

# Measuring the effect of monetary policy: A tale from the unsecured and secured money market

Work in progress

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# Outline

- 1 Introduction
- 2 Eurosystem view
- 3 Core - Periphery view
- 4 Final remarks

# Motivation of research

- Many changes in the monetary policy framework since the start of the crisis.
- Traditionally monetary policy focussed on unsecured money market. But the impression is that the secured money market becomes more important.
- Impact of new regulation on how banks will use the money markets (e.g. Basel III). But can we measure that?
- Little research done on secured money markets.

# Research question

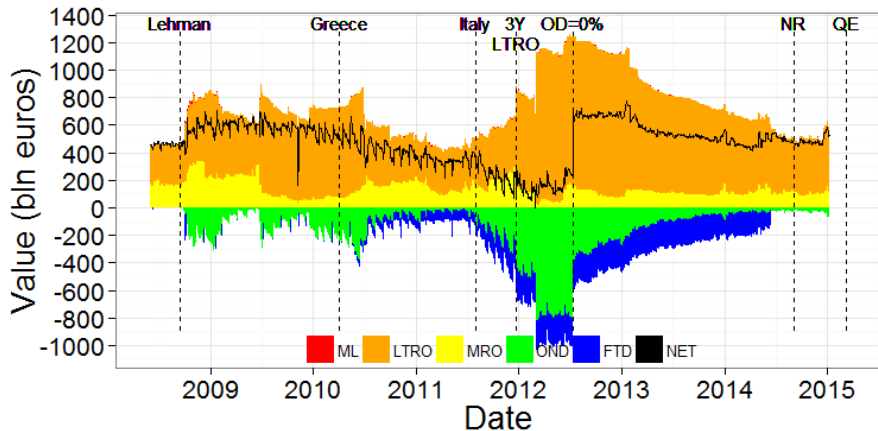
- What is the impact of the changes in the Eurosystem's monetary policy on the (un)secured money markets?
- Can we distinguish the impact of regulation (e.g. Basel III)?.

# Data sources

- Data sources used in analysis:
  - ▶ Monetary policy.
  - ▶ Unsecured money market.
  - ▶ Secured money market (GC Pooling).
- Data sets ranging from June 2008 until May 2015.

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# Monetary policy

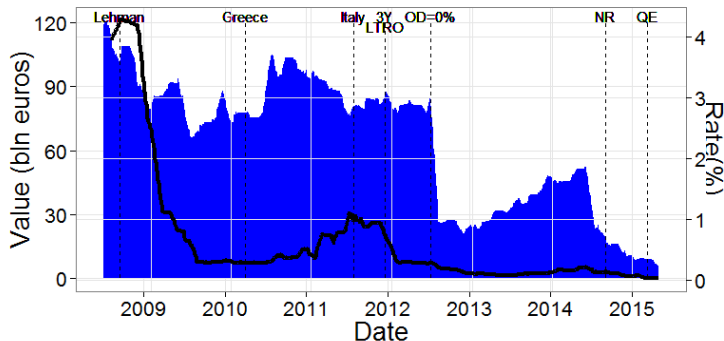


# Monetary policy observations

- Since Lehman increased use of OND.
- No significant changes after start sovereign debt problems in Greece.
- Since start Italian sovereign problems significant increase of OND.
- Introduction of 3 years LTRO caused:
  - ▶ Significant increased use of LTRO.
  - ▶ Significant increased use of OND.
- OND rate to 0% caused:
  - ▶ Decreased use of OND to almost zero in 2014.
  - ▶ Increased “NET” use of ECB facilities. Banks leave surplus on account i.o. to OND.



