ECB mastering TLTRO III's implementation and negative rates for longer

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See Appendix for analyst certification and important notices.

ECB still supportive with limited tools

- The euro zone economy is weak and there are only few signs that the growth cycle may improve any time soon. The ECB is in wait of fresh information to assess whether the stimulus introduced in March is enough or needs to be finetuned.

- The markets' focus is no longer so much on rates after the Council in March postponed the date until which "rates will stay at current levels". Moreover, **reference to measure to mitigate the impact of negative rates, signals rates may stay in negative territory for even longer** than indicated in the forward guidance.

- What we expect:

  - **TLTRO III details to be announced in June** - our baseline scenario is that **the ECB will set the Refi rate as the ceiling rate**, and that the incentives will allow for rate reductions in slightly negative territory or for preferred collateral treatment. Yet, alternative scenarios, in which the Refi is indicated as the central rate or the floor rate are also possible.

  - **Tiering** is under study at the ECB, but **on balance we think it will not be introduced any time soon**. Implementing a tiering scheme in the Euro area may prove **complex** given the **heterogeneity across countries and within countries** banks' reserves holdings. More importantly **a tiering scheme may introduce volatility in money markets**, which are already set to undergo an important transition this year with the launch of €STR o/n rate in October. Please see IRS, "*Euro benchmarks set for launch*", 09/04/2019.

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2 Handling negative rates for longer: the tiering of excess reserves

3 The implications for short-term rates

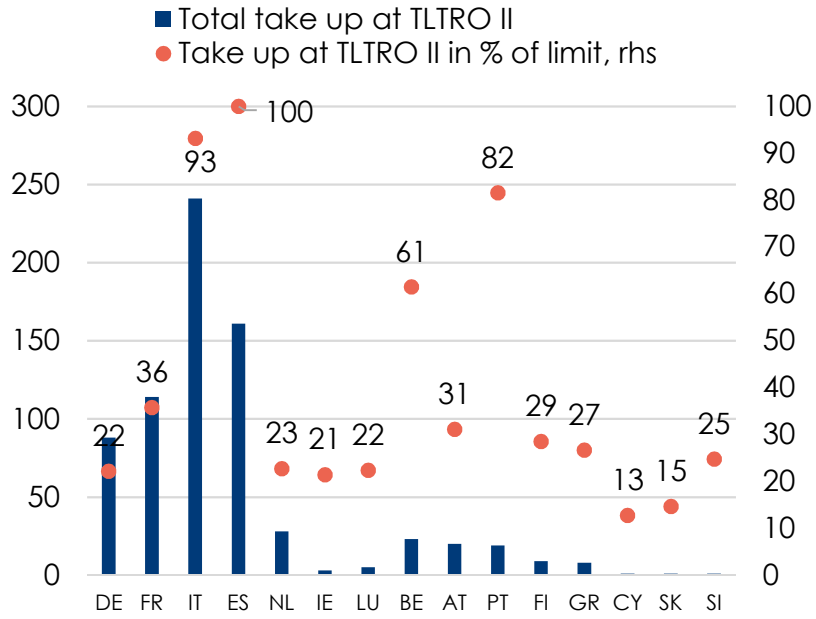
TLTRO III as an "insurance against uncertainty"

What we know so far:

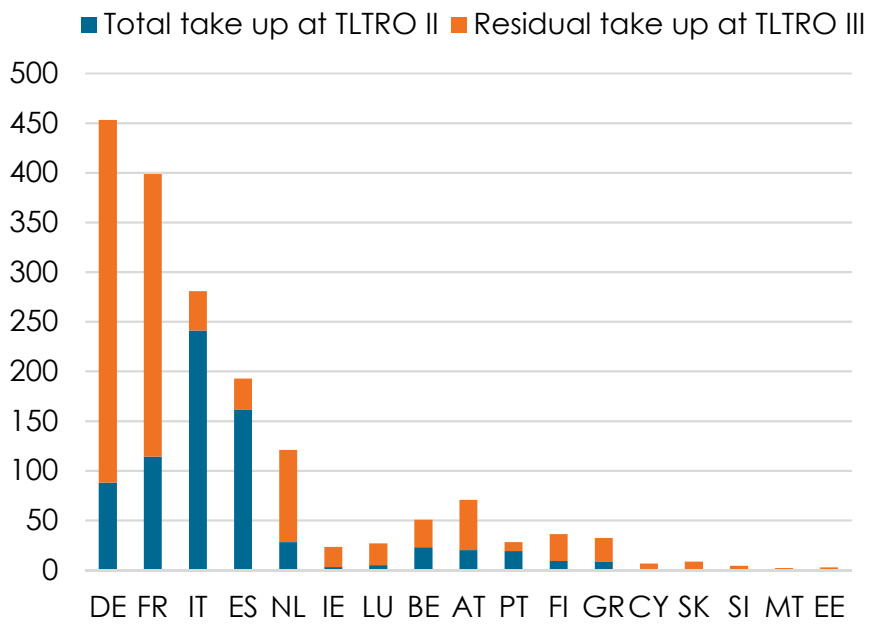
- 7 new operations each with two years maturity the first in September 2019 the last in March 2021
- Take up limit equal to 30% of the stock of eligible loans as at 28 February 2019 (probably minus the outstanding funds from the TLTRO II, as it was the case for TLTRO II).
- Rate indexed to the interest rate on the main refinancing operations over the life of each operation
- Like the outstanding TLTRO-II programme, TLTRO-III will feature built-in incentives for credit conditions to remain favourable.

The maximum take up could even rise significantly for core countries.

Banks' recourse to ECB's funding under TLTRO II



Take up limit at TLTRO III



NOTE: Take up limit = stock of loans to NFCs and to HSHDs on 28/02/2019 minus outstanding funds from TLTRO II

Source: ECB and Intesa Sanpaolo

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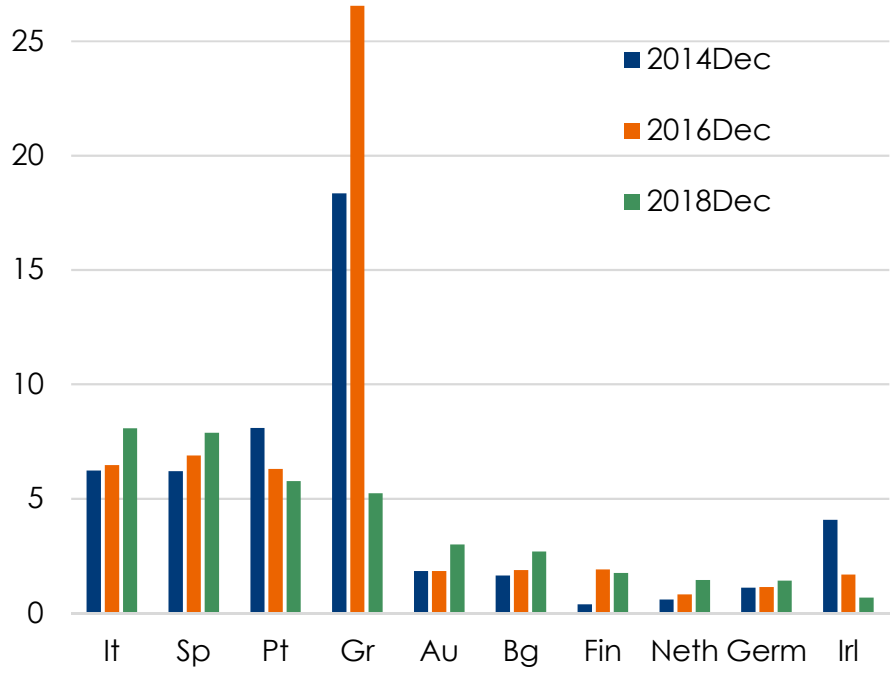
ECB will try to reduce dependence on CB funding

- TLTRO II funds are a significant share of assets for Italy and Spain.

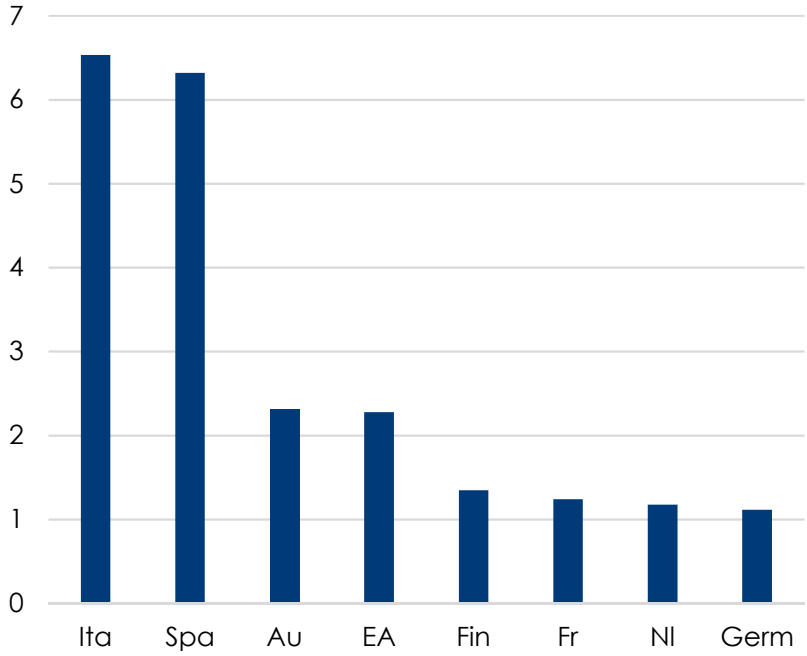
Share of CB funding in % of main liabilities*



Note: * Main liabilities consist of total liabilities excluding the shares / units issued by money market funds and other liabilities (volatile components that are separate from the banks' main assets, including liabilities from derivatives)

Source: ECB Banks' supervisory data and Intesa Sanpaolo

TLTRO II take up in % of total assets



Source: ECB Banks' supervisory data, Intesa Sanpaolo

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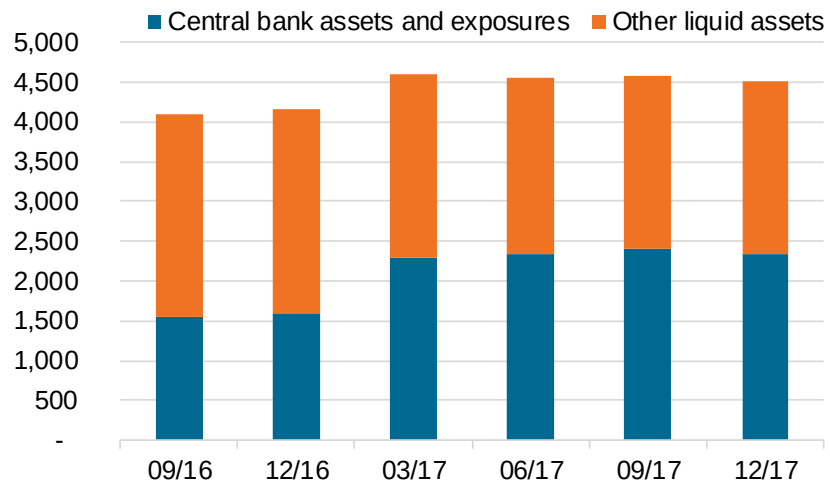
Also EBA stressed liquidity buffer centred on CB

«Banks will have to find alternatives to maintain sustainable liquidity buffers to cover net outflows after the tapering of unconventional central bank policies and a shift towards a high interest rate environment. In this case, the opportunity cost of holding liquid assets is expected to increase for banks, having direct implications for liquidity buffers.»

