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The devil is in the details, but so is salvation
How to measure the unsecured money market

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Disclaimer

The authors of this paper are members of one of the user groups with access to TARGET2 data in accordance with Article 1(2) of Decision ECB/2010/9 of 29 July 2010 on access to and use of certain TARGET2 data. The Deutsche Bundesbank and the MIPC have checked the paper against the rules for guaranteeing the confidentiality of transaction-level data imposed by the PSSC pursuant to Article 1(4) of the above mentioned issue. The views expressed in the paper are solely those of the author and do not necessarily represent the views of the Eurosystem.

Why details matter

Hyman G. Rickover
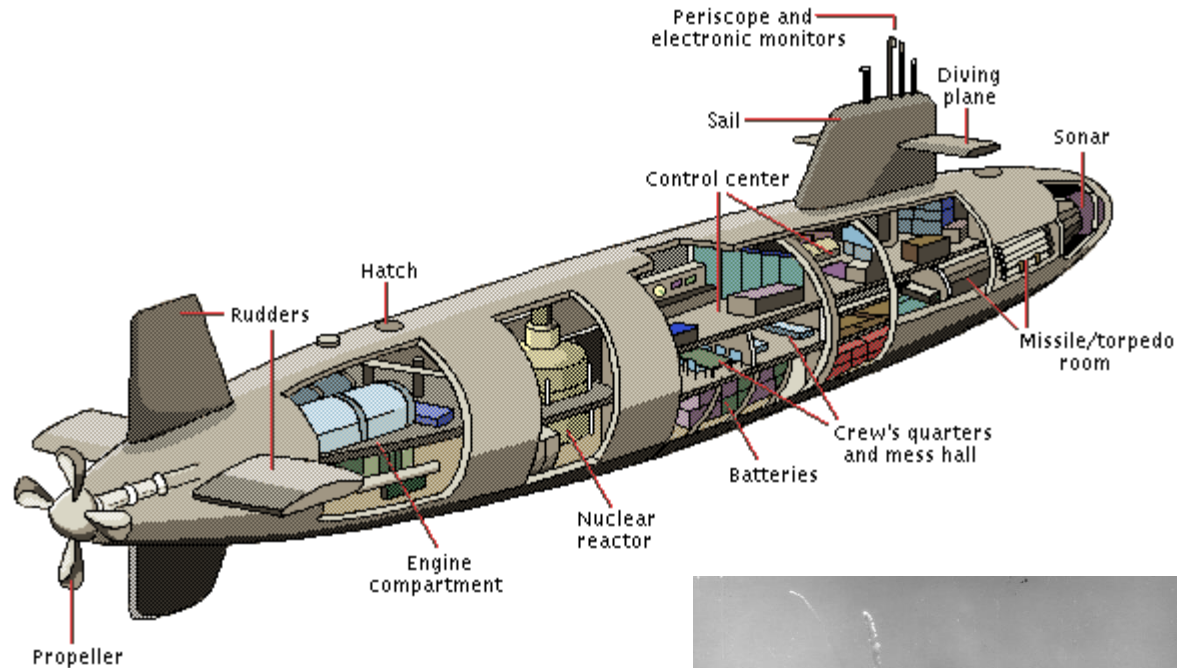
Basic setup
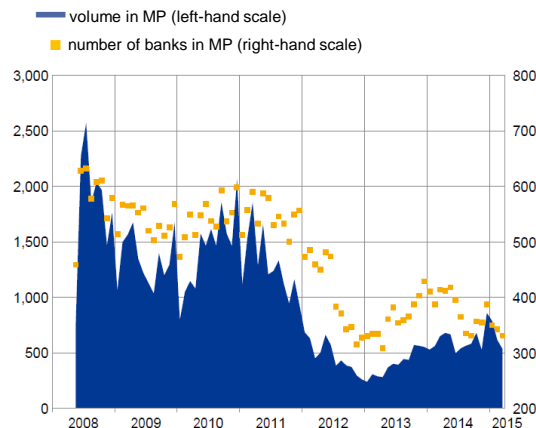
Bank A pays Bank B amount x on day t

Bank B pays Bank A amount x+i on day t+1

Matching pocess

Money market loan

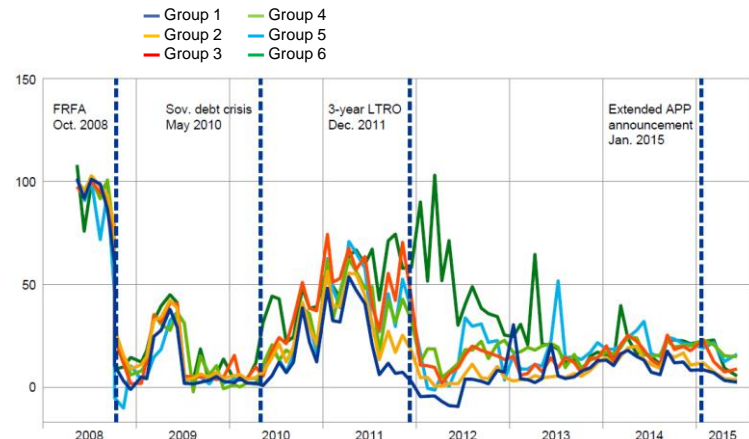**Overnight unsecured money market volume and number of banks**

(EUR billions; number of banks).

— volume in MP (left-hand scale)
■ number of banks in MP (right-hand scale)

Sources: TARGET2 and ECB calculations.
Note: Figures are computed at maintenance period (MP) level.

Overnight borrowing spread by credit risk group

(basis points)

— Group 1 — Group 4
— Group 2 — Group 5
— Group 3 — Group 6

FRFA
Oct. 2008

Sov. debt crisis
May 2010

3-year LTRO
Dec. 2011

Extended APP
announcement
Jan. 2015

Sources: TARGET2, DBRS, Fitch Ratings, Moody's, Standard & Poor's and ECB calculations.
Notes: Figures are computed at maintenance period level. The overnight spread is over the deposit facility rate.
FRFA = fixed rate full allotment. APP = asset purchase programme.