# Unsecured money market (Furfine algorithm)

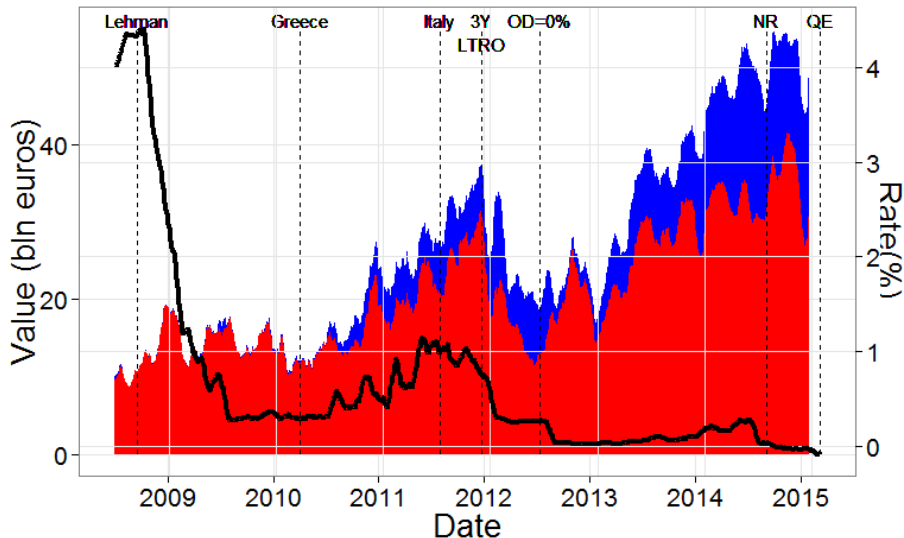


- Algorithm underestimates rates from approximately mid 2014 onwards as it faces problems with zero and negative rates. Rainone and Vacirca (2015) have addressed issue (not implemented yet in our data set).

# Unsecured money market/remarks

- After Lehman there is a decrease but not a complete dry up of activity.
- OND rate to 0% caused:
  - ▶ Steep decrease in value to remain low after this event.
- Since rates go negative, current algorithm not reliable (will be solved soon). Current values after “NR” are underestimated.

## Secured money market (GC Pooling)



## Secured money market/remarks

- Increase in value both due to increasing activity of GC Pooling (red) and increasing number of active participants (blue).
- After start Greek and Italian sovereign debt problems increasing trend in activity.
- Steep decrease in value after introduction of 3Y-LTRO. Banks in need of liquidity could get the desired amount for 3 years at a relatively low rate (and less liquid collateral).
- Decrease of rate after introduction of 3Y LTROs.
- OND rate to 0% caused:
  - ▶ Increasing value.
  - ▶ Decrease of interest rates.
- Since rates go negative, again an increasing value.

# Granger causality tests: EONIA

| Date interval        | Refi-rate causes EONIA | EONIA causes refi-rate |
|----------------------|------------------------|------------------------|
| Jun 2008 to Feb 2015 | YES                    | YES (at 1%)            |
| Jun 2008 to Dec 2011 | YES                    | YES (at 5%)            |
| Jan 2012 to Dec 2013 | YES                    | YES                    |
| Jan 2013 to Feb 2015 | NO                     | NO                     |

# Granger causality tests: REPO

| Date interval        | Refi-rate causes EONIA | EONIA causes refi-rate |
|----------------------|------------------------|------------------------|
| Jun 2008 to Feb 2015 | YES                    | YES                    |
| Jun 2008 to Dec 2011 | YES                    | YES                    |
| Jan 2012 to Dec 2013 | YES                    | NO                     |
| Jan 2013 to Feb 2015 | NO                     | NO                     |

1 Introduction

2 Eurosystem view

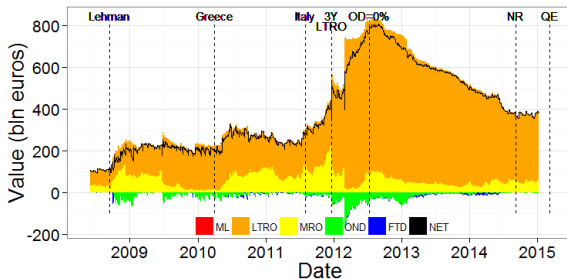
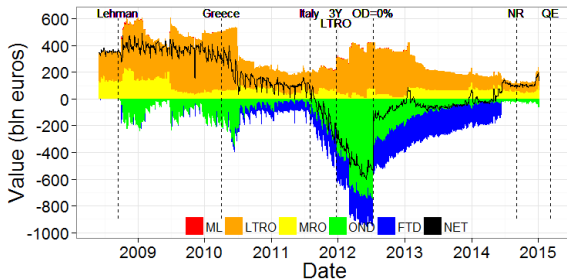
3 Core - Periphery view

