

Did ECB Liquidity Injections Help the Real Economy?

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Overview

Considers impact of new three-year LTROs (longer-term refinancing operations) on *non-financial* firms.

Argument (hope) of ECB: by easing credit conditions for banks, should spur new lending and real activity.

Firms in countries with higher LTRO take-up have:

- ▶ Higher cash holdings
- ▶ Higher leverage and net debt
- ▶ **Lower** investment
- ▶ No employment changes

Findings do not suggest LTROs helped the real economy through investment or employment channels.

However: counter-factual of non-Eurozone countries implies investment/employment worse without LTRO.

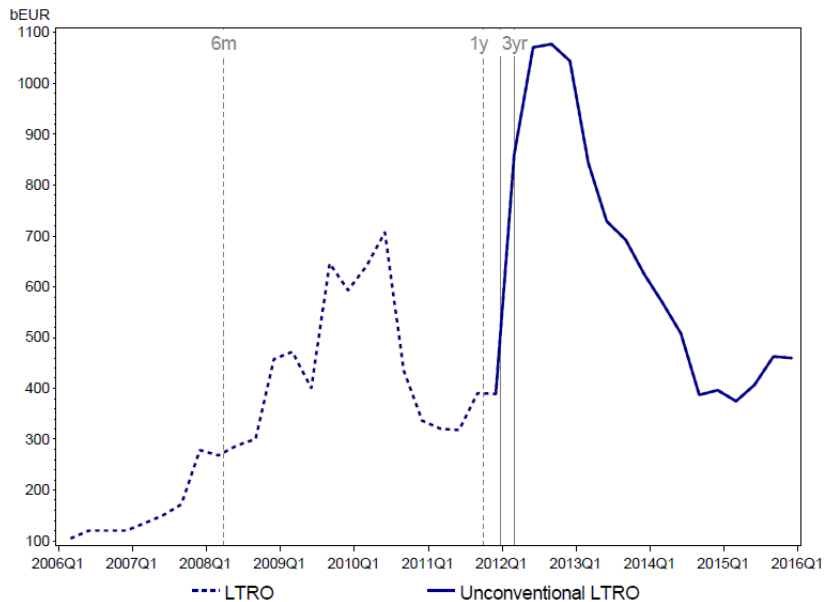
LTROs: Pinning Down the Channel

Potential channels:

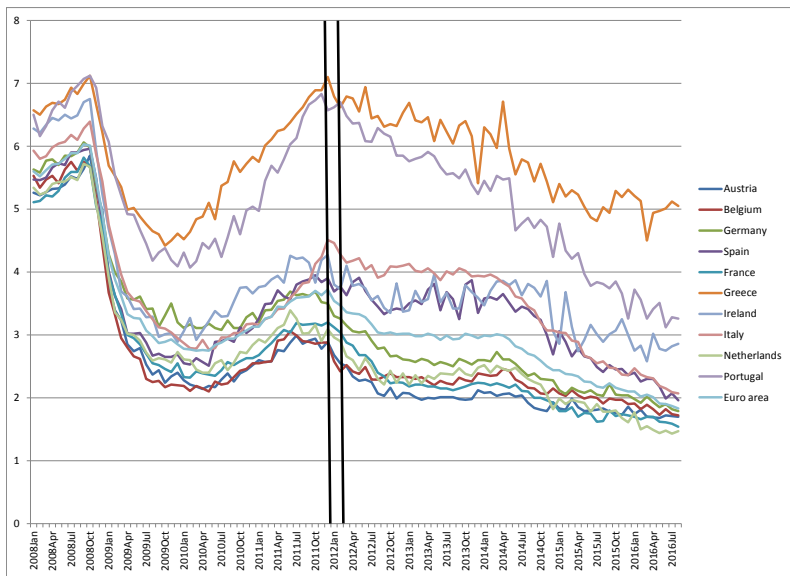
- ▶ Current credit supply shock: LTRO eases credit constraints
 - ▶ Higher LTRO \Rightarrow more investment
- ▶ Future credit supply risk: LTRO signals riskiness of specific bank
 - ▶ Higher LTRO \Rightarrow more investment
- ▶ Bank and firm risk: LTRO signals risky banks AND risky firms
 - ▶ Higher LTRO \Rightarrow more investment
- ▶ Economic/demand uncertainty: LTRO correlates with higher economic uncertainty
 - ▶ Higher LTRO \Rightarrow more investment

For aggregate cash/leverage/investment results - difficult to disentangle the relative impact of LTRO with other factors.