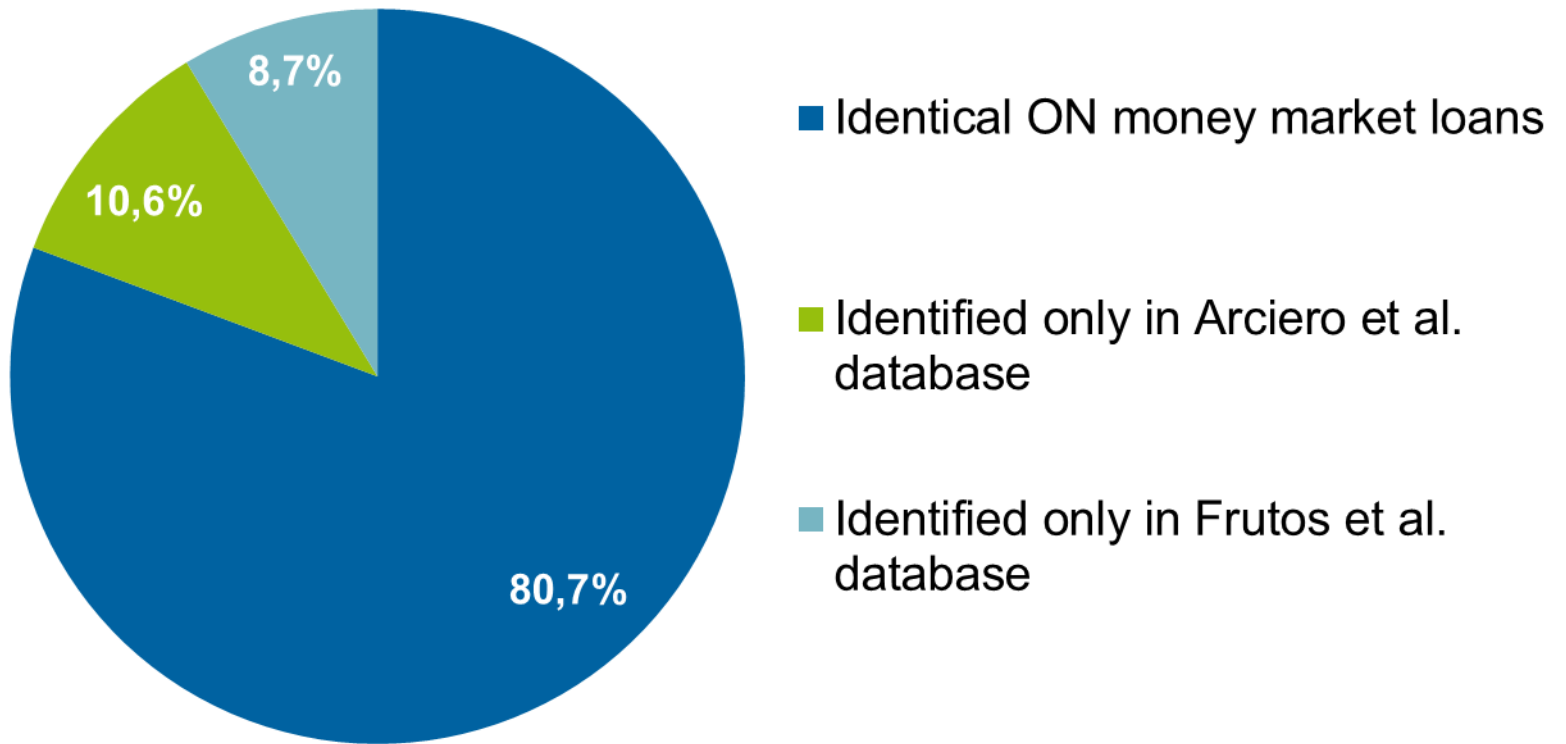The devil is in the details, but so is salvation
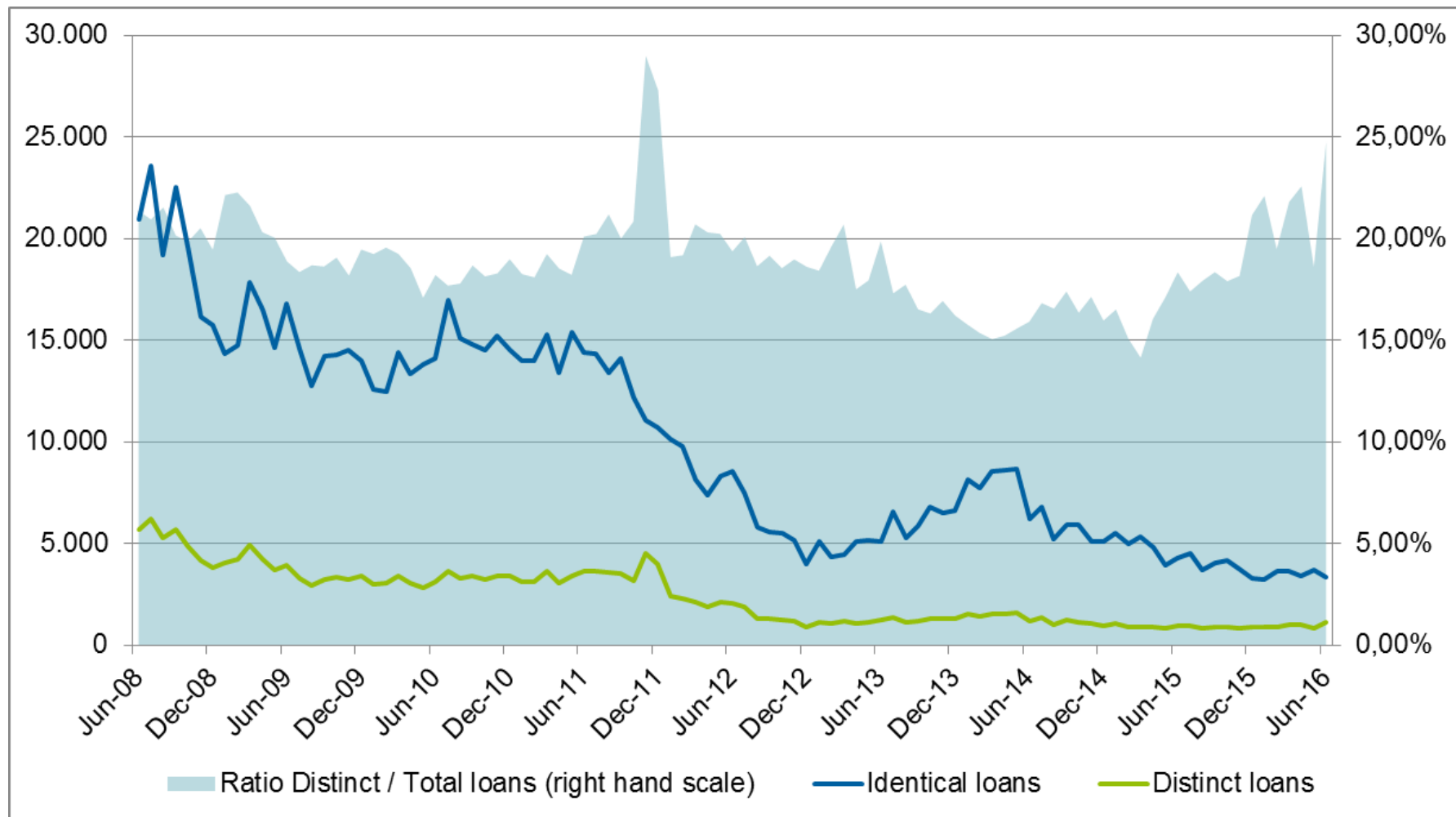26 August 2016
Page 4