EBA, «Report on liquidity measures under Art.509(1) of the CRR», 4/10/ 2018

Liquidity buffer and evolution of exposure to the central bank (EUR Bn)



Source: EBA «Report on liquidity measures under Art.509(1) of the CRR», 4 October 2018, Intesa Sanpaolo

- The EBA has reported that liquid assets account for 16% of the total assets of the 158 European banks, valued based on balance sheet data at the end of December 2017.
- Level 1 assets account for 90% of the liquidity buffer.
- **Exposure to central banks is one of the main components of the liquidity buffer of banks, and in particular of GSIIs and O-SIIs banks.** In December 2017, based on the sample of banks covered by EBA financial year 2018, around 51% of the liquid assets was represented by exposure to the ECB.

Replacement costs of TLTRO II funds, heavy for some

- Banks intend to focus funding mostly on long-term maturities, in order to consolidate their loss-absorption capacity.
- The sensitivity analysis on the cost of funding for the banking system at country level shows that the replacement of TLTRO funds through recourse to the market would have a significant negative impact on the Net Interest Margin (NII).

Planned issuance of medium-long terms bonds by European (EBA) banks (EUR Bn)

Country	2016-2017 avg	2018F	2019F	2020F
DE	171.9	89.7	149.3	149.9
FR	164.1	57.5	138.0	135.4
IT	54.4	32.8	63.0	71.2
ES	65.5	61.7	93.4	95.0
NL	75.4	30.2	67.4	64.5
AT	15.3	6.8	12.6	11.7

Source: EBA, «EBA Report on funding plans», Sep 2018, Intesa Sanpaolo

Scenario of partial market recourse to replace TLTRO II funds

	Germany	France	Italy	Spain
ECB Long-term refinancing operations outstanding (EUR mln)	93,319	113,900	238,934	167,500
Current rates of alternative funding sources (%)				
5Y Senior Bonds	0.49	0.29	1.12	0.58
5Y Covered Bonds	0.01	0.01	0.31	0.11
3M Repo GC	-0.49	-0.47	-0.40	-0.45
12M Repo GC	-0.53	-0.48	-0.38	-0.35
Deposit rate non fin corp	0.02	0.09	0.60	0.25
ECB repo MRO	0.00	0.00	0.00	0.00
Avg rate (30% MRO +70% funding sources eq. weighted)	**-0.07**	**-0.08**	**0.17**	**0.02**
Estimated funding cost increase				
- in basis points	**+33**	**+32**	**+47**	**+37**
- as % of 2017 Net Interest Income	**0.4%**	**0.5%**	**3.4%**	**1.0%**

NOTE: The analysis is based on our estimates of the TLTRO rate obtained and on the hypothesis that the replacement of TLTRO funds is 30% through MRO BCE and for the remaining 70% through recourse to market sources.

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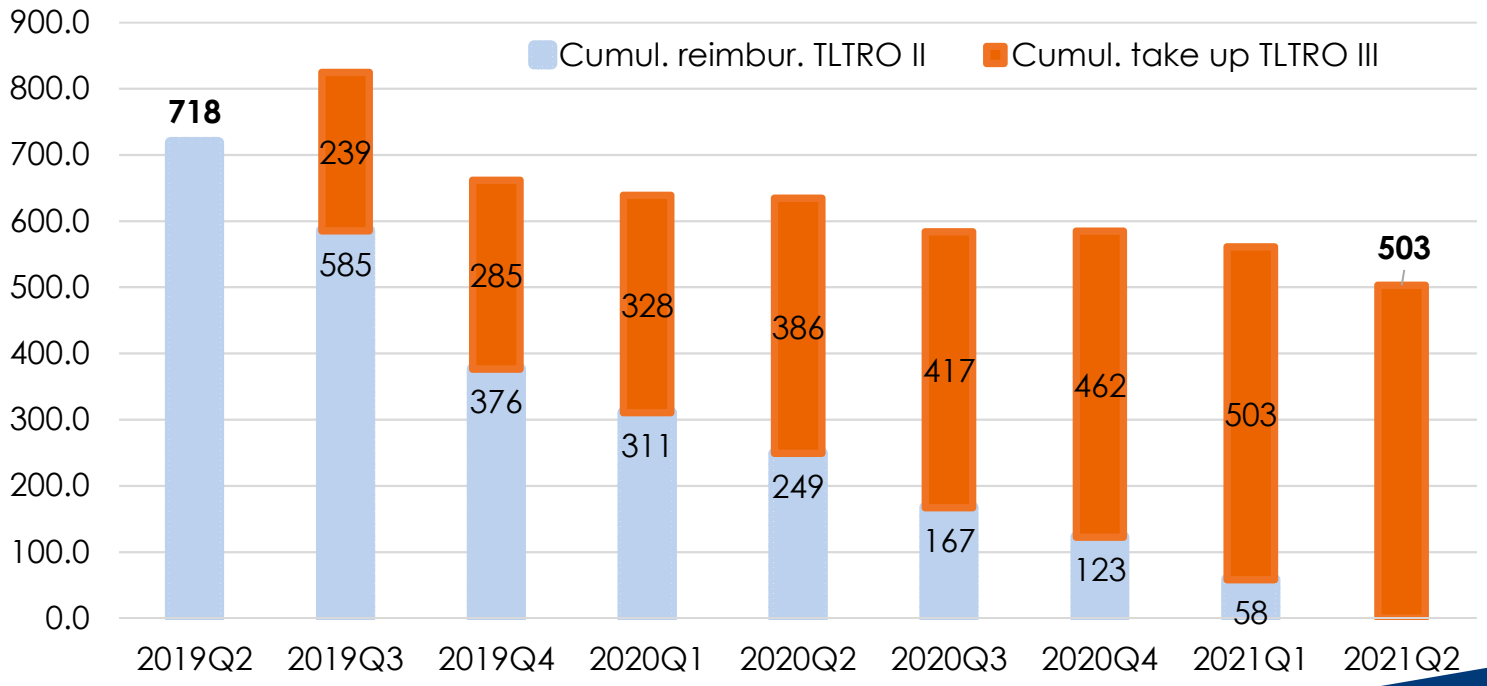
Our main case for reimbursement of TLTRO II funds and take up at TLTRO III

- If conditions are generous as assumed in our main case scenario the overall take up should be at around 500bn euros.
- In Q3, we could see liquidity rising towards 800bn euros. But form year-end overall liquidity from long-term refinancing should decline gradually towards 500 bn euro in March 2021.

Our main case scenario
ECB's funding declines to 500bn in 2021 from 718bn



Source: ECB, Intesa Sanpaolo

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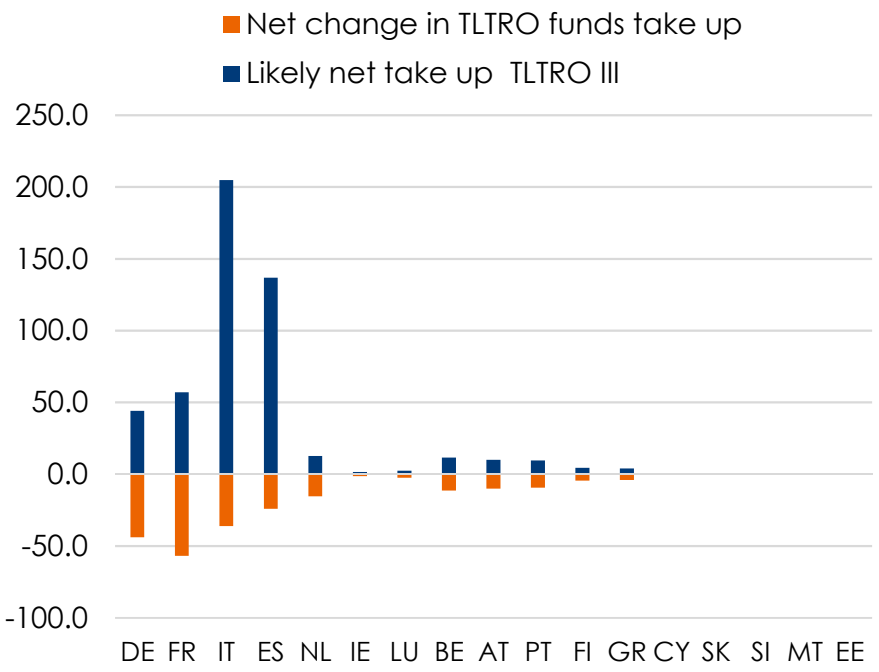
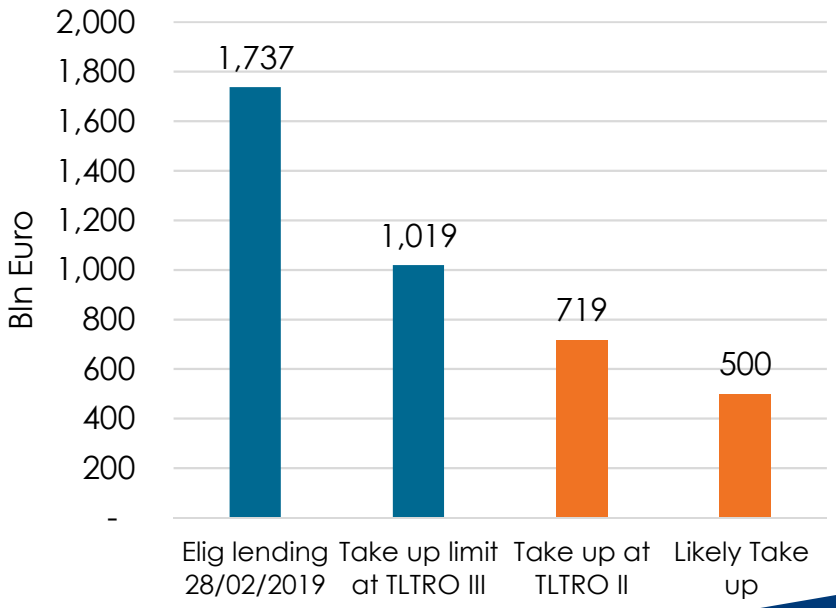
TLTRO III expected take up by country

- **Our main case scenario:** Refi rate is the ceiling and incentives take the form of rate discounts towards -0.4%

Main case scenario
Take up at TLTRO III



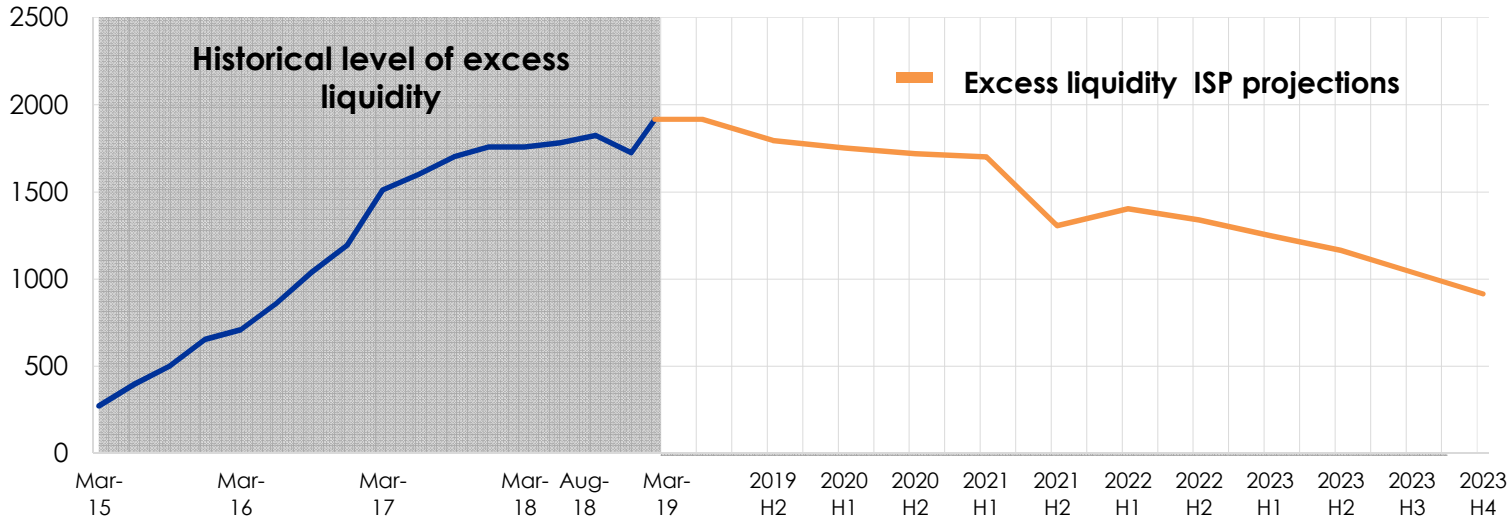
Main case scenario
In the EA average funds are expected to decline to 500 bln