4 Final remarks

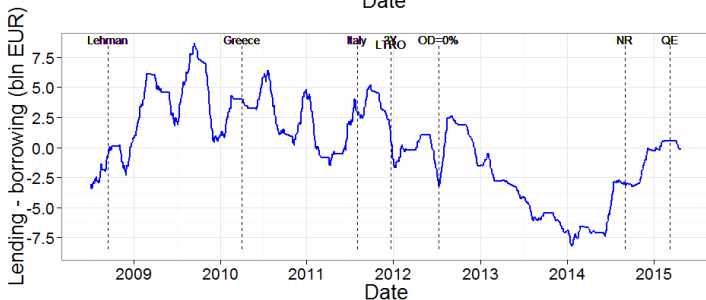
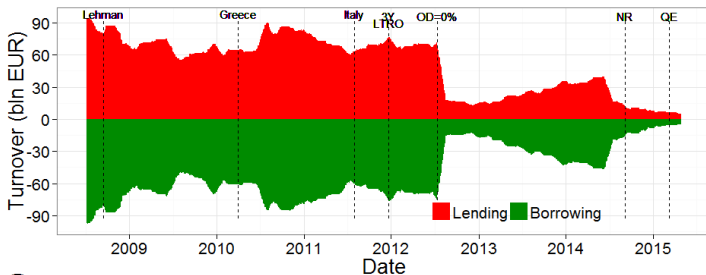
- Divide data into two groups:
  - ▶ Periphery: Greece, Italy, Ireland, Spain, Portugal, Malta and Cyprus.
  - ▶ Other Euro countries.



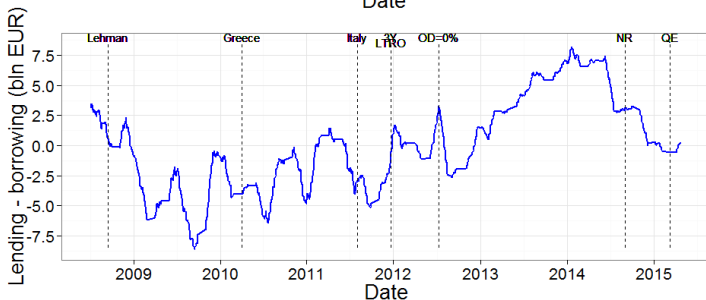
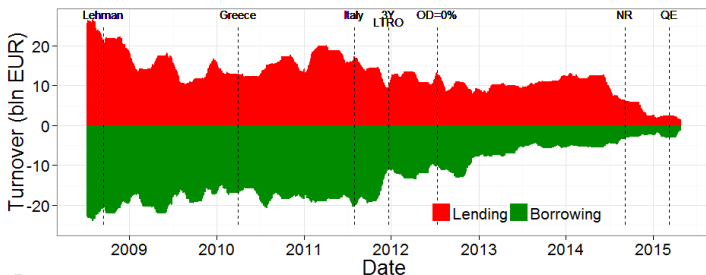
# Monetary policy