What we do

- Compare two datasets with all identified overnight transactions in implementations Arciero et al. (2016) and Frutos et al. (2016)
- Time period: June 2008-June 2016
- Total number of 1.188.186 transactions

- Compare share of transactions identified in both implementations
- "Identified in both" refers to a loan having identical transaction ID for advance and repayment in both databases
- Create a list of methodical differences between the two implementations
- Quantify their impact (How many transactions have been identified only by one of the implementations for this reason)?
- Evaluate impact on aggregate indicators – Deviations could have a minor impact or even none at all

Overview
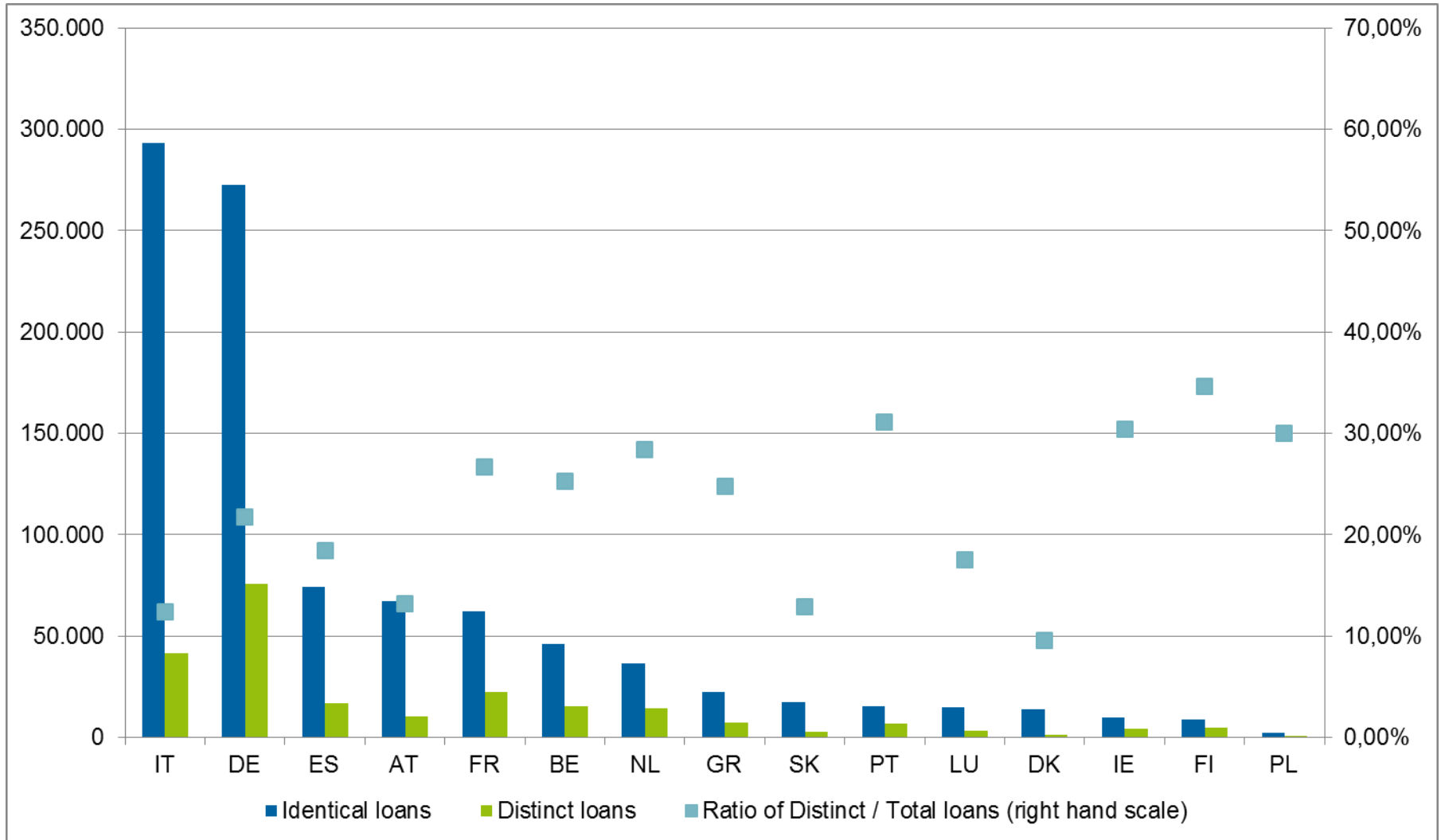
Identical and distinct loans over time

Are some countries more heavily affected than others? Identical and distinct loans by receiver country

