



EUROPEAN CENTRAL BANK

EUROSYSTEM

Holger Neuhaus
Head of Division
Money Market and Liquidity

Update on quantitative mapping exercise

Working Group on Euro Risk-Free Rates
20 April 2018

Disclaimer

- The following slides present tentative results of gauging the (maximum) amounts outstanding of financial instruments linked to variable rates in general among which EONIA and Euribor reference rates in particular.
- The findings and figures presented are work in progress and form the basis for discussions with Working Group members.
- Additional efforts are on-going in particular with respect to debt securities and derivatives.
- A more elaborated update will be presented at the Working Group meeting of 17 May 2018.

Objective of the mapping exercise

The mapping exercise aims at answering the following questions:

1. What are the current amounts outstanding of EUR denominated financial products by asset class linked to variable rates in general as well as to EONIA and Euribor reference rates in particular?
2. Which share of these financial products mature after 2019?
3. Are there structural characteristics that require adjusting the focus or scope of current mandate deliverables?

Objective of the mapping exercise

Summary view on questions 1 and 2:

- EUR 2.9 trillion of **EONIA**-linked and EUR 3.4 trillion of **Euribor**-linked financial transactions will remain outstanding on 1st January 2020.

	Amount outstanding		Most common reference rate
	Current	01 January 2020	
Money market - unsecured segment	EUR 89 billion	-	EONIA
Money market - secured segment	EUR 0.4 trillion	-	EONIA
Money market - OIS segment	EUR 10.9 trillion	EUR 2.9 trillion	EONIA
Loans	EUR 9.7 trillion	EUR 2.9 trillion	Euribor
Syndicated loans	EUR 1.2 trillion	EUR 0.8 trillion	Euribor
Debt securities	EUR 657 billion	EUR 361 billion	Euribor
Sovereign and supranational bonds	EUR 249 billion	EUR 162 billion	Euribor
Financial institution bonds	EUR 260 billion	EUR 138 billion	Euribor
Corporate bonds	EUR 148 billion	EUR 64 billion	Euribor

Note: Amount outstanding refers to financial instruments linked to reference rates except for the category “Loans” which refers to the total of fixed and floating rate loans.

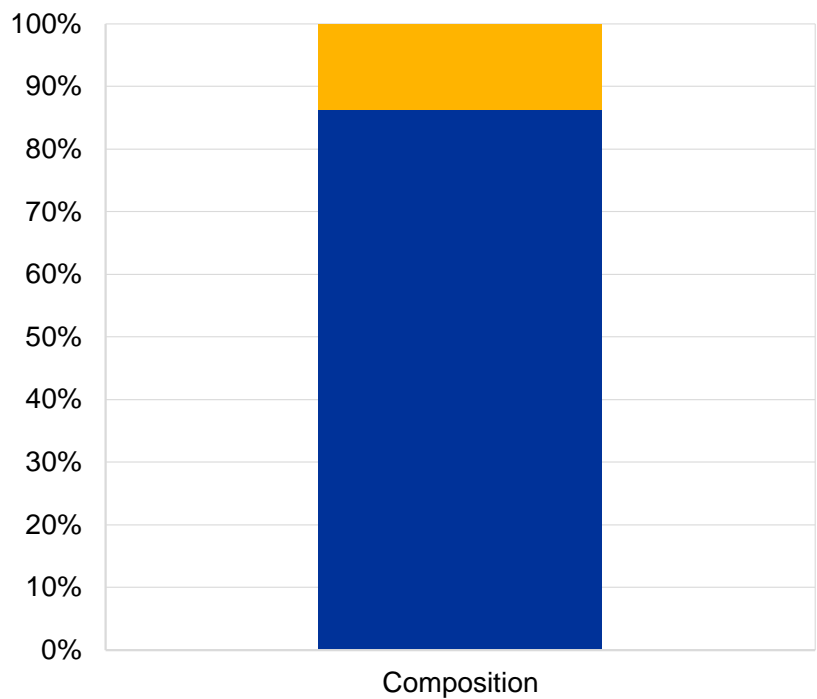
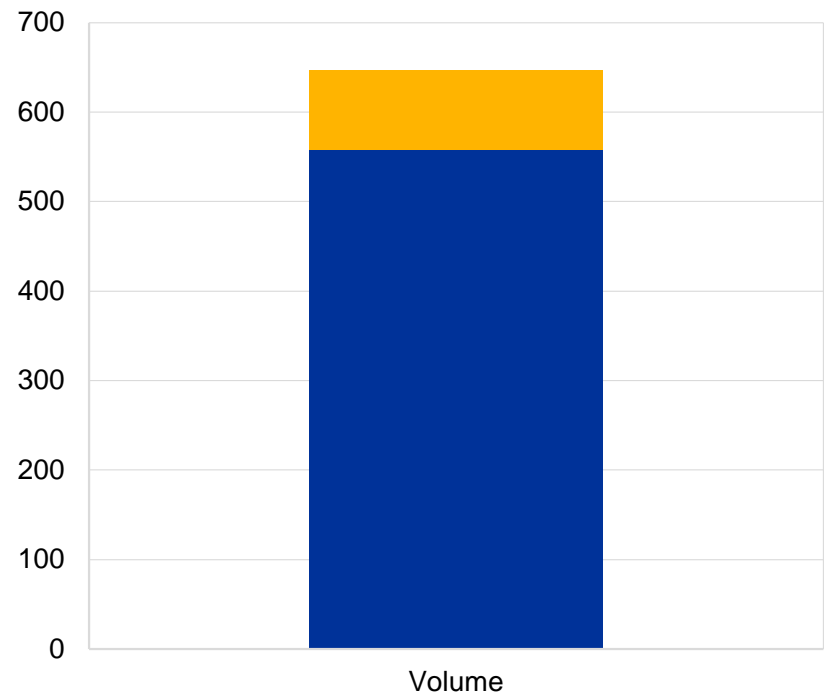
Issues related to question 3:

- Need to approach non-EU market associations to raise their awareness on EUR denominated floating rate debt securities issued by non-EU issuers?

- **Amount outstanding:**
- EUR 647 billion of deposits (excluding call accounts) plus short-term securities, o.w. EUR 89 billion (14%) linked to EONIA.
- EUR 56.1 billion of call accounts, o.w. EUR 18.8 billion (33%) linked to EONIA

Amount of unsecured deposits and short-term securities outstanding
(17 Apr. 2018; LHS: EUR billion; RHS: percentages)

■ Linked to other variable rates and fixed rates
■ Linked to Over Night EONIA



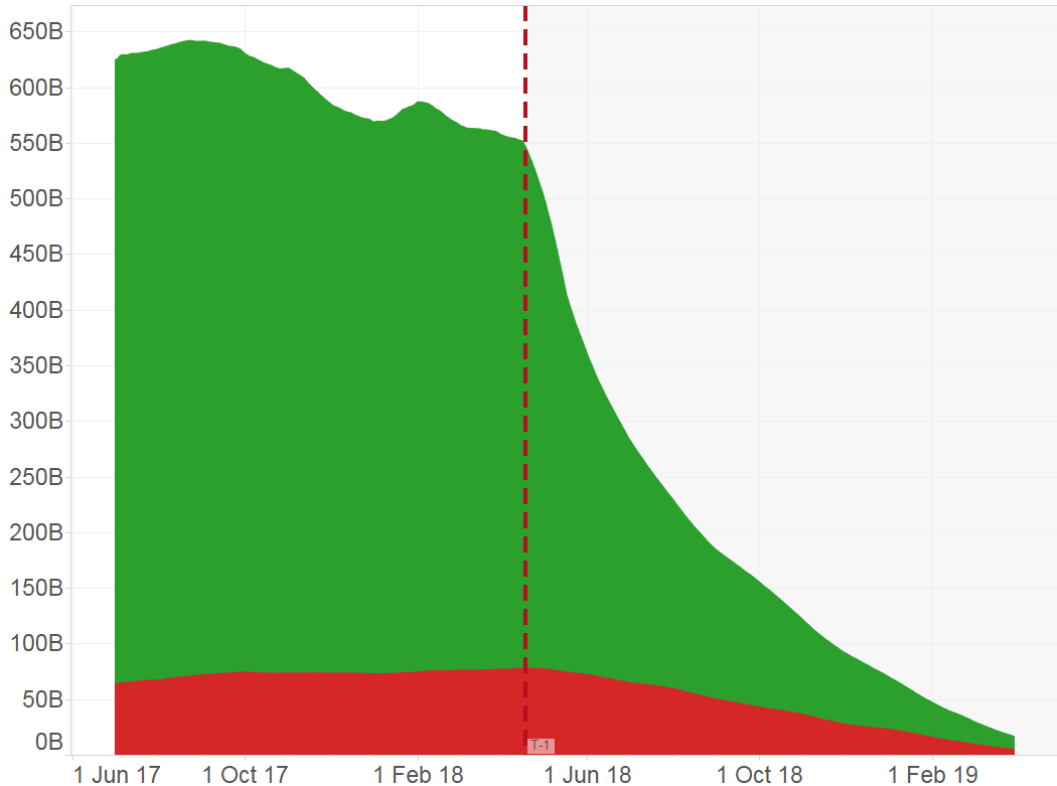
Source: ECB MMSR.