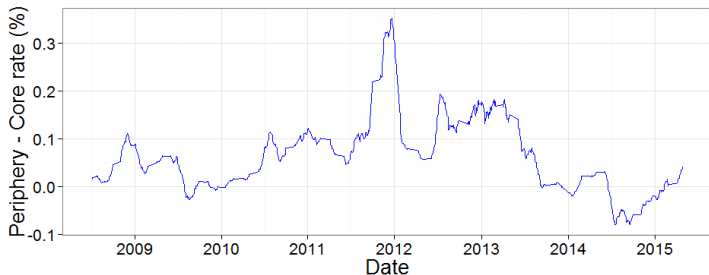
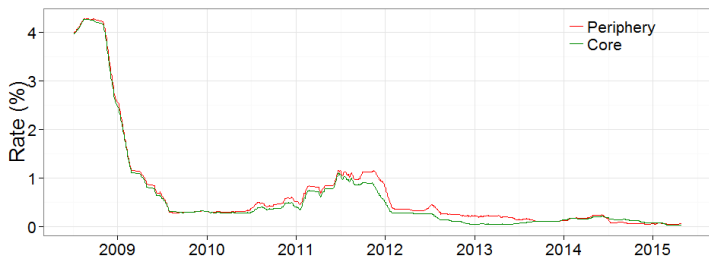
# Unsecured money market (Furfine): Value core



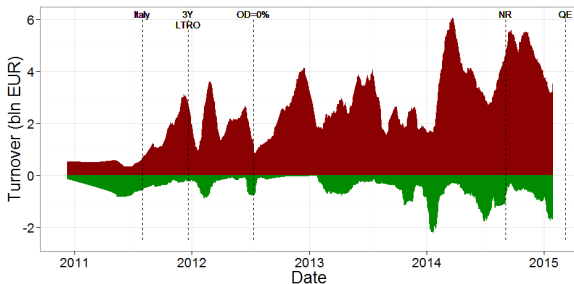
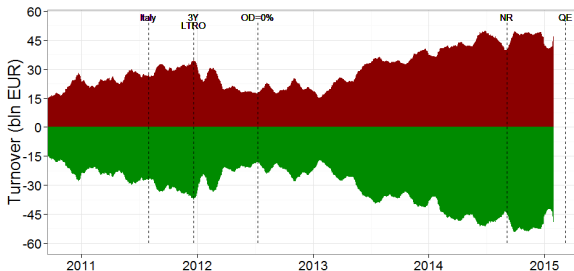
# Unsecured money market (Furfine): Value periphery



# Unsecured money market (Furfine): Rates

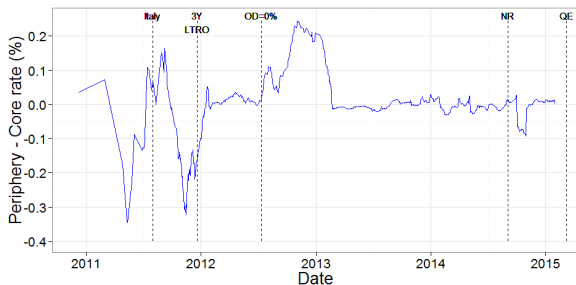


# Secured money market (GC Pooling): Value



- Overestimation of the core (non euro banks in this sample).
- Potential underestimation of the periphery banks (some banks not found yet).

# Secured money market (GC Pooling): Rate



# Overall observations and remarks core-periphery

- Significant difference in use of monetary policy facilities between C and P.
- Rates unsecured:
  - ▶ Periphery overall higher than core.
  - ▶ Especially period just before introduction of 3Y-LTROs.
  - ▶ But periphery lower at some parts.
- Activity GC Pooling:
  - ▶ GC Pooling dominated by core banks.
  - ▶ Rate difference core and periphery close to zero from 2013 onwards.
- Investigation still at beginning stage. Much more to do.....



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## Preliminary conclusions

- Introduction of 3Y-LTROs and OND to 0% clearly impacted the (un)secured money market.
- After start Italian sovereign debt problems use of OND increased substantially until OND became 0%.
- Unsecured money market activity dropped substantially after OND became 0%. Part of activity due to “borrowing” below the OND rate.
- GC Pooling more than doubled in activity (also after correction for new active participants).
- clear difference in impact of events on core and periphery.
- GC pooling mainly dominated by core banks.

## still to do

- Testing of impact of (other) events on activity and rates?
- Finding a way to estimate impact of regulation.
- Additional sources on repo activity to get a better Eurosystem coverage.
- Combining impact of events on the three sources together.