LTRO Implementation

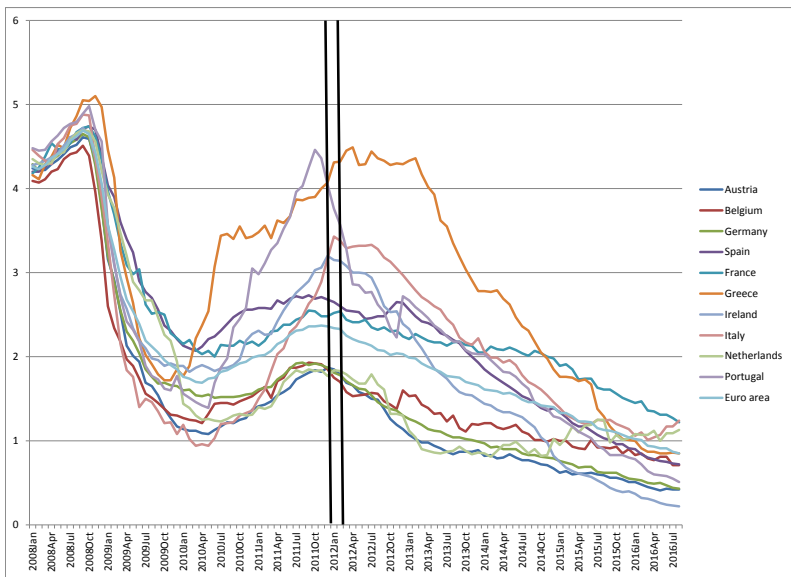


Cost of Borrowing for Corporations by Country



Source: ECB Statistical Warehouse

Deposit Rates for Non-Financial Corporations



Source: ECB Statistical Warehouse

Controlling for Economic Uncertainty

Paper includes sovereign CDS spreads and sovereign export amounts, but additional controls help rule out economic uncertainty.

Even better: Results looking at firm-bank relationships.

- ▶ Can see effect for firms which borrow directly from LTRO banks.
- ▶ Add a country-time fixed effect to further control for country-specific demand factors.

Panel B: LTRO-bank relation and corporate policies

	Cash	Leverage	Net Debt	Short Debt	Investment	Wages
	(1)	(2)	(3)	(4)	(5)	(6)
LTRO-Bank Relation						
x LTRO Uptake	-2.666** (1.27)	3.253* (1.73)	5.470** (2.38)	0.013 (0.01)	-3.856*** (1.03)	0.207 (0.28)
LTRO Uptake	4.796*** (1.10)	2.187 (1.50)	2.507 (2.06)	-0.041*** (0.00)	2.004** (0.89)	-0.079 (0.24)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
R-square	0.726	0.764	0.788	0.785	0.307	0.714
N	27247	27247	22108	20612	22194	17181

Relationship-Level Effects (continued)

Even with country-time (or country-industry-time) fixed effects, if significant interactions with LTRO holds:

Implies 1) risky firms may pair with risky banks or 2) firms concerned about future credit supply.

- ▶ Look at DealScan loan amounts for firms which borrow from both LTRO and non-LTRO banks.
- ▶ With firm-time fixed effect: would eliminate the risky firm channel.

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Construction of LTRO Uptake Variable

Main variable is LTRO total as a % of government debt.

- ▶ Argument: higher usage indicates the local banking sector affected more.
- ▶ Robust to scaling by country GDP.
- ▶ What about using size of bank sector outright?

Country	LTRO Uptake (%)	Gov't Debt (bil)	Bank Sector Size (bil)
Spain	51.44	620	1167
Portugal	29.37	168	513
Greece	25.54	239	425
Belgium	25.02	356	1147
Ireland	22.33	177	1193
Italy	15.92	1886	2794
Austria	4.82	419	2832
Netherlands	2.58	419	2832
Germany	1.67	1520	7996
France	0.61	1987	6674

Is the LTRO Big?