Note: Call accounts are excluded on this chart.

- **Residual maturity:** By construction the stock of transactions linked to EONIA would take approximately 1 year to mature.

Amount outstanding of EUR denominated unsecured deposits and short-term securities
(1 Jun. 2017 - 31 Mar. 2019; EUR billion)

■ Linked to other rates + Fixed
■ Linked to Over Night EONIA

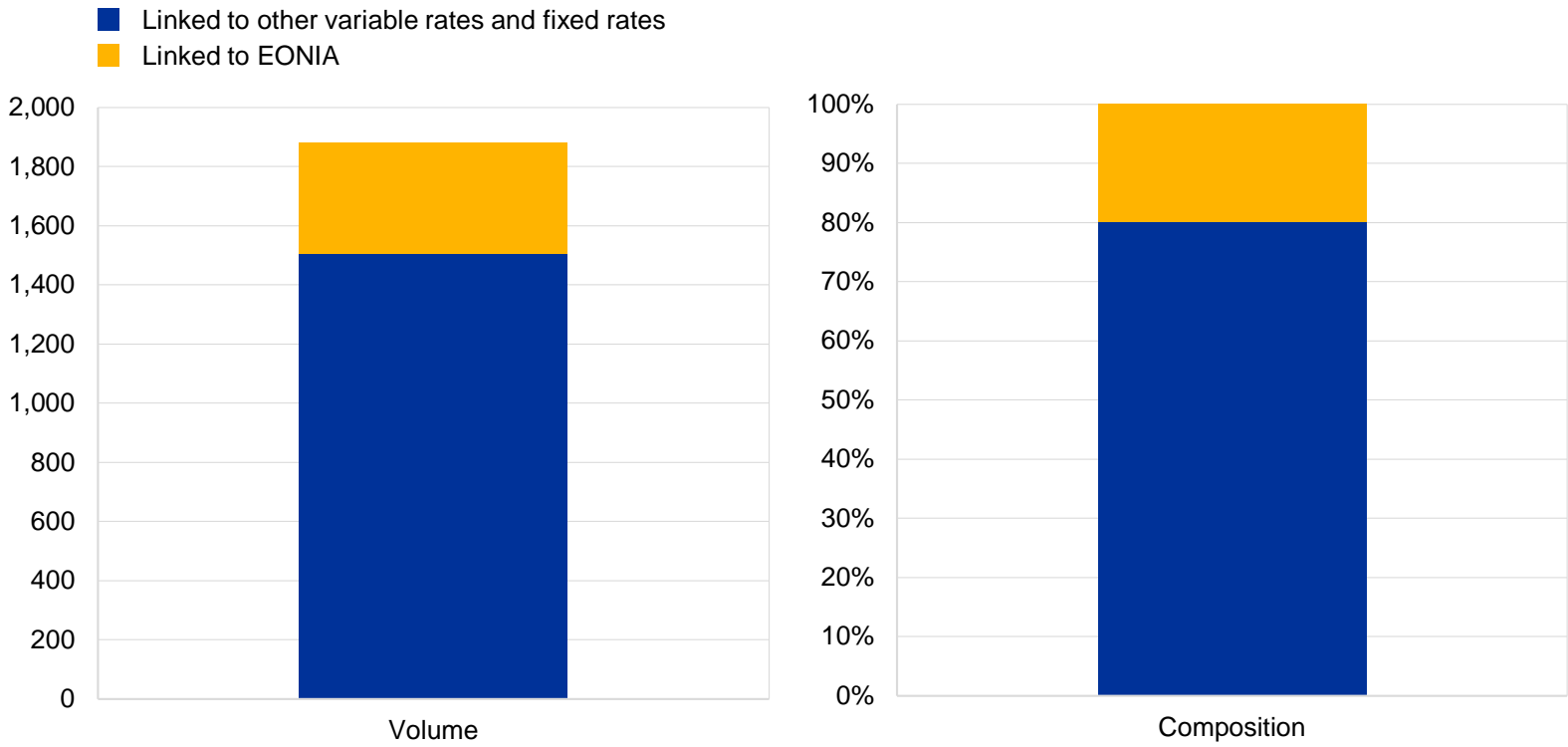


Source: ECB MMSR.

Note: Call accounts are excluded on this chart.

- **Amount outstanding:** EUR 1.9 trillion, o.w. EUR 0.4 trillion linked to EONIA.
- **Residual maturity:** below 1 year.

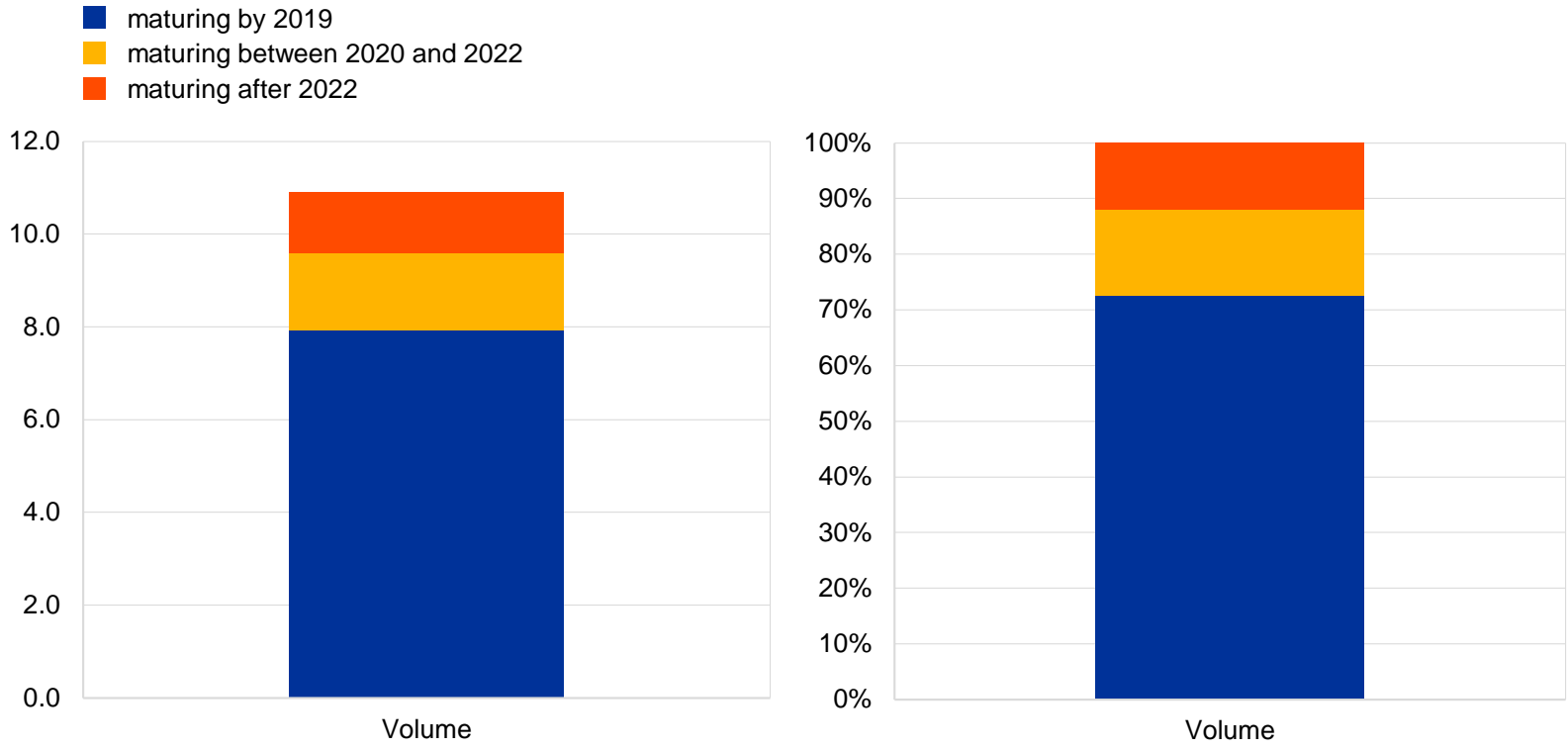
Amounts of secured transactions outstanding
(17 Apr. 2018; LHS: EUR billion; RHS: percentages)



Source: ECB MMSR.

