

WHY THE EUROZONE'S FATE MAKES AN IMMEDIATE BREXIT VITAL

How huge financial liabilities require a quick clean Brexit

by Bob Lyddon



“This alarming report exposes the huge contingent liabilities with which the UK will be saddled if we accept the negotiated Withdrawal Agreement. Once again we see the astronomical financial problems created across Europe by poor-quality rules imposed from the top down on a continent. The Eurozone will end in tears and we must not be shackled to it at the time. I congratulate the author.”

Steve Baker MP, Treasury Select Committee member and former Brexit minister

About the author...

Bob Lyddon

An experienced management consultant both privately and with PwC, Bob Lyddon has written extensively on the Eurozone financial system and the UK's risks under it. Bob is the author of the Brexit Papers (www.brexitpapers.uk) published by Global Britain and the Brexit Flashcards (www.brexitflashcards.uk). He has acted as an expert witness in international payments-related cases, and has been retained by trade associations and industry bodies to advise on access to banking facilities and payment systems.

From 2003 to 2016 he was general secretary of the IBOS international banking alliance. With PwC he managed several programmes at the time of the initial introduction of the Euro, and prior to that, in a career in international banking spanning 17 years, Bob designed the “Connector” payments network for Bank Boston, and arranged numerous syndicated loans and derivatives transactions for Chemical Bank/Manufacturers Hanover and for Lloyds Bank International.

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Global Britain Limited

Registered office: Lynton House, 7-12 Tavistock Square, London WC1H 9BQ
Registered in England No 03502745

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EXECUTIVE SUMMARY

Three years after the UK voted to leave the European Union all we have on the table is a Withdrawal Agreement and a Political Declaration that fail to end the UK's huge contingent liabilities to the EU's financial institutions. We do not, for example, cease to be a shareholder in the European Central Bank and the European Investment Bank for at least twenty years.

During the transition period the EU could cause the UK's maximum contingent liability to rise from the current figure of €207 billion to €441 billion, or by even more if our exit is drawn out into the period of the next EU Multiannual Financial Framework. Any payment the UK might make for our supposed residual liabilities will be spent immediately on other things: who will then meet those liabilities when they fall due for payment?

This all derives from near-criminal irresponsibility by the UK's negotiators.

For the UK the timing and terms of our withdrawal are vital: can we crystallise and then discharge our liabilities by leaving the EU completely and soon, or do we risk becoming a loss-sharing party as and when the Eurozone financial system goes off its cliff?

This will occur at the latest in 2021 when financial markets belatedly realise that compliance with the EU Fiscal Stability Treaty is unattainable: the Debt-to-GDP ratios of Italy, Belgium, France, Cyprus, Greece and Portugal are all above 95% and only Greece has a current budget surplus.

Compliance is impossible from both an economic and political point of view.

The disaster could even materialise much earlier than 2021, from any one of the vents in the Eurozone volcano beneath which sits a gigantic magma chamber: an unrealised loss of €1 trillion. This is the accumulated over-valuation of assets within the system over 20 years, caused by banks' bad lending and their accepting over-valued security.

The apparent stabilisation and recovery of the Eurozone financial system since 2012/3 is an illusion.

There is no loss-absorption capacity in either the commercial banks or the EU financial institutions. Each is made to appear solvent by accounting for its claims on the others at face value, which is enabled by accounting ruses: massaging Non-performing loans figures, bogus securitisations of bad loans, and continuing to allow banks to self-certify the amount of risk they are taking and therefore how much capital they need.

The sole loss-absorption capacity is in the Member States' ability to increase their own borrowings – *the same borrowings that are meant to be falling to comply with the Fiscal Stability Treaty.*

However the crisis unfolds, a comprehensive re-set of obligations will be needed in order to save the Euro and the EU, but only a few Member States have good enough credit ratings and/or low enough borrowings to be able to raise a re-set amount of €1 trillion. These are Austria, Germany, Netherlands, Finland, Denmark, Sweden – *and the UK.*

We calculate the UK's share of such a re-set as €230 billion – if we are still at the table to be directly presented with this claim, or if our finances remain accessible to the EU authorities through either a porous Withdrawal Agreement or an enforceable Political Declaration.

Set against those risks, the only sensible course is to walk away now with no agreement at all.

