

Online Appendix

A. Newsletter Articles

- Reuters 31.03.2014:

*“...Speculation has also grown that it [ECB] may employ other easing measures such as...**U.S.-style bond-buying**. ECB President Mario Draghi suggested after the ECB’s March meeting that the bank will either do nothing or take bold action should the outlook deteriorate.”*

- Bloomberg 11.04.2014:

*“Speculation is a big factor in the latest decline in bond yields in Spain, Italy, Portugal, and Greece. Bond prices rose another notch and yields fell after ECB President [Draghi] said the bank’s Governing Council was “unanimous” on exploring tools including **purchases of debt**, a European echo of the Federal Reserve’s quantitative easing (QE) program.”*

- The Daily Telegraph 29.07.2014:

*“...investors are starting to price in quantitative easing by the ECB, which would entail **sovereign bond purchases** and potentially push yields lower.”*

- Financial Times 27.11.2014:

*“Government borrowing rates across Europe fell to historic lows on Thursday as speculation grows that the central bank is on the brink of **buying large quantities of sovereign**.”*

B. Further Robustness Checks

In this section I show additional robustness checks to ensure that the treatment intensity (MP variable) is unrelated to other bank characteristics that might influence lending behavior. [Table A4](#) shows means of bank-level characteristics calculated in the pre-event period (2013: M12) of banks with a low and with a large yield decline (according to the median of the MP variable) along with the p-value of a two-sample t-test of equality of means. Additional control variables like loan losses to total assets, lagged loan growth, the fraction of corporates bonds to total assets, the fraction of government bonds to total assets, and the fraction of financial bonds to total assets are added. Column (6) shows that more affected banks are larger, have a lower deposit ratio, a lower net interest margin, and a larger fraction of corporate securities on their balance sheet.

Next, I run additional probit regressions of the MP dummy on these characteristics analogously to Table 4. Column (1) of [Table A5](#) shows that only the corporate securities to total assets ratio has explanatory power for the treatment status. Analogously as in Table 4, I use the weights resulting from propensity score matching in the second probit regression in column (2) of [Table A5](#). Compared to column 1, neither variable is significant and the p-value of the χ^2 test of overall model fit increases to 0.699, which indicates the satisfactory performance of the weighting exercise.

Based on the new weights of the additional propensity score matching exercise and the additional control variables [Table A6](#) shows the coefficient estimate of the credit regressions analogous to Table 5. The main finding that banks with larger average yield declines increase their real sector lending more strongly relative to other banks is confirmed.

C. Additional Figures and Tables

Figure A1: Marginal Effect of the MP variable

The Figure shows the marginal effect of MP variable (y-axis) depending on the maturing-assets-to-total-assets ratio (x-axis) based on the coefficient estimates of Table 6.

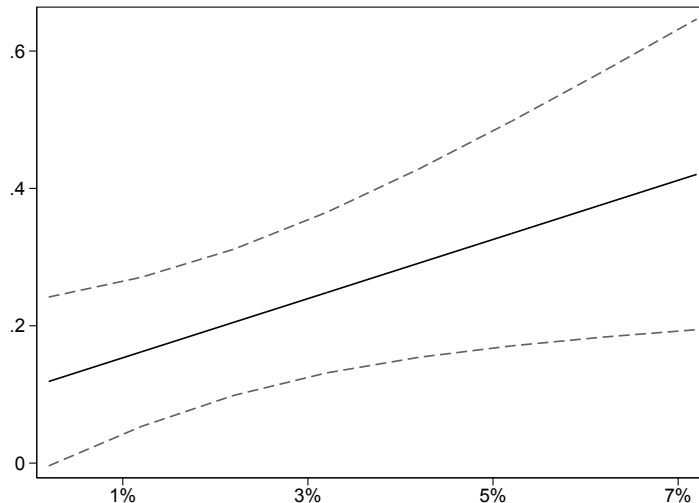


Table A1: Alternative Events - Controlling for TLTROs

The Table shows the coefficient estimates of the regression of equation (2), where the dependent variable denotes the logarithm of newly issued loans for the time period 2013:M1 until 2015:M12. Post is a dummy variable taking the value of 1 after 2015:M1. All control variables are measured monthly and include the maturing asset ratio (when interaction estimated) the TLTRO uptake over total assets, the logarithm of total assets, the equity-to-assets ratio, the deposit-to-assets ratio, the interbank-to-assets ratio, the return on assets, the net interest margin. Standard errors are two-way clustered at the bank and time level and are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels.

