINDAHL BY INDUSTRY$_{bt-1}$	0.029	0.016 *	0.055	0.016 ***	0.058	0.016 ***	0.018	0.015
Firm characteristics (i)								
FIRM CAPITAL RATIO$_{it-1}$	0.014	0.009	0.014	0.009	0.013	0.009		
FIRM LIQUIDITY RATIO$_{it-1}$	-0.003	0.005	-0.003	0.005	-0.003	0.005		
Ln(TOTAL ASSETS$_{it-1}$)	0.000	0.002	0.000	0.002	0.000	0.002		
Ln(1+AGE$_{it-1}$)	0.017	0.005 ***	0.016	0.005 ***	0.016	0.005 ***		
ROA$_{it-1}$	0.083	0.010 ***	0.084	0.010 ***	0.084	0.010 ***		
I(DOUBTFUL LOANS AT THE TIME OF THE REQUEST$_{it-1}$)	-0.092	0.009 ***	-0.092	0.009 ***	-0.092	0.009 ***		
I(DOUBTFUL LOANS BEFORE THE TIME OF THE REQUEST$_{it-1}$)	-0.037	0.007 ***	-0.037	0.007 ***	-0.037	0.007 ***		
LN(1+NUMBER OF MONTHS WITH THE BANK$_{ibt-1}$)	0.006	0.001 ***	0.007	0.001 ***	0.006	0.001 ***	0.010	0.001 ***
Ln(1+NUMBER OF BANK RELATIONSHIPS$_{ibt-1}$)	-0.163	0.003 ***	-0.162	0.003 ***	-0.162	0.003 ***		
Industry characteristics (s)								
INDUSTRY DOUBTFUL LOANS RATIO$_{st-1}$	-0.598	0.194 ***	-0.712	0.192 ***	-0.701	0.192 ***		
Province characteristics (p)								
HERFINDAHL OF BANKING MARKET$_{pt-1}$	-0.205	0.077 ***	-0.224	0.078 ***	-0.583	0.442		
HERFINDAHL OF BANKING MARKET$_{pt-1}$ * BANK CAPITAL RATIO$_{bt-1}$					15.892	6.041 ***	7.573	7.140
HERFINDAHL OF BANKING MARKET$_{pt-1}$ * BANK LIQUIDITY RATIO$_{bt-1}$					-4.714	1.650 ***	-8.520	2.236 ***
Firm Fixed Effects	yes		yes		yes		no	
Firm-Month Fixed Effects	no		no		no		yes	
No. Observations	816,852		816,852		816,852		328,891	
Number of Bank-Month Clusters	9,910		9,910		9,910		8,714	
Sample Period	2002:02-2008:12		2002:02-2008:12		2002:02-2008:12		2002:02-2008:12	

Notes: The table reports the estimated coefficients and robust standard errors (S.E.) clustered at the bank-month level from linear probability models. The linear model is estimated using least squares. The variable definitions are in Table 1.