INTRODUCTION

The UK has not left the EU on March 29th or on April 14th 2019. The mood music is to make further “compromises” to get a deal approved by Parliament, meaning the UK may end up with only a semi-withdrawal. It is fitting, then, to re-visit an important reason for Brexit: to escape from the hidden costs and latent financial liabilities of EU membership.

This paper provides an update both on previous publications issued through the Bruges Group in 2012 and 2016, and in “The Brexit Papers”¹ issued through Global Britain in 2017-18.

The UK is exposed to hidden costs on several levels, notably profit-shifting by multinational companies exploiting the freedom of incorporation within the Single Market. Even the UK government’s initial Brexit plan – watered down as the Chequers Plan and further dissipated since – did not put a stop to the hidden costs. These may well continue, ad infinitum, and even increase.

The UK has substantial liabilities to the financial mechanisms of the EU and will remain exposed long after its supposed Brexit.

The possibility of the crystallisation of these liabilities into real costs is synonymous with the chances of a repeat of the 2012/13 Eurozone financial crisis, only this time with all the policy options open to the authorities having been exhausted in advance.

The maximum possible loss to the UK is currently €481 billion, assuming the UK does leave the EU before the commencement of the next EU Multiannual Financial Framework (“MFF”). The calculations in this paper infer that the UK’s share of a “re-set” of the Eurozone financial system would be nearer to €230 billion, but €481 billion is the maximum under the current MFF, with a risk of increase if the UK is subject to the subsequent MFF.

The Eurozone financial system consists of the Eurozone Member State governments, the legal person of the European Union itself, the so-called “Eurosystème” - a collective term for the European Central Bank (the “ECB”) and the Eurozone Member State National Central Banks (the “NCBs”) - the commercial banks and other financial and corporate institutions, and the European Investment Bank (the “EIB”), a creature used to reflate the EU economy both with its direct loan programmes and through its special project lending programme called the European Fund for Strategic Investments (“EFSI”).

These organisations are engaged in a window-dressing exercise on a grand scale.

Each one of these constituent parts gives an appearance of solvency because of the way it accounts for its claims on the others. As long as each one can continue to account for its claims at or near to face value, the appearance can be maintained that all are able to meet their obligations as they fall due.

The manoeuvres and accounting needed to ensure each player is solvent are many and creative, a colossal exercise in kicking the can down the road and hoping things will right themselves of their own accord.

This multilateral game of mirrors is enabled by creative financial structuring and liberal accounting treatments and it disguises what should be obvious to everyone: there is an endemic over-valuation of assets within the Eurozone financial system i.e. a black hole. Should one major constituent part fail, the system as a whole will fail and the black hole will become crystallised as a real loss.

¹ www.brexitpapers.uk

² <http://sdw.ecb.europa.eu/reports.do?node=1000004859>

³ <https://www.ecb.europa.eu/press/pr/date/2018/html/ecb.pr180222.en.html>

⁴ It is unclear from the Target Information Guide pages 61-62 whether the zero-balancing takes place as part of the operational end-of-day process between 18:00 and 18:15, or during the internal central bank accounting between 18:30 and 18:45. Either way, given the nature

AVAILABLE POLICY RESPONSES TO A RENEWED CRISIS

Mr Draghi, the ECB governor, has said that the ECB would do whatever it took to protect the Euro, and they have done all they could, but the over-valuation has become entrenched rather than resolved.

We would quantify the over-valuation at €1 trillion – the same as the unsettled balances between the NCBs in the TARGET2 payment system, which is the lynchpin of the Eurosystem.

There are no more bazookas in the ECB's armoury beyond a continuation of their Quantitative Easing under another name.

Should it come to a crisis, caused by recognition of latent losses in some part of the system, there is no loss-absorption capacity at the level of the commercial banks and other financial and corporate institutions; indeed it is here that the loss is most likely to arise.

Nor is there loss-absorption capacity in the institutions of the EU. The EU only has its budget, which is not a fund but a mechanism through which to make claims on the Member States. The EIB has its block of subscribed-but-not-called capital, which is a claim on the Member States. The ECB has a very low capital, modest reserves, and only a very small block of subscribed-but-not-called capital.

Any re-set of the amount we have calculated can only be claimed from the Member States. In turn the Member States have loss-absorption capacity only in their ability to take on more borrowings.