- **Amount outstanding:** EUR 10.9 trillion linked to EONIA.
- **Residual maturity:** 73% of these transactions to mature by end 2019.

Amounts of OIS transactions outstanding
(17 Apr. 2018; EUR trillion)



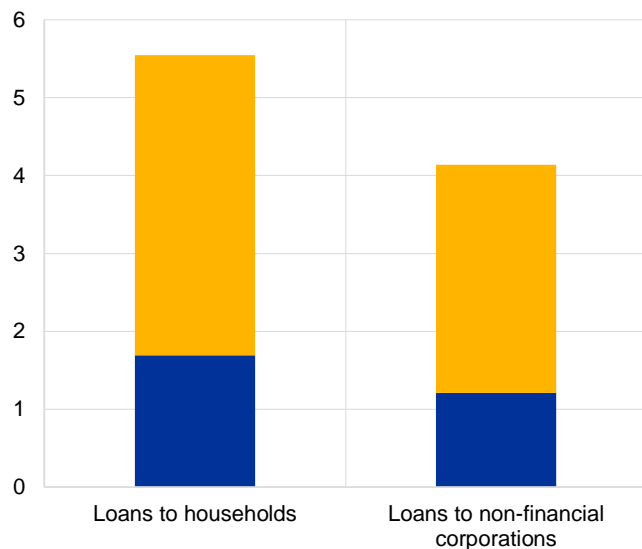
Source: ECB MMSR.

- **Amounts of loans outstanding:** EUR 9.7 trillion of loans (57% to households and 43% to non-financial corporations)
- **Composition of loan stock:** 75% of EUR 5.5 trillion loans to households are for house purchases
- **Residual maturity of loan stock:** 30% of total loan stock remains outstanding after 2019
- **Relevance of floating rate loans:** Broadly stable share of floating rate loans for each loan segment
- **Reference rates:** 3-months and 6-months Euribor rates most relevant reference rates for business and retail loans according to Working Group survey results.

Volumes of outstanding amounts of euro-denominated loans to euro area residents

(Dec. 2017; EUR trillion)

- With a residual maturity of over 2yrs, i.r.r. in the next 24 months
- With a residual maturity of up to 2yrs



Source: ECB MFI interest rate statistics.

Notes: i.r.r. = interest rate reset.

New euro-denominated loans to euro area households (HHs) and non-financial corporations (NFCs)

(Feb. 2017 – Feb. 2018; monthly data; EUR billion and percent)

Loans to		New EUR denominated loans	
		Average monthly volume	Share of floating rate loans
HHs	Total	107.7	22.1%
	for consumption	21.9	11.6%
	for house purchase	71.4	18.2%
	for other purposes	14.4	57.6%
NFCs	Total	173.2	82.0%

Source: ECB MFI interest rate statistics.

Loans – for house purchase

- Reference rates:** Euribor 3-months, 6-months, 1-month and 12-months most common reference rates for retail mortgages according to Working Group survey.

Characteristics of loans for house purchase

	Prevailing type of interest rate ¹⁾	Percentage share of variable rate loans in total new loans ²⁾	Index for adjusting variable interest rate	Typical maturity (years)
BE	Fixed (over 10 years)	10	Treasury bills (12 months), bonds (1-10 years)	20
DE	Fixed (over 5 and up to 10 years)	15	long-term market rates	25-30
IE	Variable	67	ECB main refinancing rate, 3-month EURIBOR	31-35
GR	Variable ³⁾	28	ECB main refinancing rate, 3-month EURIBOR	15-20
ES	Variable	91	12-month EURIBOR	30
FR	Fixed (over 10 years)	15	12-month EURIBOR	19
IT	Variable	47	3-month EURIBOR	22
CY	Variable	n.a.	3-month EURIBOR	20-25
LU	Variable	90	ECB main refinancing rate	20 and above
MT	Variable	85 ⁵⁾	ECB main refinancing rate	30-40
NL	Fixed (over 5 and up to 10 years)	18	long-term market rates	30
AT	Variable	61	3-month EURIBOR	30
PT	Variable	99	6-month EURIBOR	30-40
SI	Variable	80	6-month EURIBOR	above 20
FI	Variable	96	12-month EURIBOR, prime rate	20-25
Euro area ⁶⁾	-	43	-	-

Source: ECB Housing Finance in the Euro area (March 2009).