Source: ECB, Intesa Sanpaolo

Excess liquidity to stay ample even if net take-up at TLTRO III declines

- ECB refinancing operations are in normal times the main liquidity supply instrument for a central bank. With its APP program the ECB forces liquidity onto the system, as assets are acquired by the central bank against an increase in banks' reserves holdings at the CB. Latest figures for April 2019 show excess liquidity at just under 2 trillion euros.
- If Eurozone banks net take up at TLTRO III decreases with respect to TLTRO II, excess reserves will decline by the same amount. **The implications for markets rate should be limited as excess liquidity will remain ample.**



Note: Our forecast assumes TLTRO III take up at 500 bn euro and a gradual reduction in the APP portfolio starting in march 2021 which will leave the overall portfolio at 1.9 trln at the end of 2024

Source: ECB and Intesa Sanpaolo estimates

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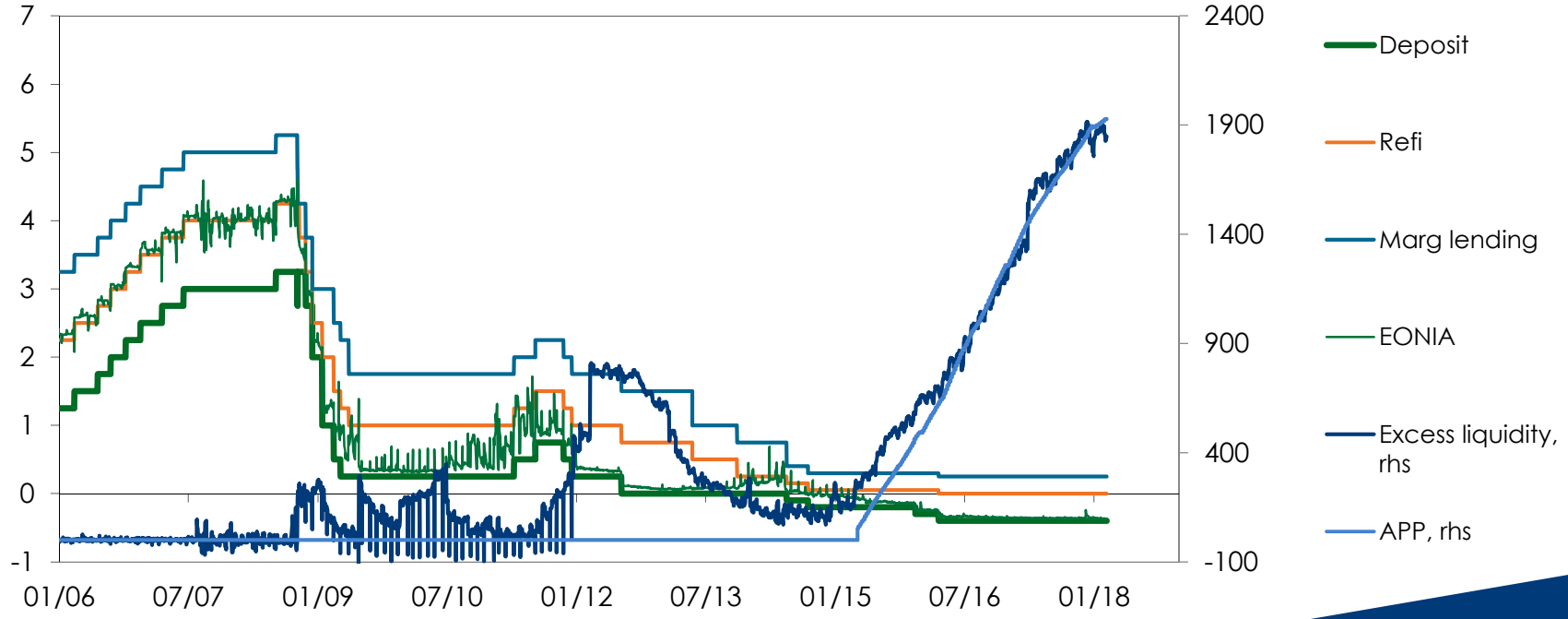
ECB: the deposit rate (the marginal rate) is the policy rate

ECB normally steers O/N unsecured rates through liquidity rationing at weekly repo operations. With full allotment the ECB can no longer steer market rates. The rate on the deposit facility is de facto the policy rate.

- **Required reserves (1% of deposits & debt securities up to 2Y) = 128bn euro charged at 0.0%.**
- **Excess liquidity = current account (1.3 tn) + deposit facility (0.6 tn) = 1.9tn euro charged -0.4%**

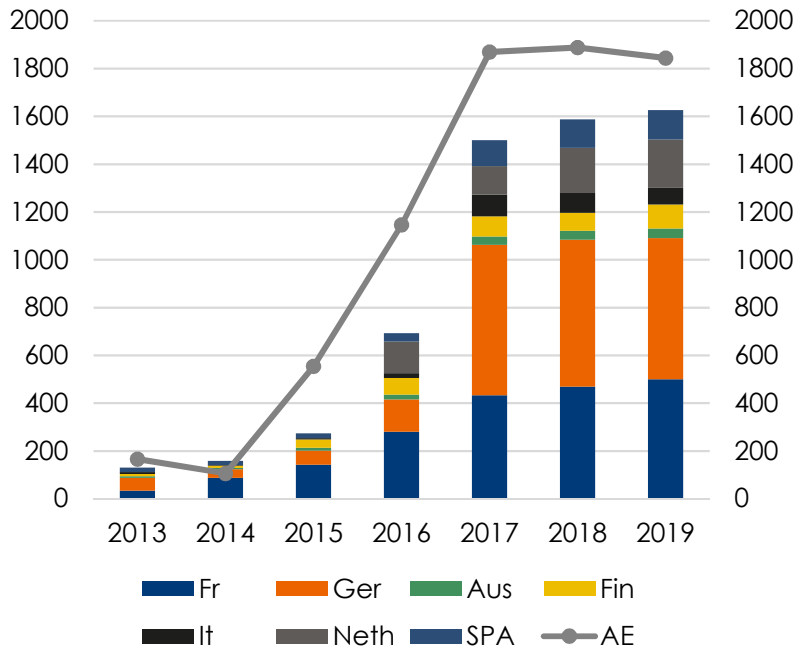
ECB policy rates, market rates and excess liquidity



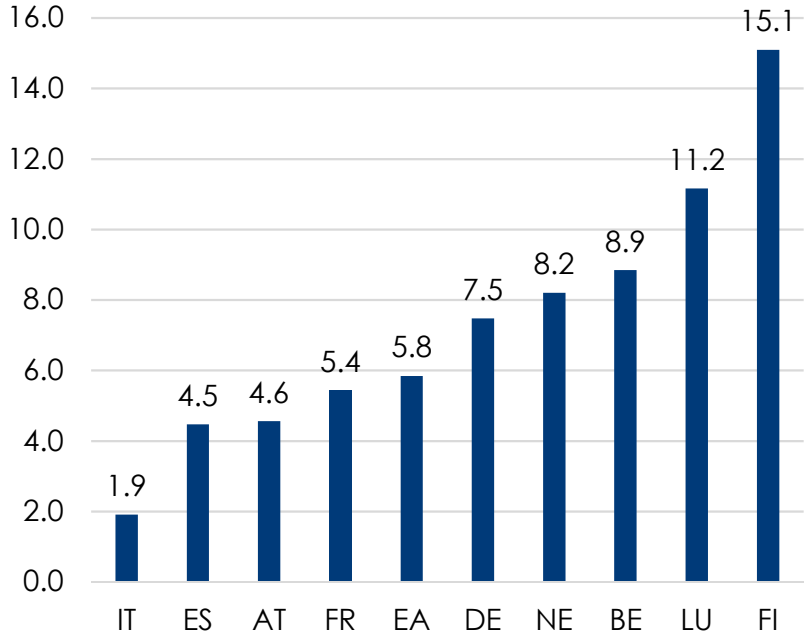
Source: Thomson Reuters Datastream

Excess reserves are concentrated with core countries

Excess liquidity by country[1] (bn euros)



Excess liquidity by country in % of total assets



NOTE (1): Excess liquidity is defined as Current Accounts holdings in excess of minimum reserves + deposit facility.

Source: ECB, National CBs, Intesa Sanpaolo

Excess reserve influenced by regulatory requirements

- In accordance with a survey conducted by the ECB among bank treasurers at the end of 2017, regulatory factors are the second most important driver of excess liquidity, after the business model.
- Banks are incentivised to hold CB reserves as it is considered a Level 1 HQLA in the fulfilment of LCR (Liquidity Coverage ratio) and does note require stable funding for the fulfilment of NSFR (Net Stable Funding Ratio).
- According to the risk-based capital framework, excess reserve holding doesn't consume any capital.

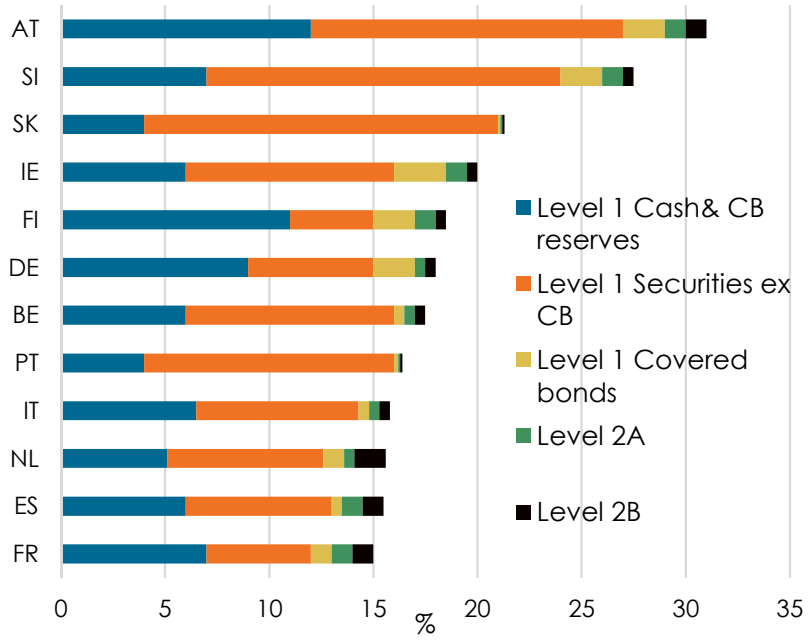
Liquidity Coverage Ratio

- Central bank reserves are considered Level 1 assets. The art.17 of the LCR DR sets the minimum requirement for the composition of the liquidity buffer and a minimum of 30% of the liquidity buffer is to be composed of Level 1 assets.
- Banks pledge non-HQLA collateral in funding with the ECB and increase CB reserves. Regulation assign a 0% run-off rate to CB funding facilities (i.e. zero net cash outflows) vs 100% run-off rate for unsecured interbank funding with less than 30-day maturity.