These borrowings are limited both by the appetite of the investor market, and by the commitments enshrined in the EU Fiscal Stability Treaty. Indeed the ability of Eurozone Member States to make more borrowings is questionable in several respects: will third-party investors be attracted to the yields on offer, which are currently negative in many cases? What quantity of debt can be issued given that the main investor by far over recent years has been the Eurosystem itself?

The re-set amount would in the first instance be shared around the Eurozone Member States, but the Member States in which the crisis had arisen would not be in a position to meet their share of the re-set. Even increasing the contributions of the few solvent Eurozone Member States would not be enough: non-Eurozone Member States would have to be brought into the picture.

For the UK the timing and terms of our withdrawal are vital: can we crystallise and then discharge our liabilities by leaving the EU completely and soon, or do we risk becoming a loss-sharing party as and when the Eurozone financial system goes off its cliff?

Possible triggers and timing of renewed Eurozone crisis

There could be several triggers for the onset of a renewed crisis, although it is in the nature of crises that their immediate cause is unexpected.

It could be the failure of a Global Systemically Important Financial Institution ("GSIFI") in the Eurozone, where the respective national depositor compensation scheme is unable to pay out the depositors because the failed bank is so large: the EU Member State whose liability the compensation scheme is would have to borrow the money if it could, but doing so might strain its own debt capacity and would certainly add to its interest costs.

It could be a run on a Member State where investors were no longer willing to hold its bonds: Italy's current credit rating, at Baa3 in the Moody's system, is the lowest one in "Investment Grade". A single downgrade, to Ba1 "Speculative", would compel many institutional investors to sell the bonds, including other NCBs, since the bonds would no longer be eligible as collateral for Eurosystem payment or monetary operations. Portugal, also at Baa3, remains on the cusp, and Spain, at Baa1, not far removed.

It could be the erosion of capital in the retail bank sector, caused by very low interest rates, the flat yield curve, new entrants, and loss of revenue due to regulation (e.g. Payment Services Directive, the Single Euro Payments Area).

It could be the interventions of the new head of the ECB's board of supervision, Mr Andrea Enria, recently transferred from the European Banking Authority. His division's mandate is to carry out inspections to check banks' compliance with EU rules, and he has already made two interventions that threaten an "Emperor's New Clothes" moment:

- Questioning banks' Risk-Weighted Assets methodologies whereby large nominal amounts of lending business on-balance sheet, and of derivatives and guarantees off-balance sheet, translate into low expressions of the bank's Risk-Weighted Assets, against which banks must hold between 7% and 10.5% of Common Equity Tier 1 capital, or CET1 capital for short;
- Investigating the securitisation schemes and accounting devices through which banks have been able to apparently divest themselves of major blocks of Non-Performing Loans.

These are two major "cans of worms", the removal of the lid from which will expose that banks continue to under-estimate the risks they are running on the business they own to, that banks continue to run risk on Non-Performing Loans that they have supposedly sold off, and that in consequence the banking sector is far less well capitalised than its published CET1 ratios make it appear.

Any one of these areas and others could trigger the crisis and straight away.

EU Fiscal Stability Treaty as the "longstop" trigger for the crisis

As a "longstop" – i.e. the trigger to precipitate the crisis if none of the other triggers do it earlier - we have the EU Fiscal Stability Treaty. The "longstop" will come into operation at the latest at the end of 2021 in our view, when the treaty is recognised as a dead letter.

This is the Treaty on Stability, Co-ordination and Governance in the EMU, signed amongst the Eurozone Member States and a number of others – but not the UK – to agree to reduce the ratio of their government debt to their GDP to 60% by 2030, and to make such adjustments as are needed to spending to take account of additional age-related social costs that may arise up to 2050 i.e. to adjust government spending downwards before 2030 so that the 60% ratio can be sustained up until 2050.

The second part of the scope would infer that some signatory Member States might have to reduce debt to below 60% by 2030, but, given the status now, that element will have to go by the board: it is a big enough ask for all signatory Member States to reach 60% by the end of 2030, regardless of their age-related costs up to 2050.

The treaty's aim is to attain convergence on a critical point underpinning the single currency: that all debts of Eurozone Member States should carry the same credit risk and the same credit rating because the fiscal position of each Member State is the same.

If that were the case, all Eurozone Member State government bonds, all deposits in Eurozone Member State NCBs, and all Euro cash and coin could be classed as homogenous central bank money and free of credit risk: the holder of any of those assets is assured of full payment in Euro, and the assets become interchangeable at par i.e. without a haircut on account of credit risk compared to the other versions.