Notes:

1) Loans with variable interest rates are loans extended at floating rates or with an initial period of rate fixation of up to one year. If the fixation period is longer than one year, the housing loan is considered a fixed rate loan. The selected typical interest rate is in line with an initial rate-fixation period according to the harmonised MFI interest rate statistics.

2) Share of loans with interest rate resetting period up to one year in total volume of new loans for house purchase in 2007.

3) Variable interest rates have prevailed in recent years up to 2006. In 2007, however, the interest rate fixation period of over one year and up to five years was dominant in the new business volumes (see also Chart 7 [NBA: refers to source report]).

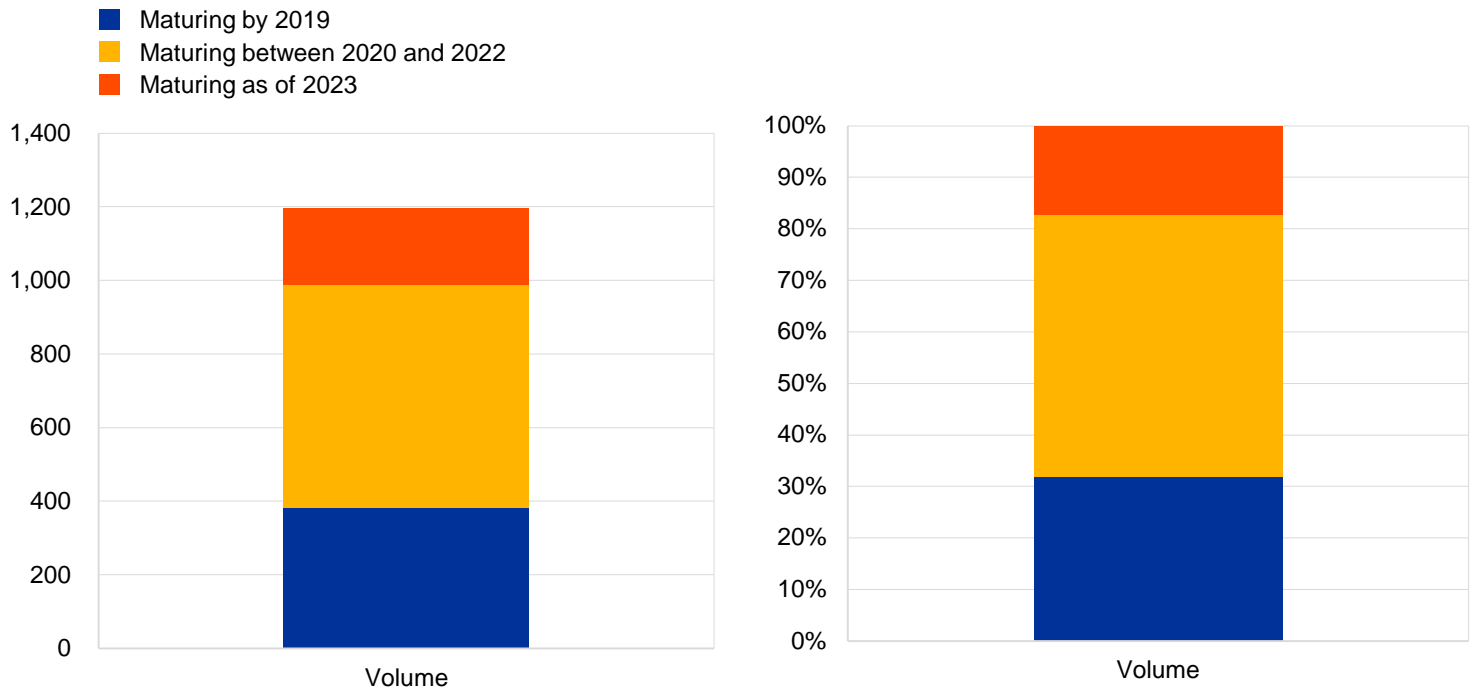
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5) Refers to January 2008.