	Model 2: LOG_LOANS	
	(1)	(2)
MP * POST	0.115*** (0.043)	0.081* (0.040)
MP * POST * MATURING		1.424* (0.738)
TLTRO_RATIO	0.005 (0.017)	0.008 (0.017)
Controls	YES	YES
Bank FEs	YES	YES
Month FEs	YES	YES
Two-way clustered S.E.	YES	YES
Observations	7,173	7,173
R-squared	0.930	0.930

Table A2: Securities - Bonds with Call Option excluded

The dependent variable is the logarithm of securities nominal holdings by each bank i of security j during month t in the January 2013 to December 2015 period. 'Post' is a dummy variable taking the value of 1 after 2015:M1 and zero otherwise. Fixed effects are either included (YES) not included (NO) or spanned by other fixed effects (-). A constant is included but its coefficient is left unreported. Standard errors are clustered at the bank, security, and time levels and are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable: LOG_SECURITY_HOLDINGS											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	All			Government			Financials			Corporates		
MP * POST	-0.134** (0.051)	-0.124** (0.047)	0.001 (0.038)	-0.117* (0.061)	-0.143 (0.087)	-0.066* (0.037)	-0.093** (0.043)	-0.059 (0.036)	0.035 (0.050)	-0.272* (0.151)	-0.334** (0.138)	0.001 (0.133)
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Security FE	YES	-	-	YES	-	-	YES	-	-	YES	-	-
Bank FE	YES	YES	-	YES	YES	-	YES	YES	-	YES	YES	-
Time FE	YES	-	-	YES	-	-	YES	-	-	YES	-	-
Security*Time FE	NO	YES	YES	NO	YES	YES	NO	YES	YES	NO	YES	YES
Bank*Time FE	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Security*Bank FE	NO	NO	YES	NO	NO	YES	NO	NO	YES	NO	NO	YES
Observations	1,385,200	958,597	951,474	321,877	285,286	283,476	978,776	599,876	595,319	84,494	73,410	72,433
R-squared	0.752	0.513	0.889	0.487	0.469	0.888	0.820	0.528	0.891	0.528	0.564	0.836

Table A3: Additional Robustness Checks

The table shows coefficient estimates of various robustness checks: Column 1 includes lagged loan growth, i.e. the change in the logarithm between the average of the period 2012:M1 - 2012:M12 and the average of the period 2013:M1 - 2013:M12. Columns 2 - 6 include different combinations of fixed effects. Fixed effects are either included (YES) not included (NO) or spanned by other fixed effects (-). ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Model 1: $\Delta \text{LOG_LOANS}$			Model 2: LOG_LOANS		
	(1)	(2)	(3)	(4)	(5)	(6)
MP	0.190*** (0.056)	0.222*** (0.057)	0.188*** (0.061)			
MP * POST				0.114*** (0.040)	0.125** (0.046)	0.126*** (0.044)
$\Delta \text{LOG_LOANS}_{t-1}$	-0.228*** (0.087)					
Controls	YES	YES	YES	YES	YES	YES
Bank-type FE	YES	YES	YES	-	-	-
Bank-type*region FE	NO	NO	YES	NO	NO	YES
Region FE	NO	YES	YES	-	NO	-
Bank-type*time FE	-	-	-	NO	YES	YES
Region*time FE	-	-	-	YES	NO	YES
Bank FE	-	-	-	YES	YES	YES
Time FE	-	-	-	YES	-	-
Observations	204	204	204	7,173	7,173	7,173
R-squared	0.226	0.212	0.467	0.933	0.934	0.937

Table A4: Summary Statistics for Large and Low Yield Decline Banks

This table contains the means of bank-level characteristics for banks with a large and banks with a low yield decline according to the median of the MP variable. MP and the maturing securities to total assets ratio are calculated as described in Section 3. All remaining variables are calculated in 2013:M12. The table also includes the difference in means between the two groups and the p-value associated with a two-sample t-test of equality of means.