If that turns out not to be the case and the Treaty is not complied with, the situation since 1999 to date becomes the entrenched and accepted norm: that there are as many forms of Euro central bank money as there are Eurozone Member States – times two because the credit risk on the government and on its central bank may not be identical, and plus one more because the notes are the liability of the ECB.

That means in turn that the Euro is a synthetic currency: an obligation in Euro is the liability of the organisation whose name is on the debt instrument, and there is no supporting infrastructure behind the currency in the form of a joint-and-several claim on all the Member States using the Euro or on the legal person of the European Union.

The Euro would then be shown not to be a single currency, but several.

This revelation seems to us to be inescapable, and to be expected no later than the end of 2021 because the practical and political impossibility of adherence to the Treaty will by then be manifest.

PRACTICAL AND POLITICAL IMPOSSIBILITY OF ADHERENCE TO THE FISCAL STABILITY TREATY

Italy's government debt is 130% of GDP and still rising, and this figure does not include the significant secondary public sector debt that must draw its debt service from the same well, or the impact of any crystallisation of guarantees issued to support the securitisation of the Non-Performing Loans of Italian banks (a facility extended, for example, to Intesa SanPaolo to induce it to take over two failed regional banks).

The Italian government had a well-publicised dispute with the EU authorities in early 2019 as to the size of its 2019 fiscal deficit. If the deficit is only 2% in 2019, Italy will then have 11 years to reduce its debt/GDP ratio from 132% to 60%, generously allowing that the target can be reached on 31st December 2030 and not 1st January.

That is a straight-line reduction of 6.54% per annum, but would require a movement of 8.54% in the first year to go from a fiscal deficit of 2% to a fiscal surplus of 6.54%. Officials will naturally point to optimistic growth forecasts from 2025 onwards which would eliminate the need to make dramatic spending adjustments immediately, but for how long will such eternal J-curve forecasts be believed?

If, for example, Italy's debt stands at 136% of GDP at the end of 2021, after fiscal deficits of 2% in 2019, 2020 and 2021, it will have just nine years to achieve a reduction of 76%: 8.44% straight-line, with a 10.44% adjustment in 2022. Even this calculation assumes that GDP will have been static; the situation becomes worse if GDP declines.

It will not be credible that Italy can achieve the 60% target, or politically acceptable that they even try. Italy's case is not isolated. Spain, France and Belgium have a similar predicament, along with the Member States who have been through a bailout.

Adjustments needed to enable compliance with the EU Fiscal Stability Treaty

France and Belgium, along with six other Eurozone countries, are radically out of alignment with a glide path that might lead them to FST compliance by 2030, leaving aside the issue of age-related costs up to 2050.

The data in the tables below has been sourced from Eurostat:

<https://ec.europa.eu/eurostat/en/web/government-finance-statistics/data/main-tables>

The Eurozone re-set could be brought about by a reduction of the government debt to GDP now, in order to enable a realistic glide path to FST compliance, and to create some loss-absorption capacity within each Member State in the meantime.

The FST's objective is to achieve a more uniform and sustainable Debt/GDP ratio, so, if the view was taken that Debt/GDP needs to be capped at 90% now for there to be any hope of it being reduced to 60% by the end of 2030, then France and Belgium need to be net recipients of the re-set – as opposed to contributors – and the following other countries need a debt write-off so that their Debt/GDP can be brought down to the 90% threshold:

Country	2018 Debt/GDP	2018 GDP in €billion	Reduction in re-set	Reduction in €billion	Moody's rating
Belgium	102.0%	451	12.0%	54	Aa3
France	98.4%	3,387	8.4%	285	Aa2
Greece	181.1%	185	91.1%	168	B1
Spain	97.1%	1,208	7.1%	86	Baa1
Italy	132.2%	1,756	42.2%	741	Baa3
Cyprus	102.5%	21	12.5%	3	Baa2
Portugal	121.5%	202	31.5%	64	Baa3
				1,401	

This calculation delivers a re-set amount of €1.4 trillion. It is curious that the Moody's credit rating agency continues to assess France and Belgium so highly compared to the other Member States in the table.