6) The euro area average is calculated on the basis of countries for which data are available, and may not always be fully representative.

- **Amount outstanding:** EUR 1.2 trillion by predominantly corporate borrowers.
- **Residual maturity:** 32% of tracked syndicated loan volumes are due to mature by end 2019.
- **Reference rates:** 3-months and 6-months Euribor rates are the most relevant reference rates for syndicated loans according to the Working Group survey results.

Amounts outstanding of syndicated and large club loans by maturity bucket
(12 April 2018; LHS: EUR billion; RHS: percentages)



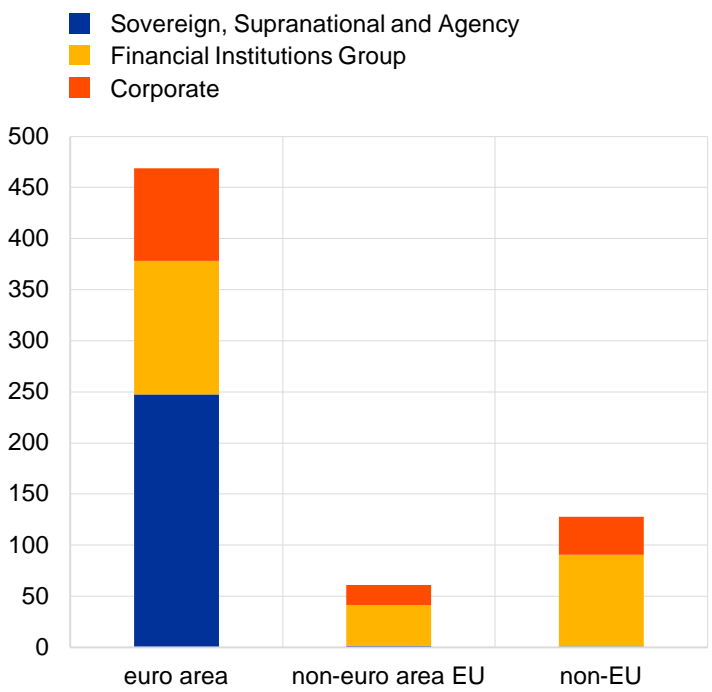
Sources: Dealogic, LMA and ECB calculations.

Notes: Data on actual outstanding amounts of syndicated loans is not available. This estimate is based on loans reported by Dealogic (as of 12 April 2018) and for which the contractual maturity has not yet passed.

- **Amount outstanding:** EUR 657 billion of EUR denominated floating rate bonds.
 - 71% from euro area based issuers
 - 14% from financial institution issuers from outside of the EU.
- **Residual maturity:** 45% of bonds maturing by end 2019.
- **Reference rates:** 86% linked to Euribor rates in general and 66% linked to the 3-months Euribor in particular.

Debt outstanding by issuer region and type

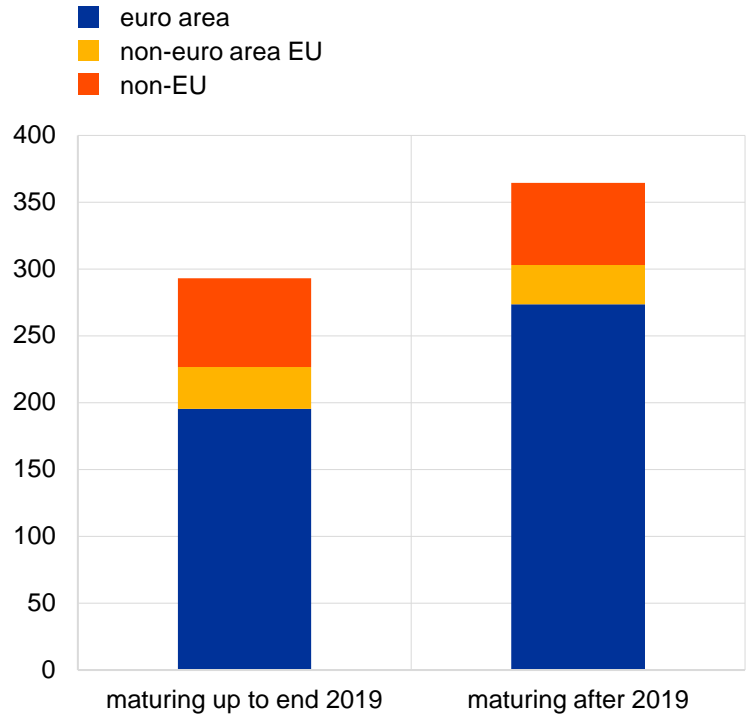
(Dec. 2017; EUR billion)



Sources: Dealogic, AFME and ECB calculations.