Are some countries more heavily affected than others? Network view

Identical loans
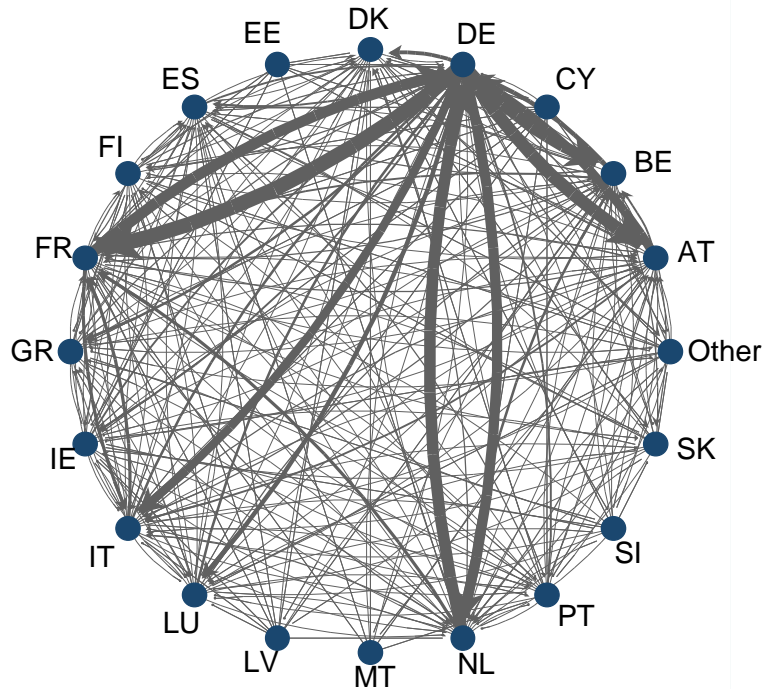
Distinct loans
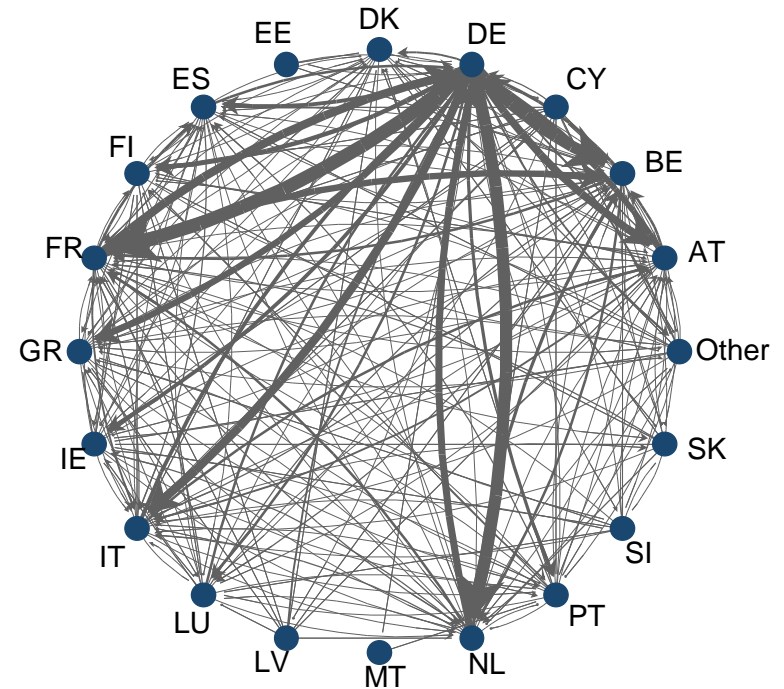
Comparison of rates (basis points)
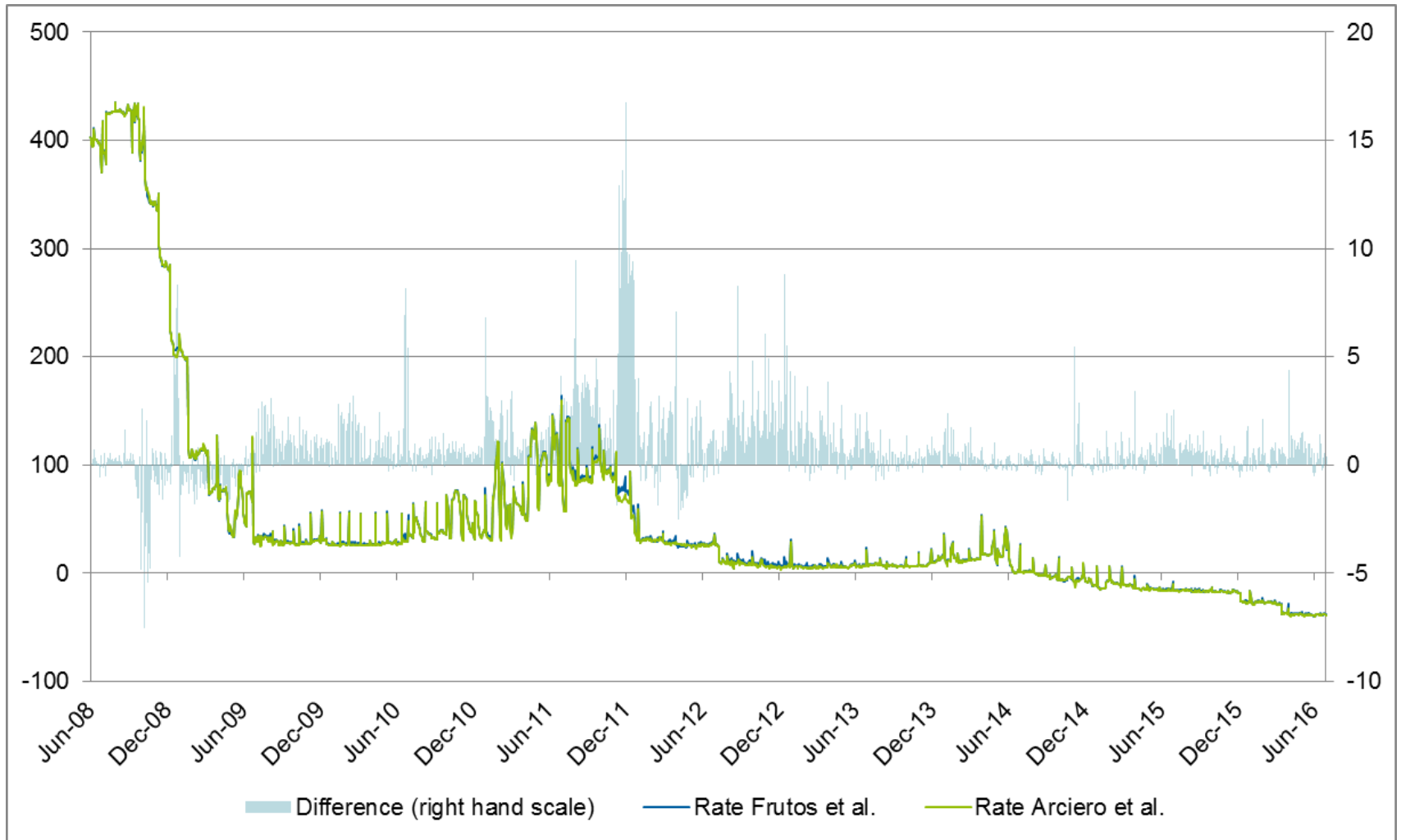
The devil is in the details, but so is salvation
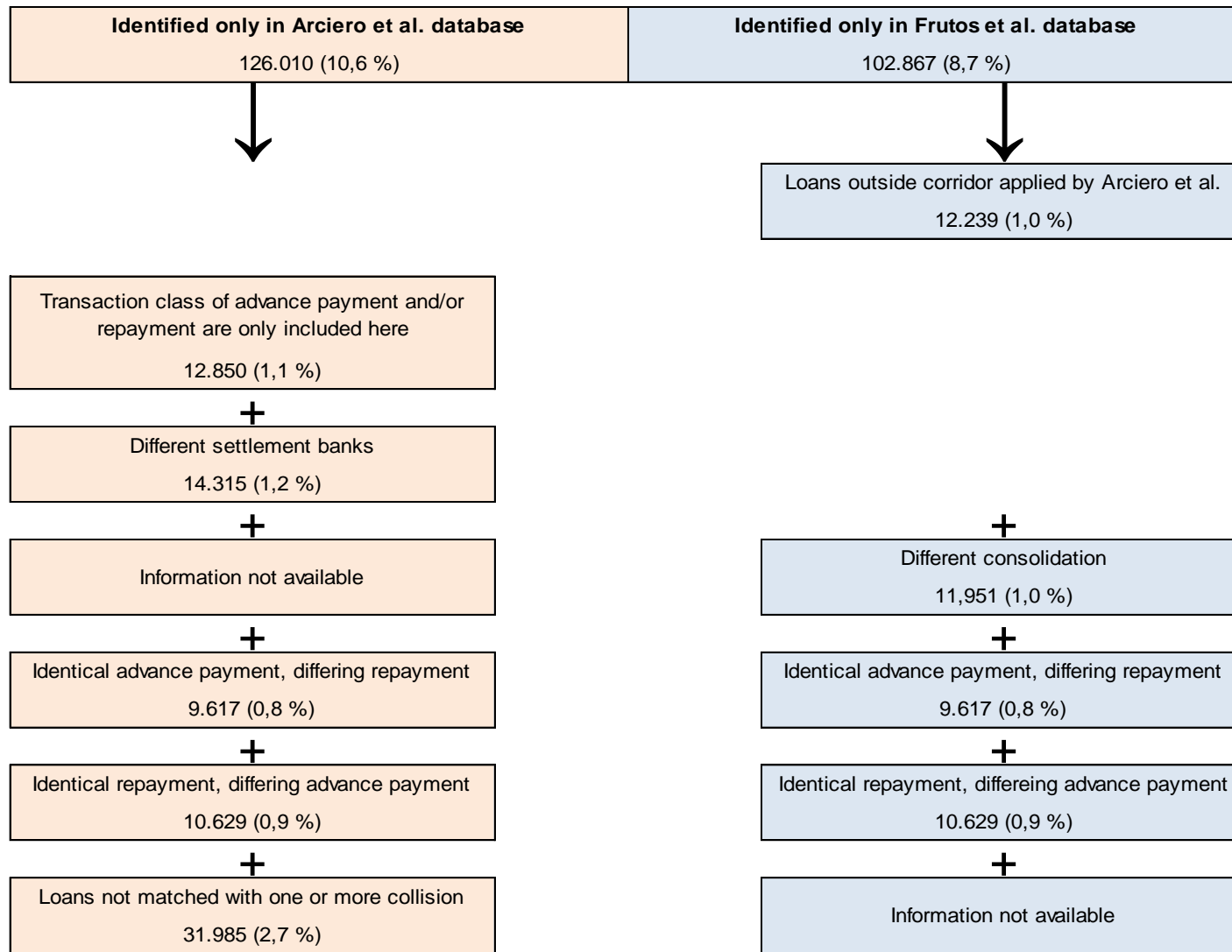26 August 2016
Page 10