This debt reduction for some Member States needs to be paid for with a debt increase for others. If we exclude the UK from this calculation, we have six countries identifiable as contributors, because their Debt/GDP is well below to 90%:

Country	2018 GDP in €billion	2018 Debt/GDP	Debt capacity	New Debt in €billion	New Debt/GDP	Moody's rating
Germany	3,387	60.9%	29.1%	985	69.9%	Aaa
Denmark	296	34.1%	55.9%	165	42.6%	Aaa
Netherlands	772	52.4%	37.6%	290	61.1%	Aaa
Austria	386	73.8%	16.2%	63	82.4%	Aa1
Sweden	466	38.8%	51.2%	238	47.0%	Aaa
Finland	234	58.9%	31.1%	73	67.9%	Aa1
				1,814		

This method raises more than the amount needed to equalize Debt/GDP ratios at 90%. Denmark and Sweden are included because their financial policies identify them as Eurozone members in all but name. However, a reduction to 90% does not seem enough. If the exercise were completed by the end of 2019, it would leave eleven years for debt to be cut by a further 30% of GDP, in a weak scenario of GDP growth, and with most of the recipient countries running a budget deficit. If the view was taken that Debt/GDP needed to be capped by the end of 2019 at the Eurozone average – 85.1% according to Eurostat - to enable a more gentle glide path down to 60% by the end of 2030, the tables alter as below:

Country	2018 budget	2018 Debt/GDP	2018 GDP in €billion	Reduction in re-set	Reduction in €billion	Moody's rating
Belgium	-0.7%	102.0%	451	16.9%	76	Aa3
France	-2.5%	98.4%	3,387	13.2%	447	Aa2
Greece	+1.1%	181.1%	185	96.0%	178	B1
Spain	-2.5%	97.1%	1,208	12.0%	145	Baa1
Italy	-2.1%	132.2%	1,756	47.1%	827	Baa3
Cyprus	-4.8%	102.5%	21	17.4%	4	Baa2
Portugal	-0.5%	121.5%	202	36.4%	74	Baa3
					1,751	

This calculation delivers an even larger re-set amount: €1.75 trillion.

The contribution side, taking debt up to 85.1% of GDP, delivers a shortfall:

Country	2018 GDP in €billion	2018 Debt/GDP	Debt capacity	New Debt in €billion	New Debt/GDP	Moody's rating
Germany	3,387	60.9%	24.2%	820		Aaa
Denmark	296	34.1%	51.0%	151		Aaa
Netherlands	772	52.4%	32.7%	236		Aaa
Austria	386	73.8%	11.3%	44		Aa1
Sweden	466	38.8%	46.3%	216		Aaa
Finland	234	58.9%	26.2%	61		Aa1
				1,528		

The contributions fall short by €250 billion, meaning that the contributions will balance the needs at a Debt/GDP ratio of around 87%. It would be foolish to raise the Debt/GDP of the contributor countries to higher levels than those of the recipients, simply meaning the two sets of countries change places. It would also frustrate a key objective of this exercise and of the FST: to bring the debt levels of all Eurozone countries – and of Sweden and Denmark who mimic ECB policies – to the same level. Even if such a transaction could be brought about at around 87%, it is fanciful to assume that all of the Eurozone Member States in question could then run a consistent budget surplus of 2.45% per annum for 11 years starting in 2020, and all hit the 60% target by the end of 2030. Indeed it is fanciful to think that such a transaction can be brought about in the first place: it would be politically impossible for the contributor Member States to agree to it, without there being an immediate crisis to be solved.

Instead no pre-emptive action will be taken and at the latest by the end of 2021, it will be clear that the EU Fiscal Stability Treaty is a dead letter. We would see this date as the “longstop” for the onset of the crisis, and several factors could precipitate it much sooner. We will go through each one in turn, examining the evasions and accounting tricks used to keep the ship afloat for the time being. First, though, we will quantify the UK’s risk exposure.