Debt outstanding by maturity bucket and issuer region

(Dec. 2017; EUR billion)



Sources: Dealogic, AFME and ECB calculations.

Sovereign and supranational bonds

- **Amount outstanding:** EUR 249 billion
- **Reference rates:** 43% and 31% linked to 6-months and 3-months Euribor respectively
- **Residual maturity:** 35% maturing by end 2019
- **Issuers:** IT (30%), DE (27%) and FR (14%)

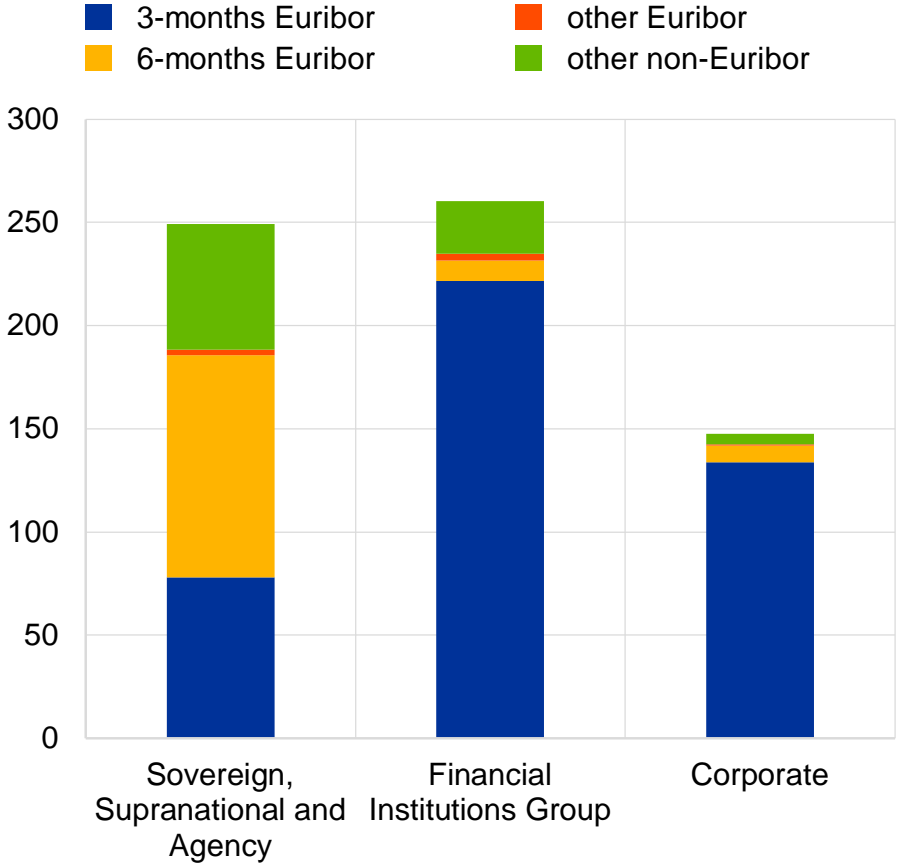
Financial institution bonds

- **Amount outstanding:** EUR 260
- **Reference rates:** 85% linked to 3-months Euribor
- **Residual maturity:** 47% maturing by end 2019
- **Issuers:** 34% and 15% are issued by non-EU (in particular US) and non-euro area EU issuers respectively

Corporate bonds

- **Amount outstanding:** EUR 148 billion
- **Reference rates:** 91% linked to 3-months Euribor
- **Residual maturity:** 57% maturing by end 2019
- **Issuers:** 25% and 13% are issued by non-EU (in particular US) and non-euro area EU issuers respectively

Outstanding debt by issuer type and reference rate
(Dec. 2017; EUR billion)



Sources: Dealogic, AFME and ECB calculations.