

Heterogeneous transmission of unconventional monetary policy: Evidence from a change in collateral requirements in France Online Appendix

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We test our results against alternate definitions of treatment. The Additional Credit Claims policy was announced in December 2011 and implemented 2 months later in February 2012. There is room for argument that private banks could change their lending portfolio in the interim period to benefit from the policy change. Therefore we test the robustness of our results by defining banks as treated if their portfolios are exposed to ACC targeted 4-rated loans for a continuous period prior to the announcement (December 2011). In addition, we test a 6 month duration instead of 3 month. In all, treatment has 4 possible definitions.

Tables 1 - 3 provide summary statistics of average credit (in million EUR) by treated and control banks, at a lag of 6-months as of date of implementation and of 3- and 6-months as of the dates of announcement, respectively. The magnitude of mean credit across percentiles in Tables 1 - 3 is similar to Table 2 in the main paper.

Table 4 reports for a 6-month lag as of date of implementation. Tables 5 and 6 reports estimates for the alternative date of the experiment, i.e. November 2011 (ACC announcement) instead of January 2012 for a lag of 3 and 6 months, respectively. We confirm similar results as in the main table at the 50th percentile. We find that in response to the ACC policy, treated banks increase credit supply to low risk firms by around 5% (reported in column (1)). However, riskier firms do not experience a significant increase in their post-ACC level of medium-and-long-term credit supply (β_2 is not significant even at a 10% significance). Control banks respond by contracting credit to low risk firms after the policy as can be seen by a negative and significant β_3 . This is in-line with our argument of portfolio switching.

Tables 7 to 9 report alternate definitions of most affected banks. Table 7 reports for a 6-month lag as of date of implementation. Tables 8 and 9 reports estimates for the alternative date of the experiment, i.e. November 2011 (ACC announcement) instead of January 2012 for a lag of 3 and 6 months, respectively. We confirm similar results as in the main table at the 95th percentile. The estimated coefficient β_1 is not significant, suggesting that credit supply by these banks to low risk firms does not experience any significant change with the policy shock. In addition, the estimated coefficient of β_2 indicates that this group of banks respond to the policy by contracting credit by around 2-3% for riskier firms. The result of a negative effect on credit by this category of banks commented previously is therefore entirely driven by their loans to riskier firms. In sum, in the tail of the distribution, banks did not react to the policy as expected. Instead of expanding their balance-sheet, they used the policy shock as a positive income effect to reduce the level of risk of their portfolio: given the sudden higher value of 4-rated loans, they could maintain the value of their portfolio and reduce the amount of higher risk loans.

Descriptive Statistics

Table 1: Credit Variables: Alternate definition of treatment

Percentile	Bank Group	Mean Credit (million EUR)	
		MLT	Total Credit
50 th percentile	Treated	65	114.2
	Control	68.7	250
75 th percentile	Treated	18.8	64.1
	Control	92.6	205.4
90 th percentile	Treated	1.03	46.1
	Control	78.7	175.7
95 th percentile	Treated	1.9	75.4
	Control	66.8	155.5

Note: Percentile shares are calculated over the total lending portfolio of banks. Treated banks are over the percentile for 6 months continuously as of January 2012.

Table 2: Credit Variables: Alternate definition of treatment

Percentile	Bank Group	Mean Credit (million EUR)	
		MLT	Total Credit
50 th percentile	Treated	64.8	113.9
	Control	69.2	252.3
75 th percentile	Treated	18.8	64.4
	Control	92.9	205.8
90 th percentile	Treated	0.90	41.8
	Control	81.9	182
95 th percentile	Treated	1.1	62.6
	Control	67.6	156.8

Note: Percentile shares are calculated over the total lending portfolio of banks. Treated banks are over the percentile for 6 months continuously as of November 2011.

Table 3: Credit Variables: Alternate definition of treatment

Percentile	Bank Group	Mean Credit (million EUR)	
		MLT	Total Credit
50 th percentile	Treated	65.1	114.5
	Control	68.3	248.6
75 th percentile	Treated	18.7	64.2
	Control	92.5	205.1
90 th percentile	Treated	0.64	45.9
	Control	77.8	174.2
95 th percentile	Treated	1.1	62.6
	Control	67.6	156.8

Note: Percentile shares are calculated over the total lending portfolio of banks. Treated banks are over the percentile for 6 months continuously as of November 2011.

Alternate definitions at the 50th percentile

Table 4: Heterogeneity in Risk Taking by Banks

Treated banks are above 50th percentile

Dependent variable:	<i>Log(MLT Credit)</i>
$Treated_b \times ACC_t \times LowRisk_{f,t}$	0.048** (0.025)
$Treated_b \times ACC_t$	0.026 (0.023)
$ACC_t \times LowRisk_{f,t}$	-0.075** (0.038)
$Treated_b \times LowRisk_{f,t}$	-0.166*** (0.056)
$LowRisk_{f,t}$	0.134*** (0.050)
Bank FE	Y
Firm \times Month FE	Y
N	15,539,544
R ²	0.548

Note:

1. Treated banks are defined robustly as being above the 50th percentile over total credit with a six-month continuous lag as of January, 2012.
2. Standard errors are clustered at bank \times month-level and sector-level. Results are robust to clustering at bank \times month-level as well.