UK liabilities to the financial mechanisms of the EU

Aside from the commitment to the EU cash budget (which approximates to €10 billion per annum under the current Multiannual Financial Framework 2014-2020), the UK’s obligations as a non-Eurozone, EU Member State, have not altered substantially since the last study in late 2017:

Source	Amount
European Union – maximum liability for funds and guarantees	€441.1 billion
European Investment Bank - subscribed capital	€39.2 billion
European Central Bank - subscribed capital	€1.5 billion
UK Maximum Possible Loss	€481.8 billion

Drawing on the available, incomplete information, we can break down the liability through the European Union under funds and guarantees as below. The risk accumulates over successive Multiannual Financial Frameworks (“MFFs”):

MFF applicable/type	Ceiling	Drawn	Drawable
Funds/MFFs up to 31.12.13	€125.0 billion	€57.3 billion	€69.5 billion
Guarantees/MFFs up to 31.12.13	€36.1 billion	€36.1 billion	0.0
EU guarantee for European Fund for Strategic Investments/MFF 2014-2020	€30.0 billion	€2.7 billion	€27.3 billion
EU guarantee for EIB lending outside the EU/MFF 2014-2020	€16.0 billion	€23.5 billion	n/a
Headroom for further funds/facilities/guarantees under 2014-2020 MFF	€234.0 billion	0	€234.0 billion
Total	€441.1 billion	€119.6 billion	€330.8 billion

The “Ceiling” is not a definite maximum because of the way it is referenced to a figure for EU GNI that only emerges over the life of the current MFF. That the totals for “Drawn” and “Drawable” do not add up to €441.1 billion is attributable to the incompleteness of available information.

Included in the “Funds/MFFs up to 31.12.13” is the European Financial Stabilisation Mechanism, the first Euro bailout fund in which the UK is a full risk-bearing participant, contrary to David Cameron’s assertion that the UK was not and never would be a party to any of the Euro bailout funds. The UK, in addition, made a £3.25 billion bilateral loan to Ireland as part of its overall EU bailout package of €85 billion, pursuant to the 2010 Loans to Ireland Act.

Impact of Withdrawal Agreement

The impact of the Withdrawal Agreement as currently drafted is little different from the UK's remaining in the EU:

- Shareholdings in EIB and ECB not repaid for 30 years;
- Contingent liabilities through the EU that are currently drawn of €119.6 billion are supposedly determined by the single payment of €39 billion – and yet we know that this money will be spent at once, leaving open how the liabilities will be paid if and when they materialise;
- No change to the ability of multinationals companies to profit-shift;
- No alteration to the UK's general terms-of-trade with the rest of the EU.

Impact of delay to Brexit until the end of the current MFF

One major danger of the delay to Brexit is that it allows the EU to mobilise the “Headroom for further funds/facilities/guarantees under 2014-2020 MFF” of €234.0 billion.

The EU Budget for the current MFF has been set at 1.23% of EU GNI (“Gross National Income” as opposed to GDP or “Gross Domestic Product”), of which 0.97% can be expended as cash payments, and 0.26% can be engaged as funds, facilities and guarantees.

The cash side is called the “payments appropriation”, is 0.97% of EU GNI through to the end of 2020, is therefore about €155 billion per annum (0.97% of €16 trillion), and is paid by Member States as annual contributions in line with their percentage share of EU GNI. Underspends by the EU in one year are not carried forward to future years.

The amount that can be committed as funds/facilities/guarantees – known as the “commitments appropriation” - is set as 0.26% of EU GNI, but it does not have to be committed equally in every year of the MFF. Amounts as yet uncommitted are carried forward. In theory the entire amount could be committed on the very last day of the MFF.

Moody's has estimated that the 0.26% equals €40 billion per annum, which would total €280 billion over the 7 years of the MFF, and we have used this figure, even though the EU GNI figure to which it is referenced moves over time.

Since only €46 billion has been mobilised in the current MFF so far, this leaves €234 billion that could still be committed before 31st December 2020.

The liability for this amount, as it uses the European Union budget as its vehicle, is joint-and-several: any one Member State could be asked to pay all of it in the circumstances that none of the others can.

This committing of the remaining €234 billion of headroom could be in the form of the creation of further bailout funds through the legal entity of the European Union and/or by the increase in the EU's first-loss guarantees to the EIB, enabling it to lend in even higher volumes and by taking a more exposed risk position in its lending through the European Fund for Strategic Investments.

Chance of UK's risks materialising and impact if it does

The chance of the UK's risks materialising is, in our view, synonymous with the question of whether there will be a renewed Eurozone financial crisis, and, if there is, whether the EU authorities have the firepower to deal with it without calling upon non-Eurozone members, the UK being by far the largest.

GENERAL STATUS OF THE EUROZONE FINANCIAL SYSTEM

The apparent stabilisation and recovery of the Eurozone financial system since 2012/3 is an illusion.