Comparison of volumes
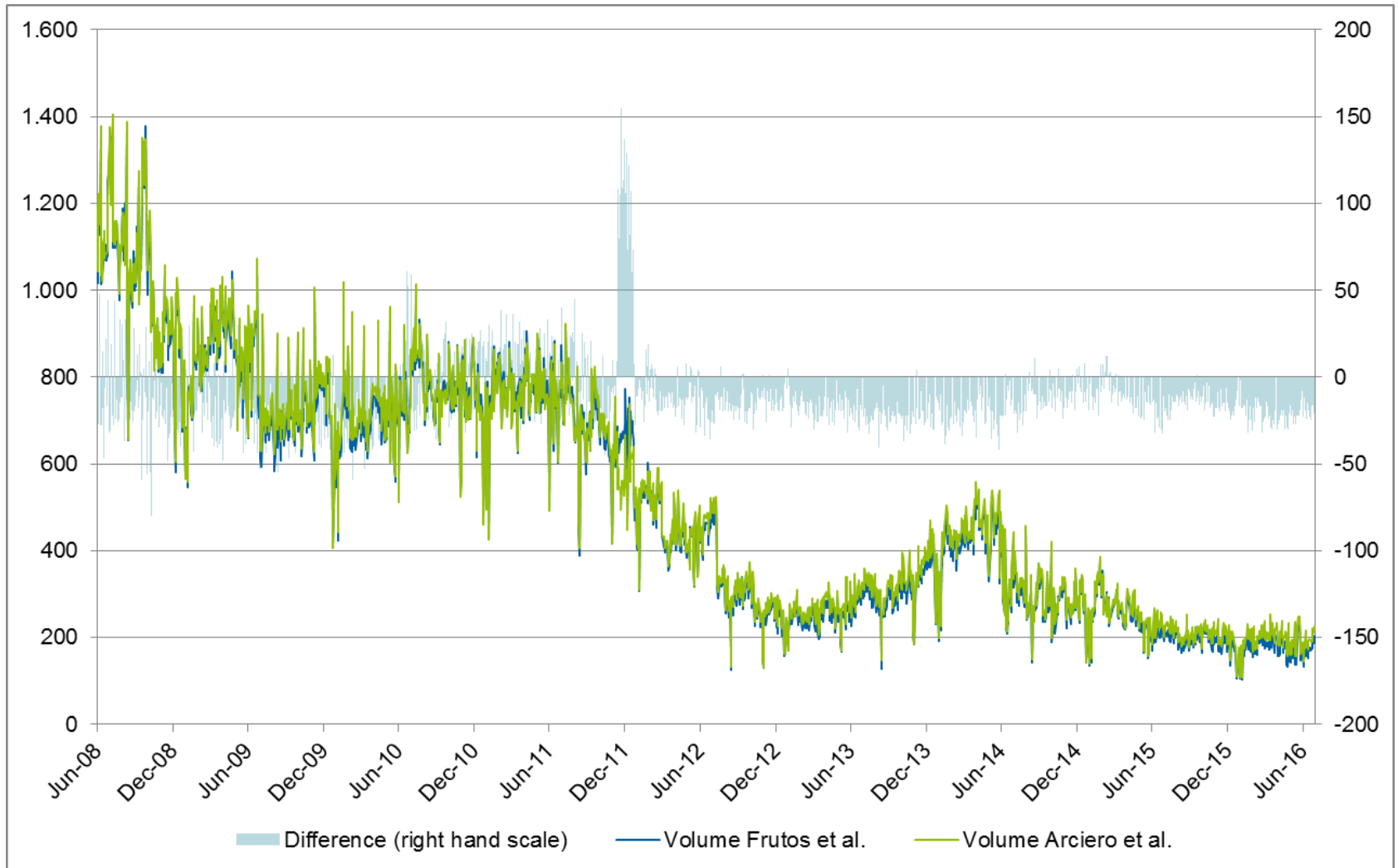
Differences accounting