*** Significant at the 1 percent level.
** Significant at the 5 percent level.
* Significant at the 10 percent level.

Model	(1)		(2)		(3)		(4)		(5)		(6)		(7)	
Model feature of interest	Bank fixed effects		Bank fixed effects		Logit		Bank capital > 4%		Interactions with all bank characteristics		No interactions with ΔGDP		Number of loans with the bank	
Variable	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Macroeconomic controls (t)														
ΔIR_t														
ΔIR_t*BANK CAPITAL RATIO$_{bt-1}$	16.201	5.770 ***	16.366	6.937 **	154.363	35.008 ***	47.726	8.316 ***	39.330	7.688 ***	17.170	6.486 ***	28.560	6.822 ***
ΔIR_t*BANK LIQUIDITY RATIO$_{bt-1}$	10.599	1.828 ***	7.276	2.103 ***	55.824	10.015 ***	14.693	2.355 ***	9.193	2.169 ***	11.170	1.864 ***	11.545	2.019 ***
ΔGDP_t														
ΔGDP_t*BANK CAPITAL RATIO$_{bt-1}$	-29.178	5.193 ***	-33.333	5.469 ***	-157.667	30.762 ***	-4.799	7.271	-50.218	6.792 ***			-31.428	5.669 ***
ΔGDP_t*BANK LIQUIDITY RATIO$_{bt-1}$	-5.200	1.898 ***	-3.880	1.706 **	-6.323	10.772	-7.161	2.222 ***	0.446	2.255			-1.602	2.035
ΔCPI_t														
Characteristics of the bank (b)														
BANK CAPITAL RATIO$_{bt-1}$	0.687	0.235 ***	1.327	0.253 ***	1.511	1.003	-0.214	0.234	0.853	0.220 ***	-0.653	0.057 ***	0.308	0.184 *
BANK LIQUIDITY RATIO$_{bt-1}$	0.132	0.069 *	0.089	0.063	-0.411	0.354	0.121	0.071 *	-0.135	0.073 *	-0.121	0.017 ***	-0.074	0.066
LN(TOTAL ASSETS$_{bt-1}$)	-0.023	0.010 **	-0.022	0.012 *	-0.005	0.004	-0.002	0.001 **	0.013	0.003 ***	-0.001	0.001	-0.001	0.001
ROA$_{bt-1}$	-0.027	0.230	-0.316	0.268	6.303	1.163 ***	2.049	0.268 ***	-2.302	1.134 **	1.242	0.233 ***	1.251	0.233 ***
DOUBTFUL LOANS RATIO$_{bt-1}$	-0.007	0.174	-0.340	0.185 *	0.811	0.698	0.507	0.165 ***	0.440	0.269	0.119	0.149	0.158	0.145
HERFINDAHL BY INDUSTRY$_{bt-1}$	-0.063	0.028 **	-0.124	0.034 ***	0.076	0.072	0.055	0.018 ***	0.020	0.052	0.018	0.015	0.016	0.015
Firm characteristics (i)														
FIRM CAPITAL RATIO$_{it-1}$	0.019	0.009 **												
FIRM LIQUIDITY RATIO$_{it-1}$	-0.002	0.005												
Ln(TOTAL ASSETS$_{it-1}$)	0.002	0.002												
Ln(1+AGE$_{it-1}$)	0.027	0.004 ***												
ROA$_{it-1}$	0.084	0.010 ***												
I(DOUBTFUL LOANS AT THE TIME OF THE REQUEST$_{it-1}$)	-0.092	0.009 ***												
I(DOUBTFUL LOANS BEFORE THE TIME OF THE REQUEST$_{it-1}$)	-0.034	0.007 ***												
LN(1+NUMBER OF MONTHS WITH THE BANK$_{ibt-1}$)	0.007	0.001 ***	0.010	0.001 ***	0.047	0.004 ***	0.012	0.001 ***	0.010	0.001 ***	0.010	0.001 ***	0.010	0.001 ***
Ln(1+NUMBER OF BANK RELATIONSHIPS$_{ibt-1}$)	-0.156	0.003 ***												
Ln(1+NUMBER OF LOANS WITH THE BANK$_{ibt-1}$)													0.031	0.066
Industry characteristics (s)														
INDUSTRY DOUBTFUL LOANS RATIO$_{st-1}$	-1.028	0.176 ***												
Province characteristics (p)														
LN(NUMBER OF BANKS$_{pt-1}$)	0.106	0.014 ***												
Interactions of ΔIR_t and ΔGDP_t with all other bank characteristics	no		no		no		no		yes		no		no	
Firm Fixed Effects	yes		--		--		--		--		--		--	
Month Fixed Effects	yes		--		--		--		--		--		--	
Bank Fixed Effects	yes		yes		no		no		no		no		no	
Firm-Month Fixed Effects	no		yes		yes		yes		yes		yes		yes	
No. Observations	816,852		328,891		155,167		328,891		328,891		328,891		328,891	
Number of Bank-Month Clusters	9,910		8,714		7,816		8,714		8,714		8,714		8,714	
Sample Period	2002:02-2008:12		2002:02-2008:12		2002:02-2008:12		2002:02-2008:12		2002:02-2008:12		2002:02-2008:12		2002:02-2008:12	

Notes: The table reports the estimated coefficients and robust standard errors (S.E.) clustered at the bank-month level from linear probability and logit models. The linear model is estimated using least squares and the standard errors in the logit model are linearly adjusted. The variable definitions are in Table 1.

 *** Significant at the 1 percent level.

 ** Significant at the 5 percent level.

 * Significant at the 10 percent level.

APPENDIX H -- ECONOMIC RELEVANCE

Improving Conditions	Weak - Strong Bank 10% - 90%	Number of Bank Relationships		
		No Relationships	One Relationship	Three Relationships
Monetary, $\Delta IR_t = -1$	Capital	1.4	0.9	0.4
	Liquidity	2.2	1.5	0.9
Economic, $\Delta GDP_t = 1$	Capital	3.1	2.1	1.1
	Liquidity	-0.8	-0.1	0.6

Notes: The table reports the difference in the semi-elasticities a future loan application is granted after an earlier application is made for firms currently without a bank relationship, with a single relationship, or with a median number, i.e., three, relationships for a 100 basis points change in the interest rate or GDP growth, and for bank capital and liquidity ranging between the 10th (low) and 90th (high) percentile. The estimated coefficients from Table 4 Model (6) are used.