Net Stable Funding Ratio

- Required stable funding factor (used to calculate the numerator of the NSFR) for central bank reserves is zero.

Composition of liquid assets (post-weight and before the cap) relative total assets (%)



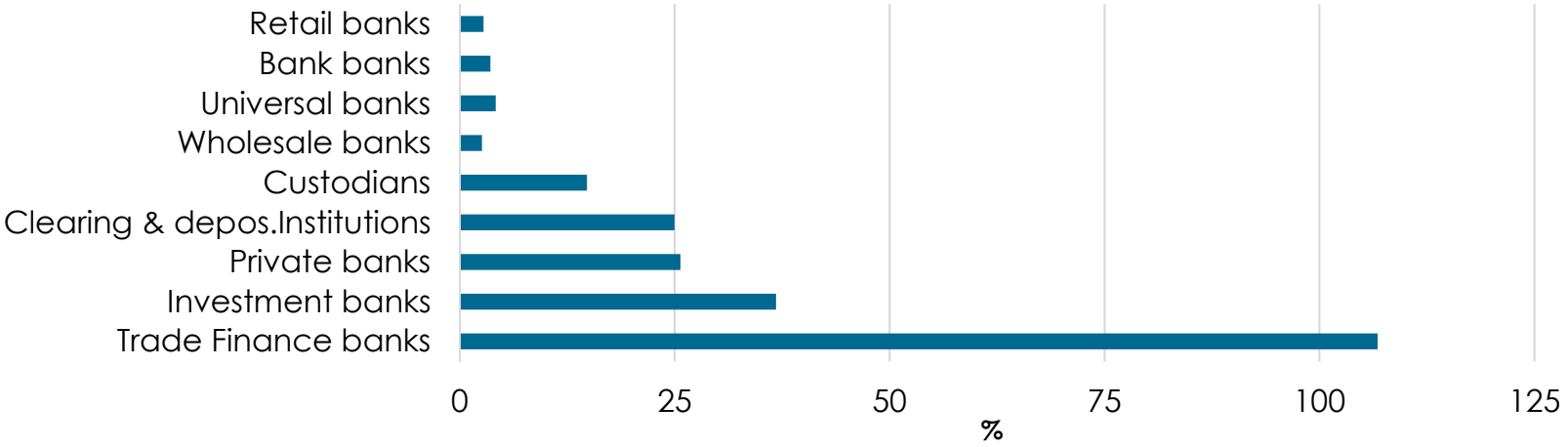
Source: EBA report on liquidity measures under article 509(1) of the CRR, October 2018, Intesa Sanpaolo

Bank's business models engender high excess liquidity

- Countries which retain large amount of excess reserves relative to minimum reserve requirements are those where there is an high density of banks with a specific business model, in particular investment banks, private banks, trade finance banks.

- **Low excess liquidity levels are typical of wholesale banks, retail banks and bad banks.**

Excess liquidity by business model of Eur core countries (%)



Source: ECB, Bloomberg, Intesa Sanpaolo

Depo rate at -0.4% not so costly on average but ample differences across countries

- 90% of Current Account holdings is subject to -0.40% . Average cost for the system has increased from 3 to 5 bln euro in the past two and half years.
- **This cost is small in aggregate terms in percentage of operating income (-0.9%).**
- As Draghi acknowledged on April 10th **the cost for individual countries banks can be much higher**. Distribution of excess reserves is highly heterogeneous across countries and within countries' banks.

Excess liquidity by country & cost (EUR Bn)

	AT	BE	CY	DE	EE	ES	FI	FR	GR	IE	IT	LT	LU	LV	MT	NE	PT	SI	SK	EA
Current accounts	44	25	7	470	4	92	63	288	2	11	78	5	68	5	4	196	12	3	1	1,365
Deposit facility	1	70	4	169	-	23	41	237	2	11	13	-	60	-	1	9	-	-	0	638
Excess liquidity	**41**	**93**	**10**	**605**	**4**	**105**	**102**	**500**	**3**	**22**	**76**	**5**	**123**	**5**	**4**	**193**	**11**	**3**	**1**	**1,875**
% tot.assets	5%	9%	15%	8%	15%	4%	15%	5%	1%	2%	2%	16%	11%	20%	10%	8%	3%	8%	2%	6%
Total assets	866	1,040	69	7,936	27	2,633	682	9,364	287	1,097	3,691	30	1,101	23	43	2,369	392	41	83	31,773
Operating income	18.4	9.8	1.4	120.7	0.2	95.6	3.4	144.0	8.0	6.3	65.3	0.4	2.9	0.4	0.6	45.7	7.3	0.7	0.4	531
Cost of Excess Liquidity % oper.income	**0.9**	**3.8**	**3.1**	**2.0**	**9.2**	**0.4**	**11.9**	**1.4**	**0.2**	**1.4**	**0.5**	**4.8**	**17.2**	**4.3**	**2.7**	**1.7**	**0.6**	**1.8**	**1.5**	**1.4**

Source: Thomson Reuters Datastream

Handling negative rates for longer: tiering reserves

"In the context of our regular assessment, we will also consider whether **the preservation of the favourable implications of negative interest rates** for the economy **requires the mitigation of their possible side effects**, if any, on bank intermediation".

ECB introductory statement, April 10 2019

Table 1: Negative Central Bank Rates as of April (2019), Bps

Country	Date at which negative rates were introduced	Rate (bps) as of April 2019		
		Lending rate	Repo rate	Depo rate
Danmarks Nationalbank *	July 2012	0.05	0.0	-65
ECB	June 2014	0.25	0.0	-0.4
Swiss Natioanl Bank	Dec. 2014	-0.25	-0.75 #	-1.25
Swedisk Riksbank **	Feb. 2015	0.5	-0.5	-100
Bank of Japan	Jan. 2106	0.1	0.00	-0.1
Hungarian National Bank ***	March 2016	115		-0.05

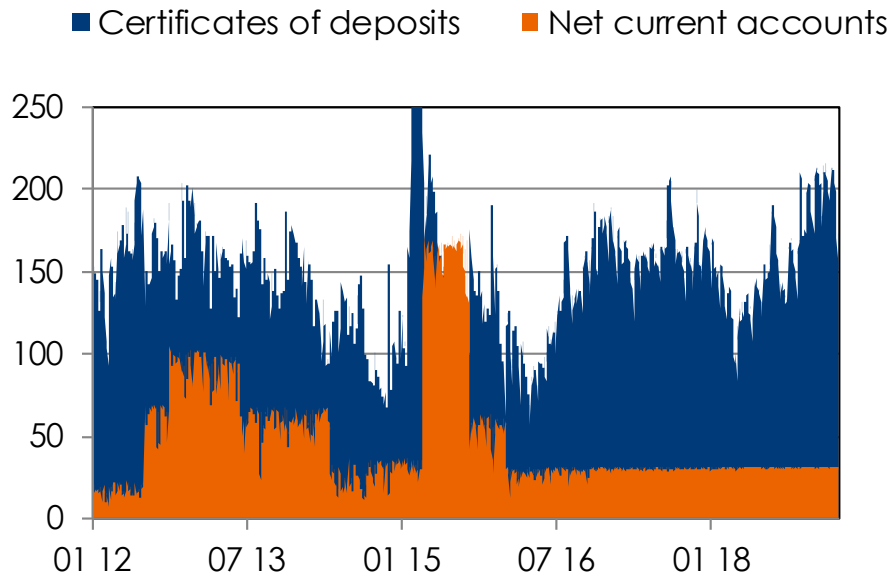
* The Danish Centarl Bank temporarly hiked rates in non negative territory btw Apr and Sept 2014
** The Riksbank has hiked by 25 bps on January 8 2019
*** Hungary National Bank has hiked rates by 10 bps on Mar 2019
#Interest rate on sight deposits

Source: ECB , NCBs and Intesa Sanpaolo

Tiering elsewhere: the Denmark Nationalbank system

- Current-account deposits Danmarks Nationalbank are demand deposits which MFIs can use as a means of payment charged at zero.
- Individual current-account total limits set for each MFI, as well as an overall limit for all counterparties' current-account deposits (31 bln Krn).
- **If the overall current-account limit exceeded, each counterparty's current-account deposits in excess of the individual limit will be converted into certificates of deposit (171 bln Mar 2019)**
- **Danmarks Nationalbank sells certificates of deposit at -0.65%** in its regular open market operations on the last bank day of the week.

Overall reserves & reserves held in certificate of deposits subject to penalty (Bln krona)



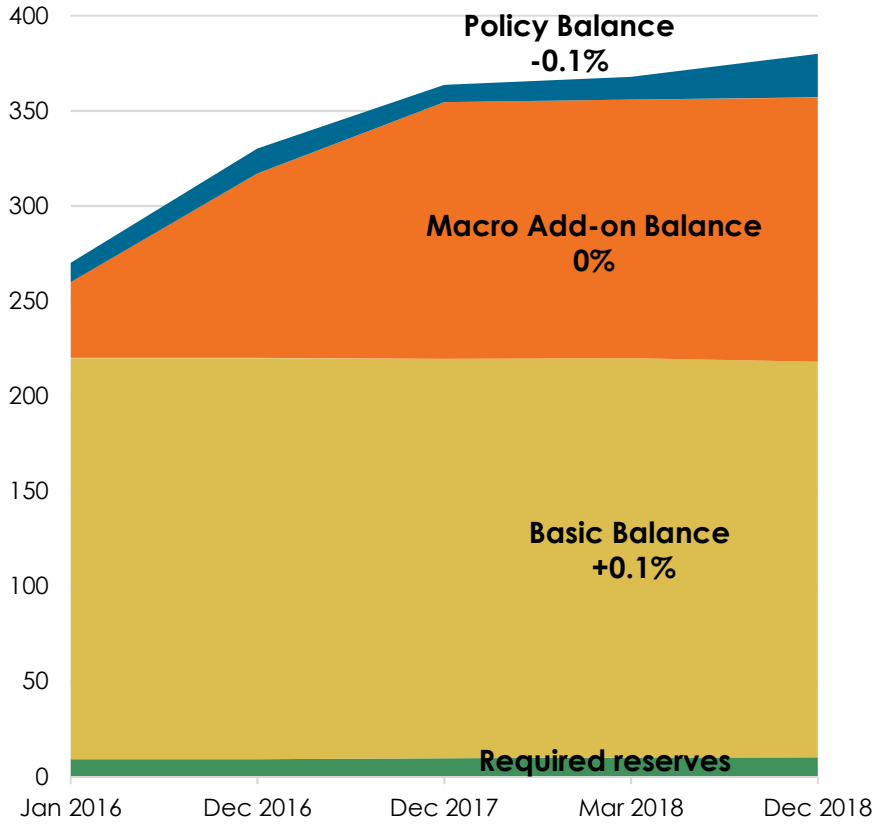
Source: Nationalbanken.de

- **The penalty applies on a large percentage ≈ 88% of overall reserves or 203 bln Krn.**
- Discount rate is set equal to lending rate. Money markets rate mid of the corridor.
- Cost for the banking system: 1.1 Bln krona per year (2.9% assets, 33% of equity).