Identified only in Arciero et al. database	Identified only in Frutos et al. database
126.010 (10,6 %)	102.867 (8,7 %)

Loans outside corridor applied by Arciero et al.

12.239 (1,0 %)

Transaction class of advance payment and/or repayment are only included here

12.850 (1,1 %)

+

Different settlement banks

14.315 (1,2 %)

+

Information not available

+

Identical advance payment, differing repayment

9.617 (0,8 %)

+

Identical repayment, differing advance payment

10.629 (0,9 %)

+

Loans not matched with one or more collision

31.985 (2,7 %)

+

Different consolidation

11,951 (1,0 %)

+

Identical advance payment, differing repayment

9.617 (0,8 %)

+

Identical repayment, differeing advance payment

10.629 (0,9 %)

+

Information not available

Differences over time

Legend:
- Different settlement banks
- Different transaction classes
- Different consolidation
- Identical advance payment only
- Identical repayment only
- One or more collision
- Loans above Eonia plus 1 %

The devil is in the details, but so is salvation
26 August 2016
Page 13

Loans above Eonia plus 1 % (volume)
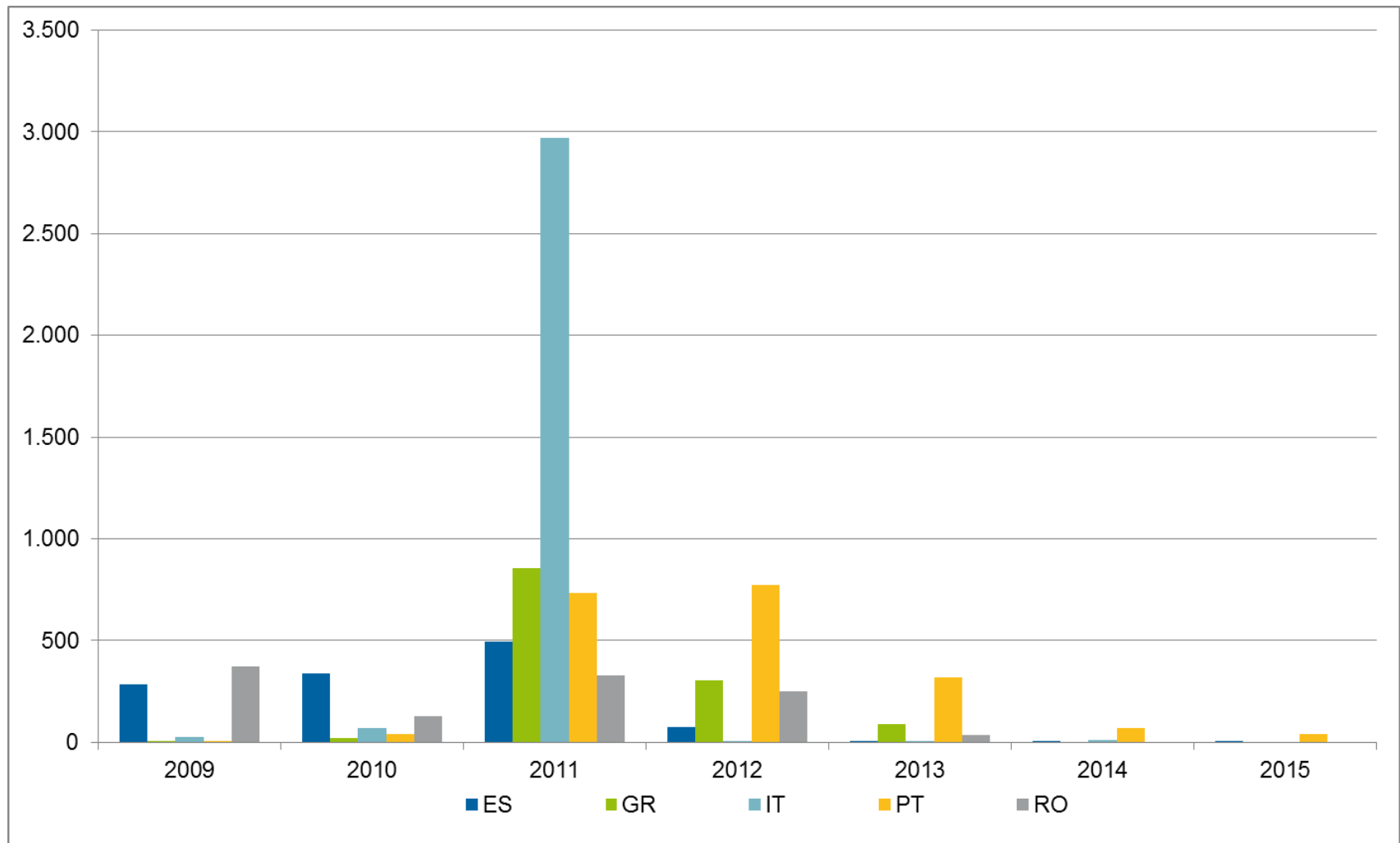
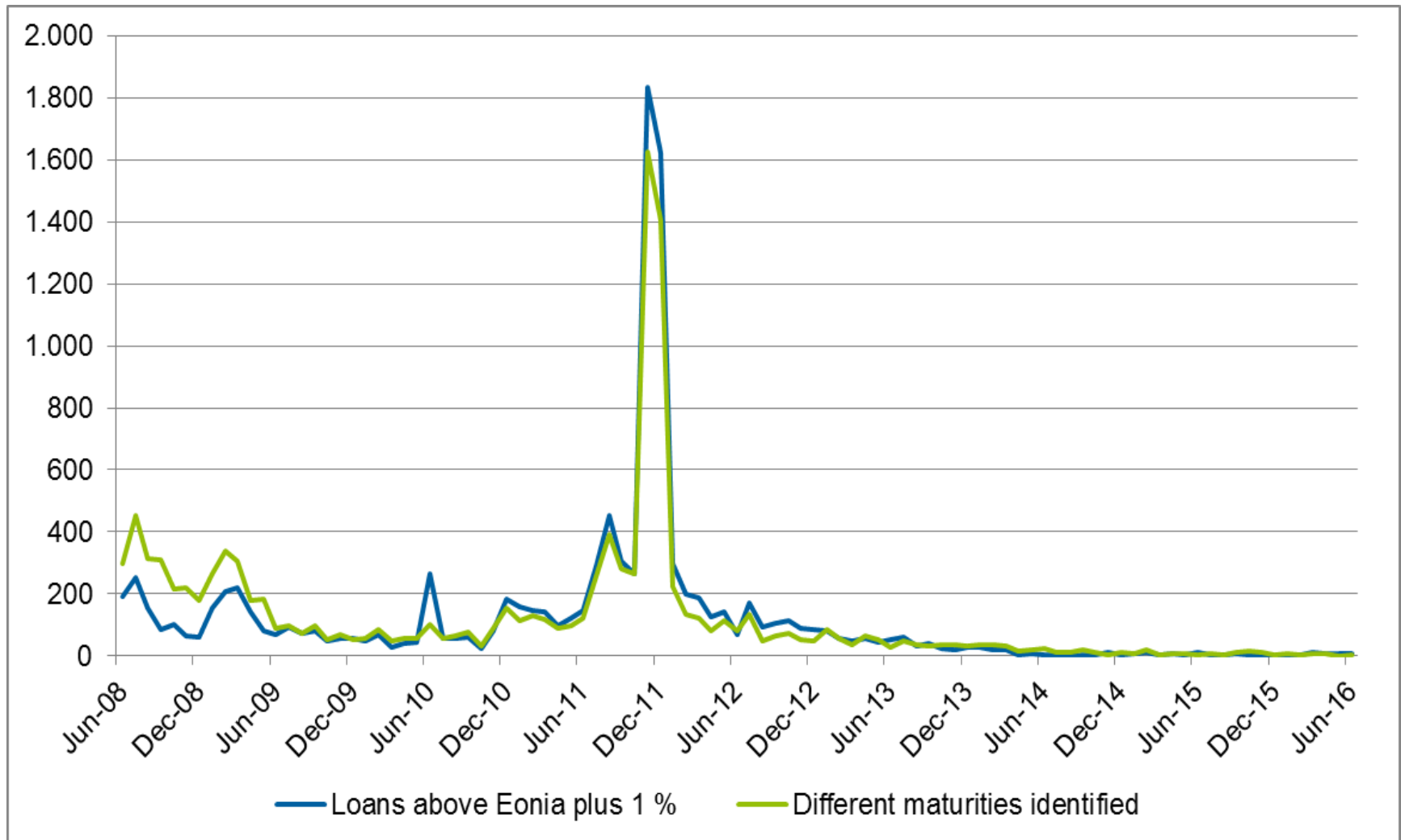# Loans above Eonia plus 1 % and stress (monthly)
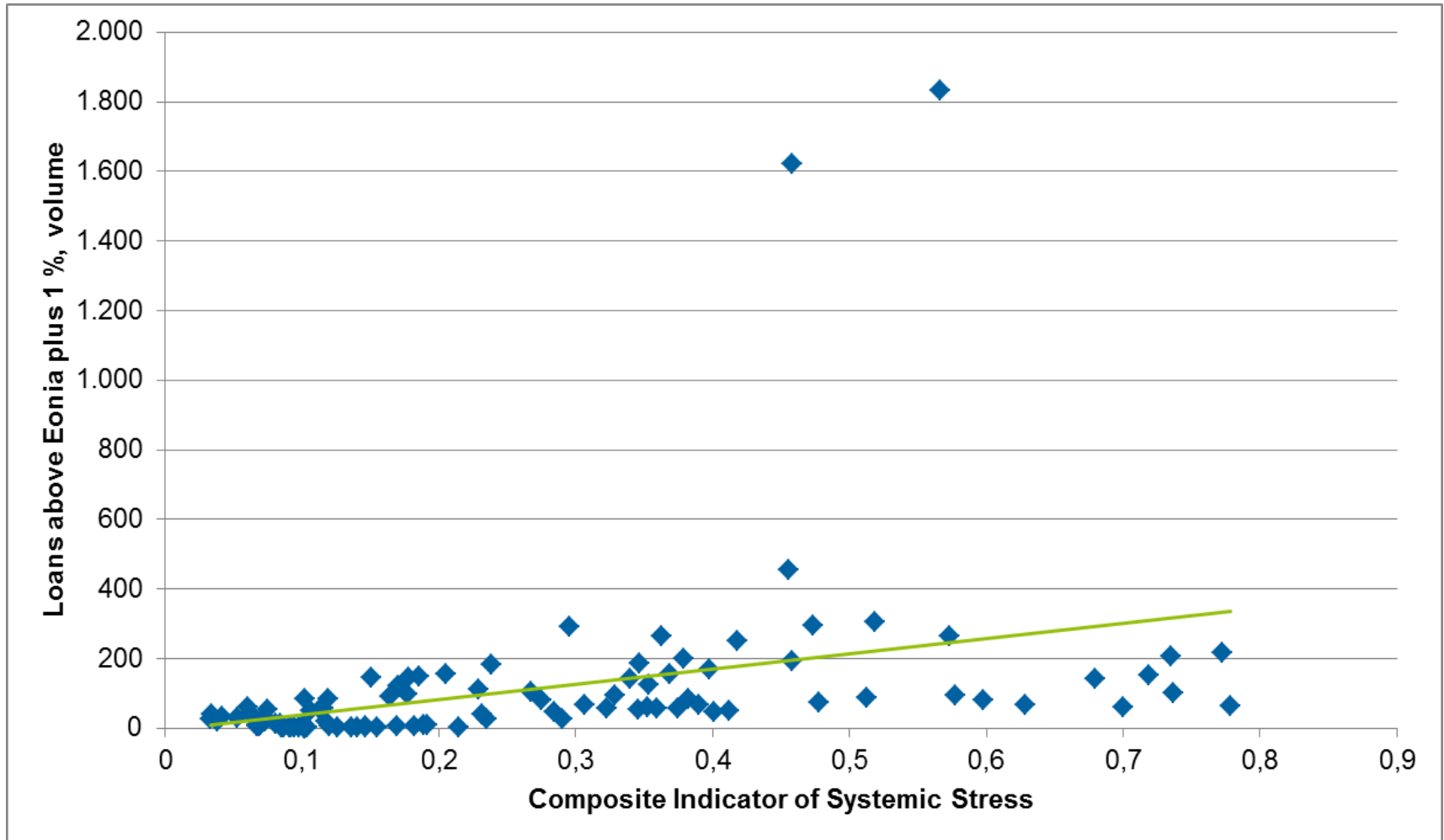
ECB, CISS indicators.