Table 5: Heterogeneity in Risk Taking by Banks

Treated banks are above 50th percentile

Dependent variable:	<i>Log(MLT Credit)</i>
$Treated_b \times ACC_t \times LowRisk_{f,t}$	0.046* (0.024)
$Treated_b \times ACC_t$	0.028 (0.034)
$ACC_t \times LowRisk_{f,t}$	-0.074** (0.037)
$Treated_b \times LowRisk_{f,t}$	-0.165*** (0.057)
$LowRisk_{f,t}$	0.134*** (0.054)
Bank FE	Y
Firm \times Month FE	Y
N	15,539,544
R ²	0.548

Note:

1. Treated banks are defined using the baseline definition, i.e. 50th percentile over total credit with a three-month continuous lag as of November, 2011.
2. Standard errors are clustered at bank \times month-level and sector-level. Results are robust to clustering at bank \times month-level as well.

Table 6: Heterogeneity in Risk Taking by Banks
Treated banks are above 50th percentile

Dependent variable:	<i>Log(MLT Credit)</i>
$Treated_b \times ACC_t \times LowRisk_{f,t}$	0.048** (0.024)
$Treated_b \times ACC_t$	0.028 (0.034)
$ACC_t \times LowRisk_{f,t}$	-0.075** (0.038)
$Treated_b \times LowRisk_{f,t}$	-0.167*** (0.056)
$LowRisk_{f,t}$	0.135*** (0.049)
Bank FE	Y
Y	
Firm \times Month FE	Y
N	15,539,544
R ²	0.548

Note:

1. Treated banks are defined using the baseline definition, i.e. 50th percentile over total credit with a six-month continuous lag as of November, 2011.
2. Standard errors are clustered at bank \times month-level and sector-level. Results are robust to clustering at bank \times month-level as well.

Alternate definitions at the 95th percentile

Table 7: Heterogeneity in Risk Taking by Banks

Treated banks are above 95th percentile

Dependent variable:	<i>Log(MLT Credit)</i>
$Treated_b \times ACC_t \times LowRisk_{f,t}$	0.043 (0.038)
$Treated_b \times ACC_t$	-0.020** (0.008)
$ACC_t \times LowRisk_{f,t}$	-0.037 (0.038)
$Treated_b \times LowRisk_{f,t}$	-0.235*** (0.063)
$LowRisk_{f,t}$	0.014 (0.026)
Bank FE	Y
Firm \times Month FE	Y
N	15,539,544
R ²	0.548

Note:

1. Treated banks are defined using the baseline definition, i.e. 95th percentile over total credit with a six-month continuous lag as of January, 2012.
2. Standard errors are clustered at bank \times month-level and sector-level. Results are robust to clustering at bank \times month-level as well.

Table 8: Heterogeneity in Risk Taking by Banks

Treated banks are above 95th percentile

Dependent variable:	<i>Log(MLT Credit)</i>
$Treated_b \times ACC_t \times LowRisk_{f,t}$	0.021 (0.030)
$Treated_b \times ACC_t$	-0.032* (0.016)
$ACC_t \times LowRisk_{f,t}$	-0.036 (0.038)
$Treated_b \times LowRisk_{f,t}$	-0.294*** (0.047)
$LowRisk_{f,t}$	0.018 (0.026)
Bank FE	Y
Firm \times Month FE	Y
N	15,539,544
R ²	0.548

Note:

1. Treated banks are defined using the baseline definition, i.e. 95th percentile over total credit with a three-month continuous lag as of November, 2011.
2. Standard errors are clustered at bank \times month-level and sector-level. Results are robust to clustering at bank \times month-level as well.

Table 9: Heterogeneity in Risk Taking by Banks
Treated banks are above 95th percentile

Dependent variable:	<i>Log(MLT Credit)</i>
$Treated_b \times ACC_t \times LowRisk_{f,t}$	0.013 (0.030)
$Treated_b \times ACC_t$	-0.029* (0.016)
$ACC_t \times LowRisk_{f,t}$	-0.036 (0.038)
$Treated_b \times LowRisk_{f,t}$	-0.281*** (0.048)
$LowRisk_{f,t}$	0.015 (0.026)
Bank FE	Y
Firm \times Month FE	Y
N	15,539,544
R ²	0.548

Note:

1. Treated banks are defined using the baseline definition, i.e. 95th percentile over total credit with a six-month continuous lag as of November, 2011.
2. Standard errors are clustered at bank \times month-level and sector-level. Results are robust to clustering at bank \times month-level as well.