Country	LTRO to Gov't Debt	Country	LTRO to Bank Sector
Spain	51.44	Greece	2.70
Portugal	29.37	Portugal	2.24
Greece	25.54	Belgium	1.00
Belgium	25.02	Austria	0.98
Ireland	22.33	Ireland	0.96
Italy	15.92	Italy	0.41
Austria	4.82	Netherlands	0.41
Netherlands	2.58	Spain	0.29
Germany	1.67	France	0.17
France	0.61	Germany	0.14

Introduce calculations about the cash/leverage/investment effects at an aggregate level.

- ▶ Are the corporate effects large or small compared to the LTRO amounts?

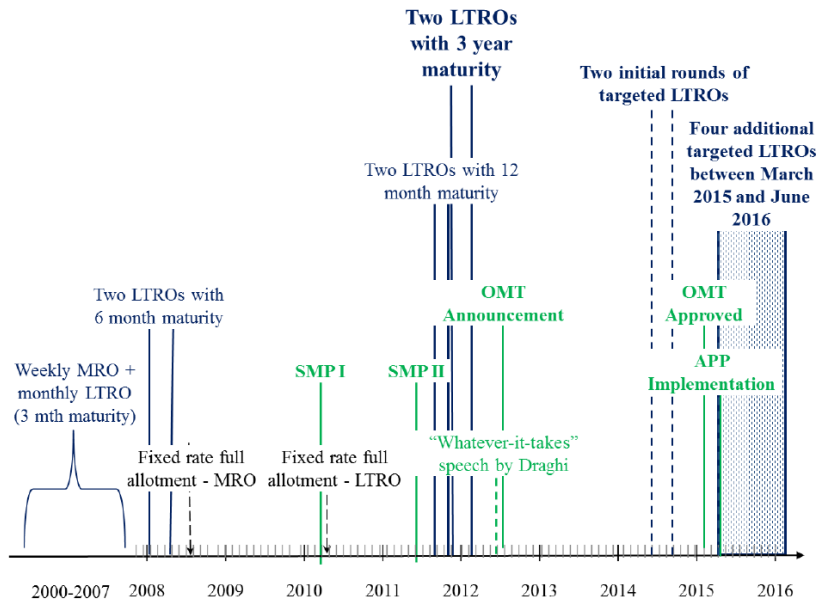
What is the Counterfactual?

Main analysis focuses on Eurozone countries: high LTRO uptake countries tend to be in worst shape.

- ▶ Perhaps less surprising that they have high economic uncertainty and lower investment.
- ▶ Stresses the importance of controlling for underlying economic uncertainty unrelated to LTRO program.

LTRO Uptake variable implies a very specific comparison: what is the effect of the three-year LTRO program *on top of* other monetary policy interventions.

Various ECB Monetary Interventions



An Alternative Counterfactual

Comparing Eurozone to other EU countries:

- ▶ Find lower cash and investment for these non-Eurozone countries during the LTRO period. High LTRO countries aren't (exclusively) the worst performers anymore.

Not quite apples-to-apples with earlier analysis:

- ▶ LTRO dummy in this case captures the cumulative effect of the various ECB monetary policies in 2011 and beyond.

Not sure how to square these findings with low corruption/low government debt results (Table X).

Other Points for Authors

Investment to Assets: is effect driven from from increased assets rather than decreased investment?

- ▶ What about investment to lagged assets or PP&E? Same results?

Include tests of statistical significance for *LTRO Uptake* coefficients across subsamples.

Could recast subsample analysis as interactions with country-time fixed effects for controlling economic uncertainty.

Conclusion

Paper performs in-depth analysis of an important MP intervention.

- ▶ Very interesting results on the limitations of spurring investment.
- ▶ Suggest a few tweaks to help clarify the role of different channels at work.

Encourage some additions on the following dimensions:

- ▶ Calculate how much of an impact LTROs have on non-financial firms in aggregate terms.
- ▶ Some changes to clarify the counterfactual at stake.