	Below MP median		Above MP median		Difference in means	
	Obs.	Mean	Obs.	Mean	Diff.	P-value
	(1)	(2)	(3)	(4)	(5)	(6)
MP	102	0.362	102	0.892	-0.529	0.000
MATURING_ASSETS_RATIO	102	0.042	102	0.035	0.006	0.209
TOTAL_SECURITIES_RATIO	102	0.173	102	0.178	-0.005	0.735
LOG_ASSETS	102	15.844	102	16.163	-0.319	0.074
EQUITY_RATIO	102	0.069	102	0.064	0.005	0.123
RESERVES_RATIO	102	0.014	102	0.011	0.003	0.199
INTERBANK_RATIO	102	-0.022	102	-0.055	0.033	0.139
DEPOSITS_RATIO	102	0.678	102	0.623	0.055	0.067
RETURN_ON_ASSETS	102	0.004	102	0.005	-0.000	0.753
NET_INTEREST_MARGIN	102	0.019	102	0.017	0.002	0.051
$\Delta \text{ LOG_LOANS}_{t-1}$	102	-0.006	102	-0.048	0.042	0.435
LOAN_LOSSES_RATIO	102	0.002	102	0.002	0.000	0.282
CORPORATES_RATIO	102	0.002	102	0.005	-0.003	0.005
FINANCIALS_RATIO	102	0.124	102	0.119	0.006	0.668
GOVERNMENT_RATIO	102	0.047	102	0.054	-0.007	0.343

Table A5: Propensity Score Weighting - More Variables

Column (1) of the table displays the results of a probit regression of the MP dummy (50th percentile) on various bank-level characteristics. Column (2) reports the same regression results for the weighted sample. Weighting is done according to the nearest-neighbor propensity score matching approach with replacement. The p-value refers to the χ^2 test of the joint significance of all variables. Robust standard errors are reported in parenthesis. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	Probit: MP_DUMMY (50th-percentile)	
	(1)	(2)
	Pre-matching	Post-matching
LOG_ASSETS	0.163 (0.111)	0.021 (0.115)
EQUITY_RATIO	-3.995 (4.251)	4.284 (4.764)
RESERVES_RATIO	-9.036 (6.137)	-10.845 (7.150)
DEPOSITS_RATIO	0.540 (0.806)	0.911 (0.841)
INTERBANK_RATIO	-1.226 (0.751)	-0.255 (0.859)
RETURN_ON_ASSETS	15.216 (14.580)	6.905 (18.025)
NET_INTEREST_MARGIN	-5.934 (16.781)	-16.480 (24.240)
LOAN_LOSSES_RATIO	-30.807 (28.034)	-12.143 (29.713)
$\Delta \text{LOG_LOANS}_{t-1}$	-0.291 (0.234)	-0.087 (0.277)
CORPORATES_RATIO	49.305*** (14.522)	16.055 (11.751)
GOVERNMENT_RATIO	1.436 (1.875)	-0.878 (1.457)
FINANCIALS_RATIO	-1.357 (1.171)	-1.443 (1.314)
Observations	204	204
p-value	0.014	0.699

Table A6: Regressions - More Variables

Column 1 and 2 show the coefficient estimates of the baseline regression (1) pre-matching (column 1) and post-matching (column 2). The dependent variable denotes the change in the logarithm of the pre- (2013:M1-2013:M12) event average and the post- (2015:M1-2015:M12) event average of newly issued loans. All control variables are measured in December 2013 and include the logarithm of total assets, the equity-to-assets ratio, the reserves-to-asset ratio, the deposit-to-assets ratio, the interbank-to-assets ratio, the return on assets, the net interest margin, loan losses to total assets, lagged loan growth, the fraction of corporates bonds to total assets, the fraction of government bonds to total assets, the fraction of financial bonds to total assets, and bank-type fixed effects (e.g. Landesbanks, cooperative banks, saving banks, regional banks, big commercial banks, mortgage banks). Robust standard errors are reported in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)
	Pre-matching	Post-matching
MP	0.187*** (0.057)	0.178*** (0.051)
Controls	YES	YES
Bank-type FE	YES	YES
Observations	204	204
R-squared	0.243	0.240