BoJ's three-tier system

- In January 2016, the Bank of Japan adopted a three-tier system in which the outstanding balance of each financial institution's current account at the BoJ was divided into three tiers:
  1. **The basic balance charged at +0.1%**
  2. **The Macro Add-on Balance charged at 0%**
  3. **The Policy Rate Balance charged at -0.1%**
- When the overall current account balance of banks at the BoJ increases due to factors such as the BoJ bond purchasing operations, the Policy-Rate Balances increase. If no steps are taken to deal with this situation, there is concern that market rates may decline substantially and this may exert excessive downward pressure on the profits of financial institutions.
- Therefore, the BoJ adjusts the Macro Add-on Balances according to aggregate changes in the balance of financial institutions' current accounts at the Bank, so as to avoid drastic changes in the Policy-Rate Balances.
- **In theory, even if the amount of the Policy-Rate Balance is small, the negative interest rate will have intended effects. Interest rates in financial markets will be determined based on the marginal rate.**

BOJ three-tier system
(effective from Jan 2016, trillion yen)



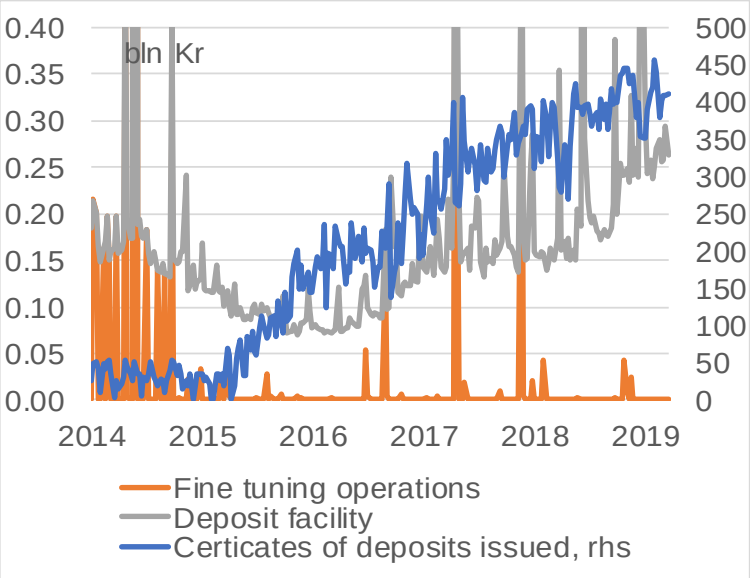
Source: BOJ, Intesa Sanpaolo

The cases of Sweden and Switzerland

The Riksbank system

- Riksbank 1-week repo rate, which oscillates in a narrow corridor (20 bps width), is the key signalling rate.
- **Banks reserves are placed in Riksbank weekly certificate of deposits charged at the repo rate.**

Sweden: Riksbank issues certificates



Source: Riksbank, Intesa Sanpaolo

Swiss National Bank system

- The SNB targets 3m CHF Libor in a +/- 50 bps corridor.
- **The exempt threshold of excess liquidity corresponds to 20 x MR -** any increase / any decrease in the amount of cash held (dynamic component). The exempt threshold applies to each bank sight deposit.
- Non exempt reserves are charged at the target Libor -0.75%.

What lessons can we draw from international experience?

The relevant factors to evaluate the likely effects of CBs' decisions on money market rates pass-through of a multiple-tiers deposit facility scheme are:

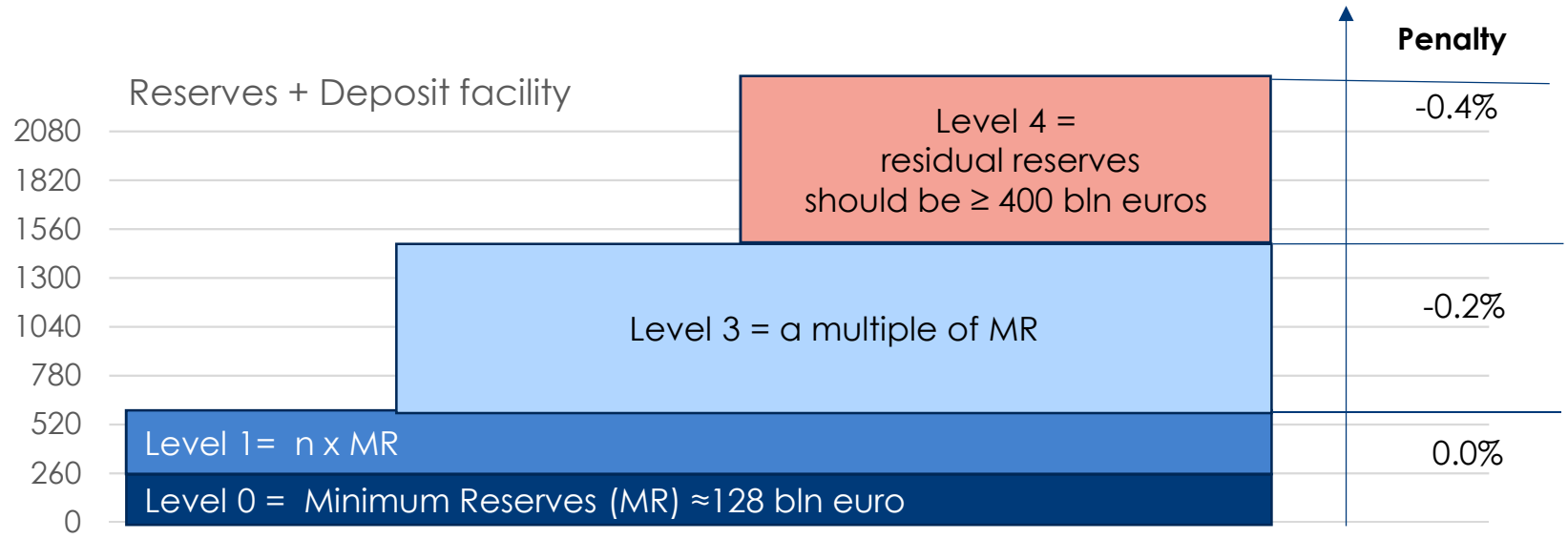
- **The relation between excess reserves and market rates, the excess reserves size and its evolution over time** (in Denmark volatility in mkt rates; in Switzerland successful).

- **The amount of excess reserves charged at the penalty rate in absolute and relative terms** (the Japanese scheme implies only a limited incidence of the penalty rate on QE induced reserves; in Denmark the excess reserve diminished over time).

- **The (marginal) rate at which the additional excess reserves are charged**

Which tiering scheme for the Eurosystem?

- **We prefer a tiering scheme that gives a favorable treatment to a fixed multiple of the minimum reserve requirement of each banks. Other approaches are also possible: exempt a fix percentage of excess reserves. The percentage may be revised over time, following the approach of the BOJ.**
- According to literature[1], money market rates should continue to trade at zero over the depo rate as long as the excess reserves remains in the 400-450 bln euros. Thus, **the ECB if introduces a tiering system may want to apply a penalty to reserves in excess of 400bn euro** while protecting 1.400bn of reserves at a favorable rate.



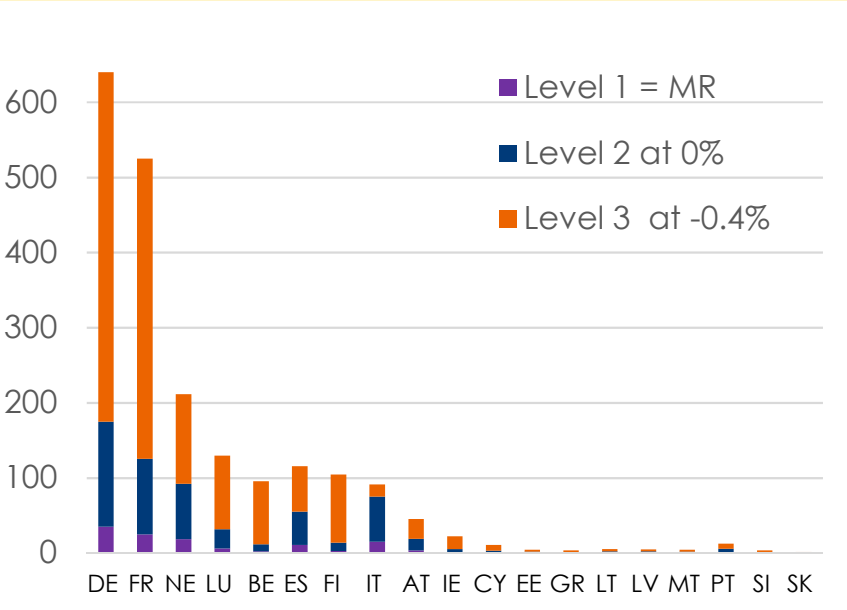
Source: ECB, Intesa Sanpaolo

(1) See amongst others "Relationship Between Short-Term Interest Rates and Excess Reserves: A Logistic Approach", November 2018, ECB monthly bulletin on "Recent Developments in Excess Liquidity and Money Market Rates."

Our main scenarios: maximum penalty at -0.4%

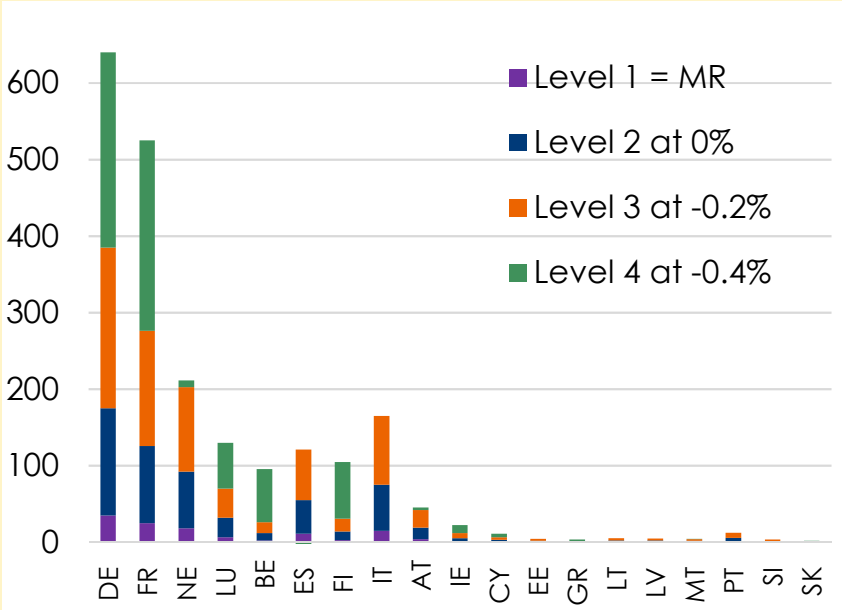
Scenario 1 – Two levels

	Amount	Rate
Level 1	Minimum Reserve (MR)	0%
Level 2	4 x MR	0%
Level 3	Residual liquidity	-0.4%



Scenario 2 – Three levels

	Amount	Rate
Level 1	Minimum Reserve (MR)	0%
Level 2	4 x MR	0%
Level 3	6 x MR	-0.2%
Level 4	Residual liquidity	-0.4%



Source: ECB, Intesa Sanpaolo

Balancing banking cost reduction with other constraints

- Main constraints in building a tiering scheme are:
  1. Total reserves at highest penalty should remain above 400 bln euros, to keep market rates anchored at the lower bound of the corridor.
  2. The uneven distribution of excess liquidity which could generate different marginal cost at country level.