Loans above Eonia plus 1 % and differing maturities (volume)

Comparison of variance and CISS subindex (weekly averages)
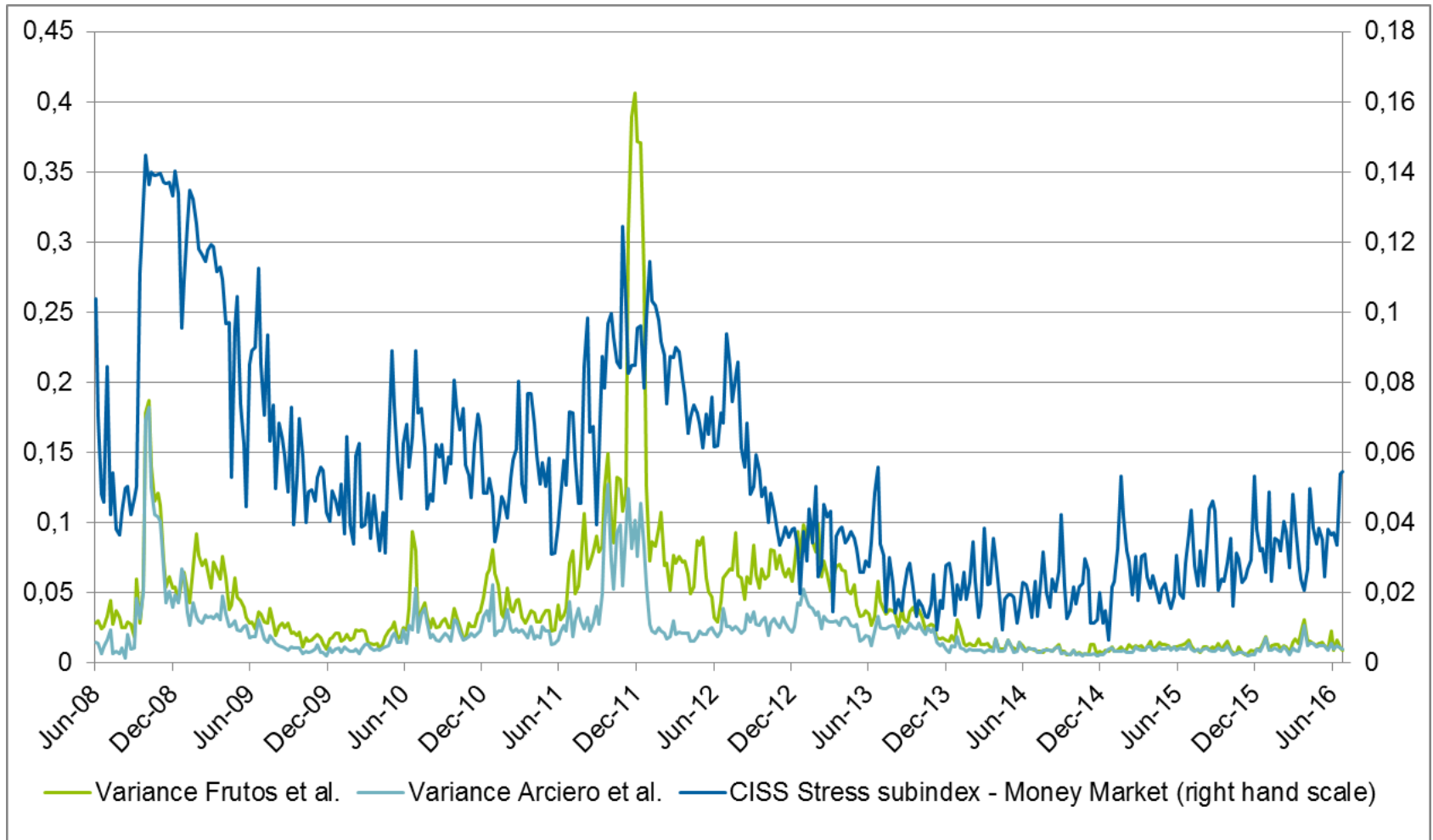
ECB, CISS indicators.

External factors and distinct loans (averages per reserve maintainance period)

	Ratio LA Eonia + 1 % / Total loans	Ratio Distinct loans / Total loans
Excess Liquidity	**0.620**	**2.809**
	(1.83)*	(3.77)***
Eonia	**-0.276**	**0.290**
	(1.68)*	(1.33)
Money Market Stress	**14.672**	**28.718**
	(1.55)	(3.13)***
Mon. Pol. corridor	**0.727**	**1.218**
	(4.17)***	(3.14)***
Constant	**-0.839**	**14.925**
	(4.03)***	(34.38)***
R^2	**0.14**	**0.45**
N	**92**	**92**

* $p<0.1$; ** $p<0.05$; *** $p<0.01$

Conclusion

- Deviations exist between the two implementations, part of which can be explained by methodical differences
- We observe deviations at the transaction level rather than deviations on the part of indicators
- Applied range of rates by the Arciero et al. implementation seems to be the difference with highest impact on results
- Some evidence was found that "out of range" observations are correlated with crisis times
- Variety has merit for research!

- **Future work: Validation with data from MMSR**

Thank you for attention!

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Literature
Databases

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