Current

Total reserves	Minimum reserves (MR) at 0%	Excess liquidity at -0.4%	% of excess reserves at -0.4%	Cost for EA banking system	% of operating income
2002	128	1874	94	**7.5**	1.4

Scenario 1

Level 2 4 x MR at 0%		Level 3 Residual liq At -0.4%	% of excess reserves at -0.4%	Cost for EA banking system	% of operating income
512		1363	73	**5.5**	1.0

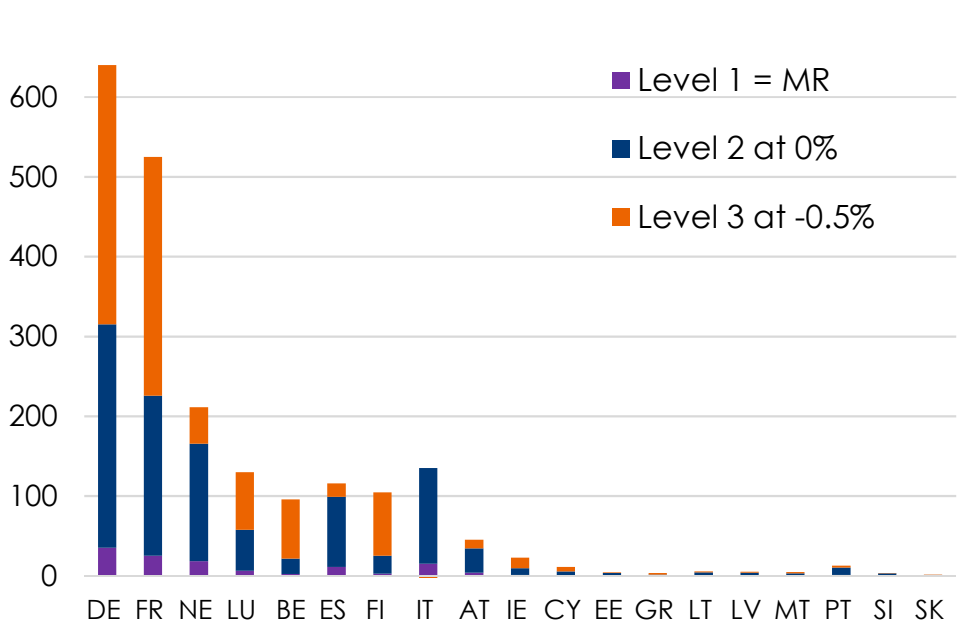
Scenario 2

Level 2= 4 x MR at 0%	Level 3 = 6 x MR at -0.2%	Level 4 = Residual liq. at -0.4%	% of excess reserves at -0.4%	Cost for EA banking system	% of operating income
512	767	595	32	**3.9**	0.7

And what if maximum penalty is set at -0.5%?

Scenario 3
Two levels with penalty at -0.5%

	Amount	Rate
Level 1	Minimum Reserve (MR)	0%
Level 2	8 x MR	0%
Level 3	Residual liquidity	-0.5%



NOTE: Level 2 is assumed equal to 8 times the MR, because this is the threshold that permits a reduction of the cost of excess reserves for all the EA countries.

Source: ECB, Intesa Sanpaolo

- Draghi and the April introductory statement have indicated that the Council may consider measures to mitigate the impact on banks' profitability.
- However, **it should not be ruled out the ECB may want to lower the maximum penalty** in order to give banks an incentive to reduce excess reserves, while reducing the overall cost.
- **In this scenario, all countries could realize a saving in term of cost of excess reserves, albeit very small for a lot of them.**

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Savings for banks under our alternative scenarios

- The scenario 2 with three levels of penalization of excess reserves reduces significantly the cost of excess reserves in particular for Luxemburg, Finland, Belgium, Cyprus and Germany.
- Note the cost for Italy under the scenario 3 is zero as all excess liquidity goes into Level 1.

Cost of excess reserves % of operating income under alternative scenarios (Eur Bn)

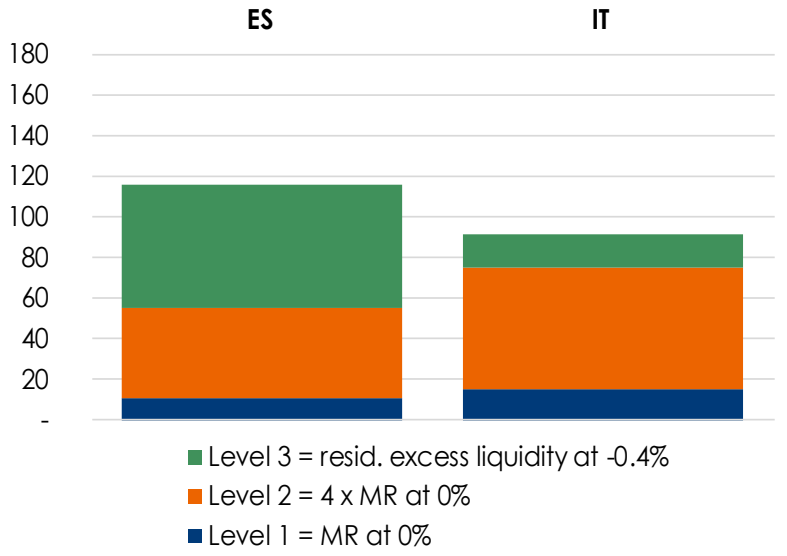
	LU	FI	EE	LT	LV	BE	CY	MT	DE	SI	NE	SK	EA	FR	IE	AT	PT	IT	ES	GR
Current cost	17.2	11.9	9.2	4.8	4.3	3.8	3.1	2.7	2.0	1.8	1.7	1.5	**1.4**	1.4	1.4	0.9	0.6	0.5	0.4	0.2
Scenario 1	13.6	10.6	5.5	2.9	2.6	3.4	2.3	1.8	1.5	1.1	1.0	0.9	**1.0**	1.1	1.1	0.6	0.4	0.1	0.3	0.1
Scenario 2	10.9	9.6	2.8	1.4	1.3	3.1	1.8	1.1	1.2	0.5	0.6	0.5	**0.7**	0.9	0.9	0.3	0.2	**0.03**	0.1	0.1
Scenario 3	12.6	11.6	2.3	1.2	1.1	3.8	2.0	1.0	1.3	0.5	0.5	0.4	**0.8**	1.0	1.0	0.3	0.2	**0.0**	0.1	0.1

Source: ECB, Intesa Sanpaolo

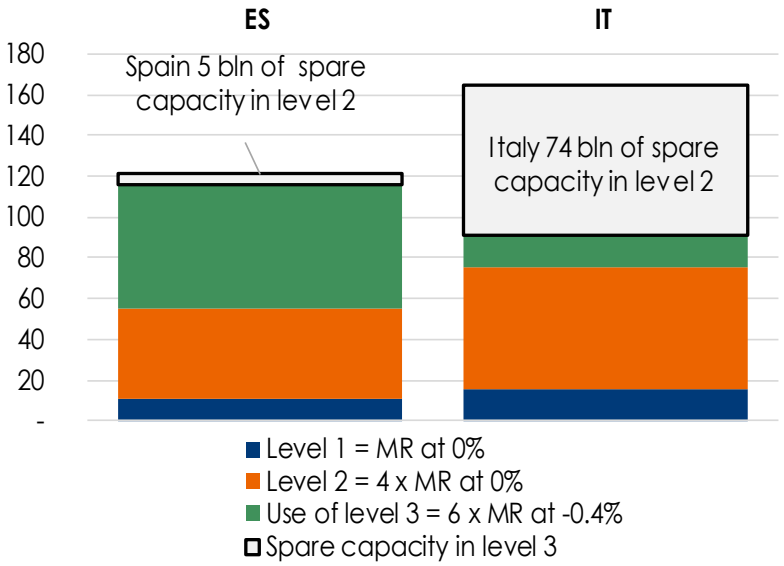
A closer look at Italy and Spain

- **In scenario 2, Italy and Spain do not use in full Level 3** as actual reserves are fewer than theoretical reserves which should be remunerated at -0.2%. Consequently, Italy and Spain **have no reserves in Level 4 and thus the marginal rate is -0.2%.**
- **Core countries** banks could **shift part of their excess liquidity from Level 4 to the unused capacity of Italy and Spain in Level 3 at -0.2%**. This could causes an increase in money market rates and a surge in volatility.

Scenario 1



Scenario 2



Source: ECB, Intesa Sanpaolo

ECB mastering TLTRO III's implementation and negative rates for longer

1 TLTRO III, an "insurance against uncertainty"

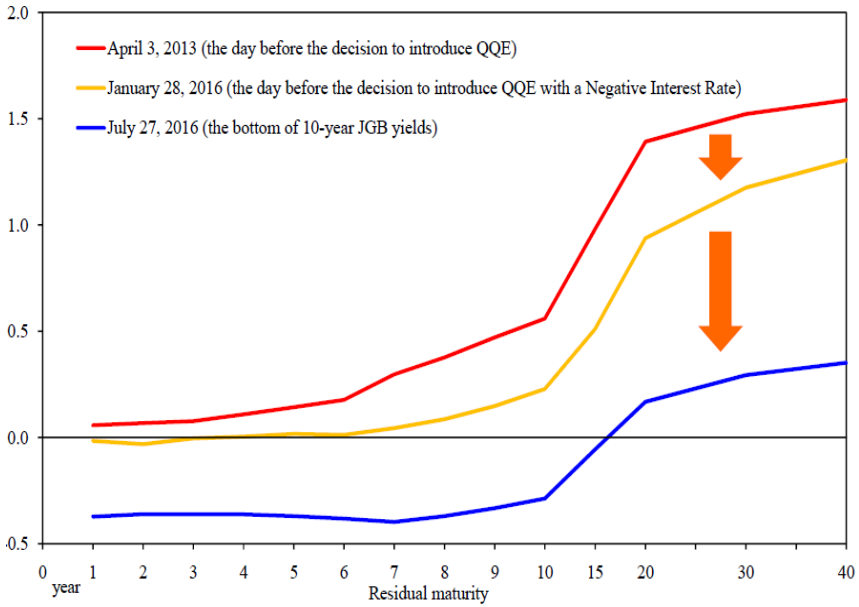
2 Handling negative rates for longer: the tiering of excess reserves

3 The implications for short-term rates

BoJ three-tier system exerted a strong effect on market rates

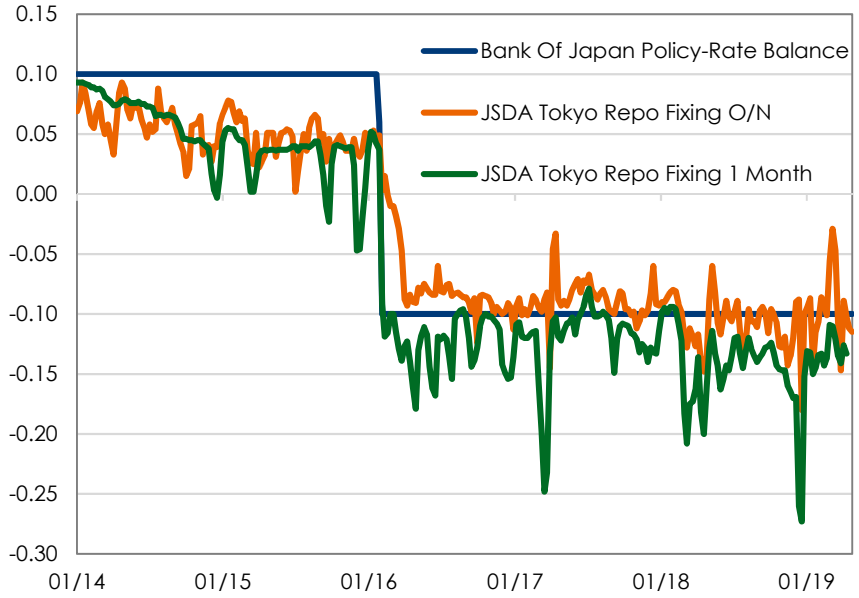
- Only a small percentage of excess reserves (5% - 7%) goes into the penalty balance at a negative rate, but this was enough to push overnight rates into negative territory.
- The negative interest rate applied to the current account balance caused a reduction of yields at the short-end of the curve, while super-long term JGB yields were also driven down as investors continued to search for positive yields.

Changes in JGB yield curve after half a year since the introduction of GGE with NIRP



Source: H. Kuroda, "Quantitative and qualitative monetary easing with yield curve control: after half a year since its introduction", Bank of Japan March 2017.

Repo rates trading closer to penalty rate after introduction of tiering system

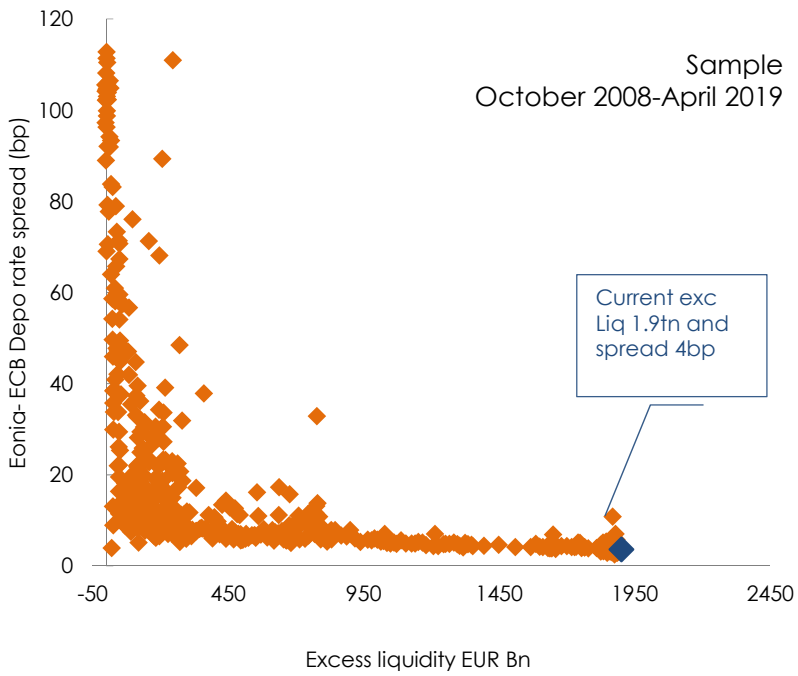


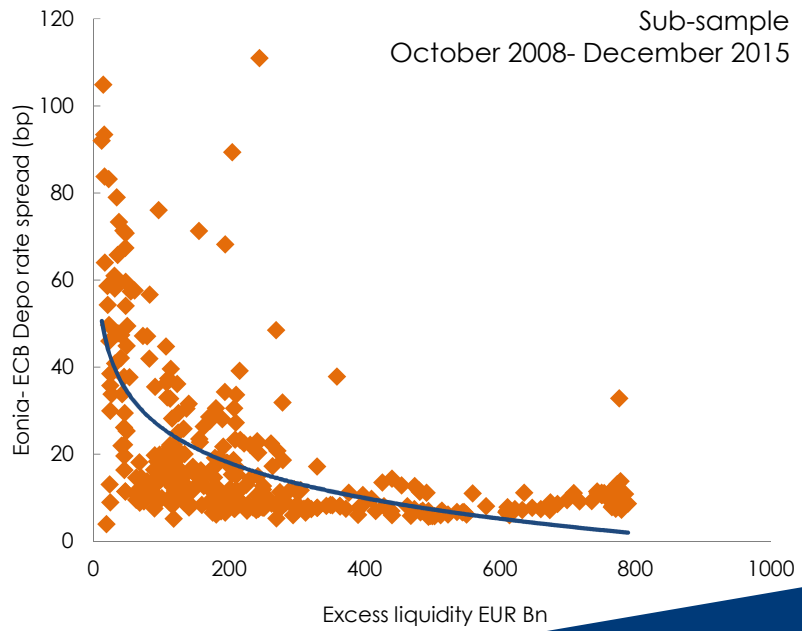
Source: BOJ, Intesa Sanpaolo

Unsecured o/n rates close to the lower bound

- The rate on the deposit facility is de facto the policy rate and the spread between Eonia and Depo rate was 4bp on average during the last three years.
- Statistical evidence shows that when the excess reserves exceeds 450 billion euros, o/n rates are pushed down to the bottom of the ECB interest rate corridor.
- **The current level of excess reserves (1.9trn) is higher than the level needed to maintain the o/n rates close to the lower bound.** If a tiered reserve charging system is introduced, **short-term rates should stay close to the lower bound until the "penalty balance" is greater than 450 billion euros.**

ECB official , market rates and excess liquidity





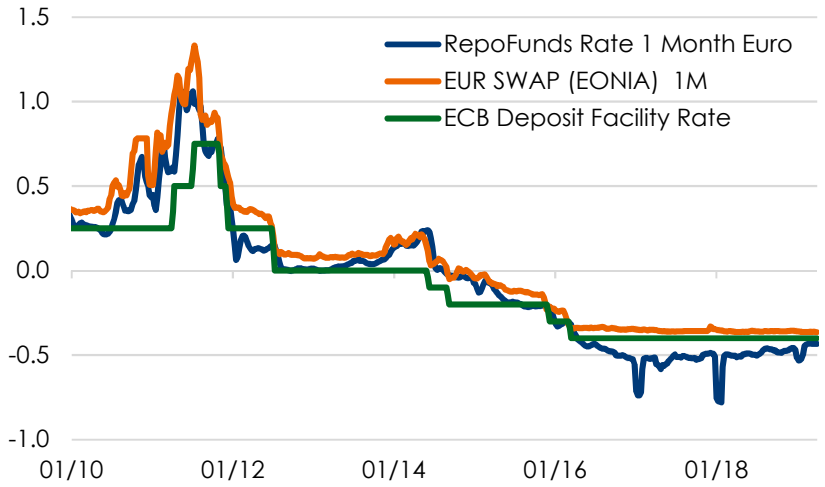
Source: Bloomberg, Intesa Sanpaolo

Repo rates will stay below depo

After the launch of the APP programme on government bonds, the GC repo rates dropped below the deposit facility rate. This was due of a combination of factors:

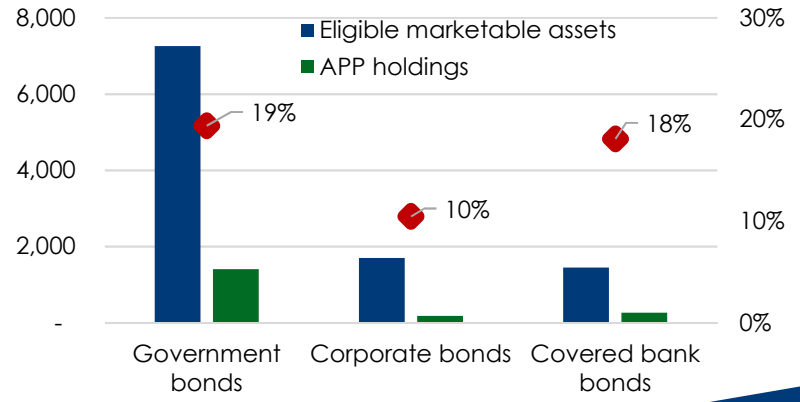
1. **Scarcity effect** generated by the APP on specific markets, mainly government bond markets.
2. **Regulation** Liquidity regulation treats excess liquidity more favourably than other asset classes as it is a claim on the central bank without credit risk.
3. **Increased role of non-financial institution in the repo market.** Greater use of central counterparties (CCP), supported by authorities; CCP hold large quantity of cash they invest more safely in repo market.
4. **Increased demand of collateral.** After the crisis there has been a marked trend in interbank activity away from unsecured towards secured lending in order to reduce risk. Also monetary policy contributed to increasing the collateral demand because all ECB refinancing operations require to post collateral.

EUR money market rates and ECB official rates (%)



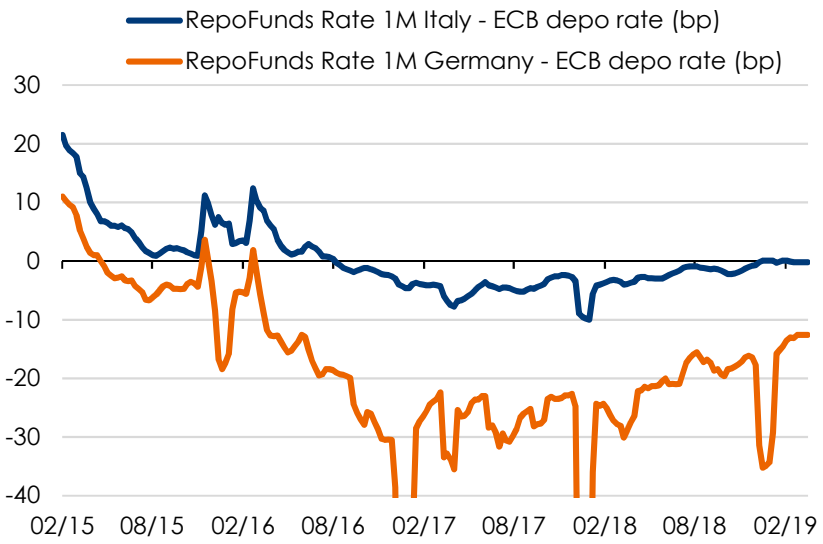
Source: RepoFunds, Bloomberg, Intesa Sanpaolo

ECB APP holdings by security sector (EUR Bn)

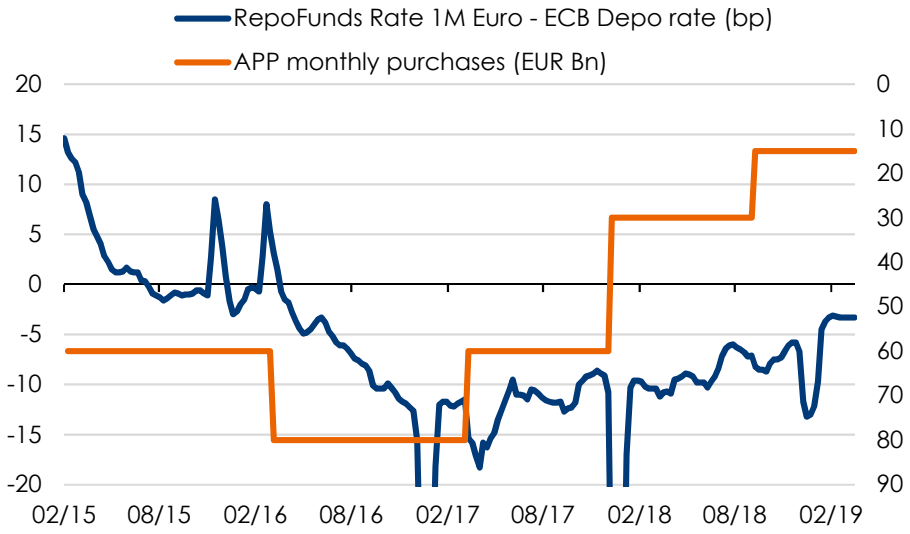


Source: ECB, Bloomberg, Intesa Sanpaolo

ECB purchases have been a driver of repo rates



Source: RepoFunds, Bloomberg, Intesa Sanpaolo



Source: RepoFunds, Bloomberg, Intesa Sanpaolo

- The decline of repo rates below the ECB depo rate coincides with the start of the bond purchasing programme in March 2015 when the full pass-trough of negative rates materialized.
- **The monthly size of the APP exhibits also a quite significant correlation with the repo rate dynamics**: except in some episodes of very high specialness of repos at year-end, the spread between the Euro repo rate and the ECB deposit rate narrowed in coincidence with the reduction of ECB purchased amounts.
- **This evidence confirms the side-effect of the monetary policy, which in some circumstances exacerbates market tensions.**

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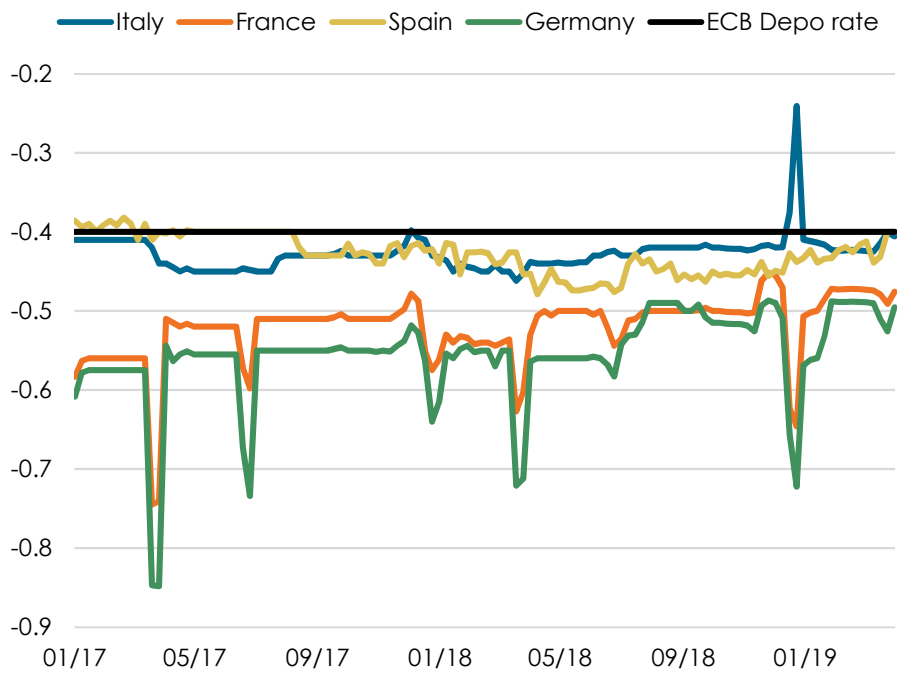
Collateralized funding rates could be less anchored

- In theory, if the tiered system is designed as to produce the same marginal cost on excess reserves for each country/bank, repo rates should stay anchored at this lower bound (Scenario 1 in slide 24).
- If the ECB chooses to introduce a tiering system and the excess reserves remain unevenly distributed between base and penalty balances, this set an incentive for banks with unused allowance to borrow reserves at rates marginally higher than the lowest penalty rate (Scenario 2 in slide 24). This could generate some volatility in repo rates or in collateralized funding rates.
- **Market segmentation and risk aversion could prevent an efficient distribution of funds (excess liquidity) between countries and between banks.**

RepoFunds rates by country (collateral based, %)

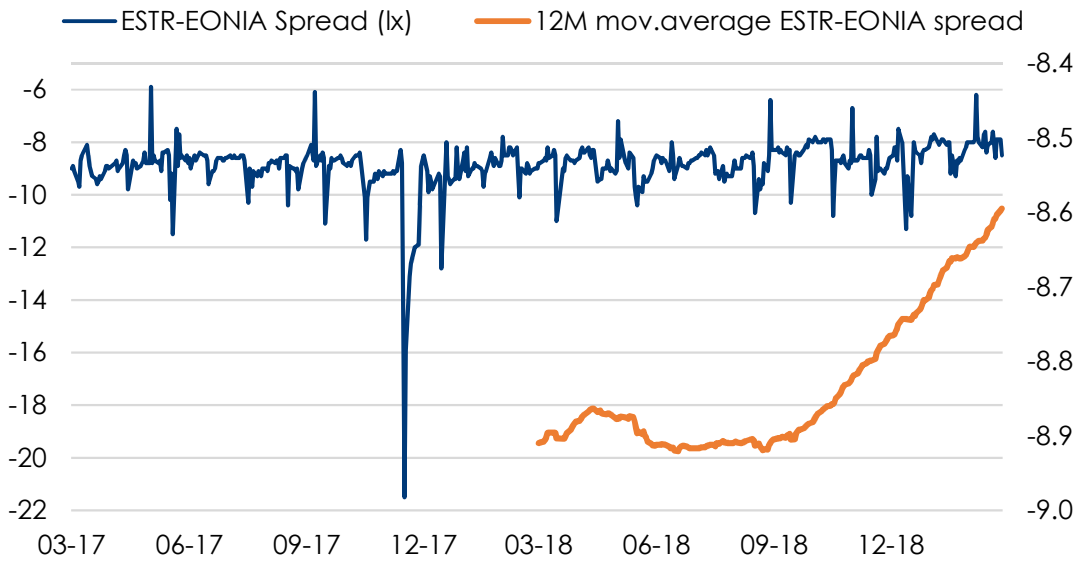


Source: RepoFunds, Bloomberg, Intesa Sanpaolo

The launch of €STR is an additional constraint

- Starting from 2 October the EONIA will be quoted as €STR plus spread, calculated as the average of the differential between EONIA and pre-ESTER over the last 12 months.

- **During the transitional phase from EONIA to €STR, the new euro unsecured risk-free rate, the ECB will want to ensure that market conditions remain smooth and favorable.**



Source: ECB, Bloomberg, Intesa Sanpaolo

"When you say lower, how low can this be?"

Mario Draghi, President of the ECB

Introductory statement to the press conference with Q&A, Frankfurt aM, 10 March 2016

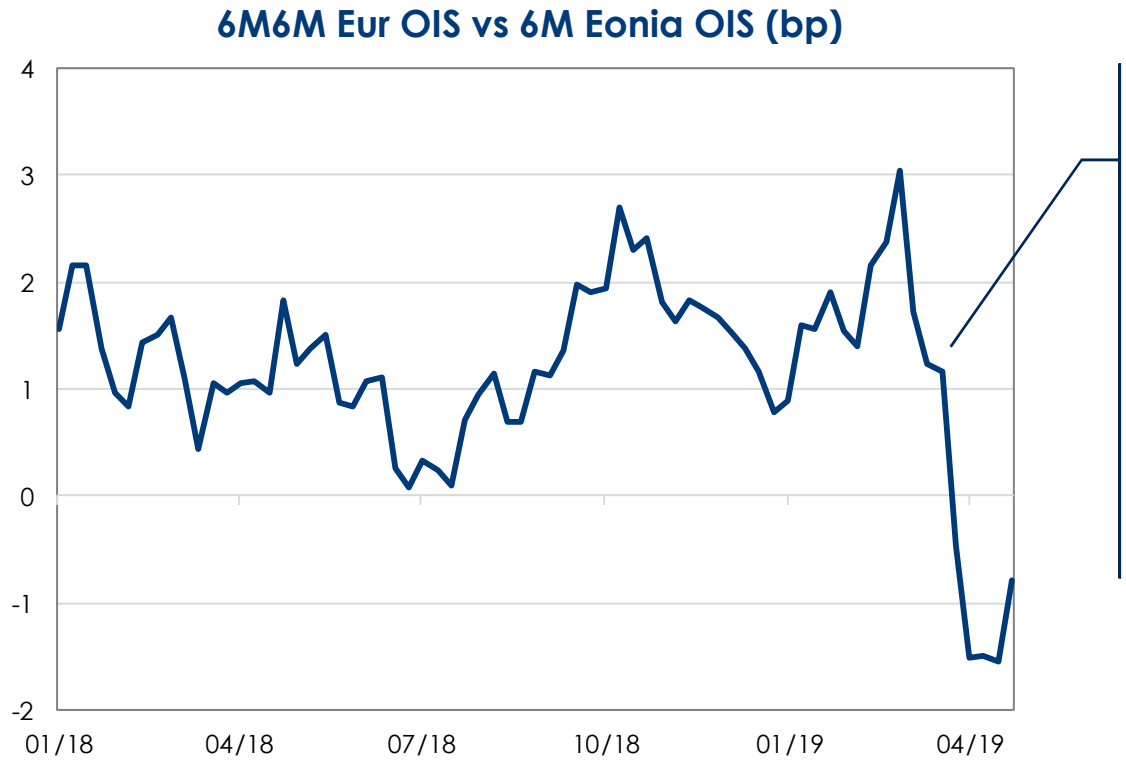
"But let me tell you: does it mean that any negative rate will be positive? Does it mean that we can go as negative as we want without having any consequences on the banking system? The answer is no. And you probably know that **we've discussed for some time the possibility of having a tiering system, so an exemption system for this operation, and in the end the Governing Council decided not to, exactly for the purpose of not signaling that we can go as low as we want on this.** So the Governing Council, although it gives a positive judgement about the past experience, is increasingly aware of the complexities that this measure entails."

Question: You said that you'd ruled out using a tiered deposit rate system because you wanted to send a message about negative rates. Can I ask whether we're at the lower bound, then, for the deposit rate, or could we still go negative from here, even without a tiered deposit rate?

"On the first question, I think I've answered before. By the way, **the final decision on not having a tiering system** or an exemption system **was not only the desire not to signal that we can go as low as we want, but also the complexity of the system** is remarkable in an area like the eurozone, with many banks of different sizes, different conditions, in totally different market situations. So it was both the desire of not signalling, but also the inherent complexity in that."

Reference to tiering had a strong signalling effect

- Recent markets' repricing suggests -0.4% is no longer perceived as the lower bound for monetary policy rates in the EA.



«We need to reflect on possible measures that can preserve the favourable implications of negative rates while mitigating the side effects, if any»

27/03/2019 Speech by M.Draghi at the conference 'The ECB and Its Watchers', Frankfurt

Source: Bloomberg, Intesa Sanpaolo

Tiers me….

- In designing a tiering system of excess reserves, the ECB will want to maximize the benefits for banks 'profitability at the same time avoiding an abrupt increase in volatility in **short-term rates.**

- **Our analysis suggests that a tiering system may have some implementation hurdles** in the Eurosystem given the **heterogeneity across countries and within member countries' banks.**

- **A tiering system if the marginal rate is -0.4% is unlikely to foster a more efficient use of excess reserves** from core countries, in particular if risk aversion stays high.

…. tiers me not?

- **The impact of tiering at the short-end of the curve is difficult to predict**. On the one hand tiering would lead to a **cheapening in repo rates**, whereas on the other **the introduction of a tiered system would ignite the expectation that the depo rate could go down, leading to lower money market rates**.

- The savings for some European banks risk being offset by the cost of higher volatility in money markets and possibly short-end of the curve.

- In our view, **a tiering system would be justified only if rates are expected to stay negative for longer** . The scheme may prove handful **if the ECB deems necessary to cut rates further and more in general for future occurrences of extended periods of negative rates.**

- It **should not be underestimated that ECB April 2019 introductory statement makes explicit reference to measures to mitigate the impact of negative rates on banks' profitability. The signaling effect has been relevant** for both currency and bond markets.

Appendix 1/3

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Appendix 3/3

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