The banking system cannot stabilise without nominal interest rates returning to the range of 3-4%, but the Eurozone economy as a whole would collapse at such rates, not least because of the number of “zombie” companies that would be forced into bankruptcy and cause such major credit losses to banks that the banks would collapse. “Zombie” companies are those that can afford their debt service when their interest rates are within the 0-1% per annum range, but which default when rates increase above that.

With ECB rates still below zero, and with a flat or inverse yield curve, as well as the results of other policy initiatives, the Eurozone banking system can neither create new capital internally nor raise it from investors, thanks to the:

- Elimination of the interest margin between savings accounts (usually interest-free) and interbank rates of 3-4% which, in normal circumstances, covers all operational costs;
- Elimination of the yield pick-up by borrowing (e.g. via savings accounts) short-term and lending long-term when the yield curve is positive;
- Elimination of FX earnings between Euro-participant currencies;
- Elimination of foreign payment fees and value-date earnings thanks to the two EU Payment Services Directives and the creation of the Single Euro Payments Area.

In addition to this, the banking sector has an ongoing issue with bad lending, or Non-Performing Loans (“NPLs”), and while these NPLs have been subjected to creative accounting techniques, the underlying problem remains: in several Eurozone countries, banks have NPLs of 20%+ of their loans, and capital of 10% of their loans. Put another way, the banks are technically bankrupt, but are kept artificially in existence by a number of official policy measures including tolerance of creative accounting. The banks are “zombies” as well, because the withdrawal of those policy measures would push them off the cliff.

This is reflected in the share prices of Eurozone banks. The share price of a healthy company should be at least its Net Asset Value (Total Assets less all liabilities to third-parties), plus 5 years’ of future profits discounted to today’s value.

Unfortunately, Europe’s banks do not trade at a multiple of their book value, but at a discount: the market believes that their assets are over-valued and/or that they have no meaningful streams of profits either now or in the near future.

Interpretation of collapse of proposed merger of Deutsche Bank with Commerzbank

A merger of Deutsche Bank and Commerzbank was discussed in detail but collapsed. Deutsche Bank’s performance has been subject to widespread criticism and indeed it has faltered, despite adopting business strategies that should have allowed it to benefit from the success of the Euro.

Analysis by GuruFocus as of March 2019 put the book value of Deutsche’s shares at USD35 but the market value at USD7 (<https://www.gurufocus.com/term/Book+Value+Per+Share/DB/Book-Value-per-Share/Deutsche-Bank-AG>).

This is a catastrophic 80% discount of the open-market price from the book value, indicating a black hole in both the value of Deutsche’s assets and off-balance sheet business and in its profits.

It should have merited greater comment that the proposal for an in-market merger of two large banks in the Eurozone’s (optically) most successful economy did not make business sense, leaving aside objections on the grounds of Competition Law.

This should be a deal that makes excellent business sense but is a priori blocked by Competition Law.

The business sense should have emerged from synergies between the two organisations, both on the revenue side by creating a series of unique sales propositions, and on the cost side by creating superior economies of scale in multiple service lines on the back of a leading, combined market share.

There was apparently no pretence in the Deutsche/Commerzbank tie-up that it would result in unique sales propositions such as to boost revenues on the basis that 1+1 would result in 2.5.

The economics of the first big US in-market bank merger – between Manufacturers Hanover Trust and Chemical Bank in 1991 – were conservative, in that it was assumed that the banks had a major overlap of customers, and that these customers would do less business with the combined bank than they did with each bank individually.

A viable business case for the merger existed even on the expectation on the revenue side that 1+1 would result in 1.75. In fact the overlap of customers was much smaller than expected, and, because of the combined bank's better credit ratings, individual customers were willing to expand their business with the combined bank: the actual revenue outcome was $1+1 = 2.5$.

No such expectations were set in Deutsche/Commerzbank case even though, because of the German "house bank" ("Hausbank") system where a corporate has just one of the major German banks in its inner circle, the overlap in customer base might have been smaller than supposed.

The merger economics would have been based entirely on cost-cutting, and on running higher volumes of the same types of business across an infrastructure that might cost 70% or so of the pre-merger infrastructure costs of the two banks individually.

Unfortunately it would have required redundancies on a scale precluded under German labour laws to achieve those savings and so there was no financial business case for a merger.

The PR spin around the collapse of the talks has obfuscated that both banks are gradually bleeding to death, that there is no prospect of salvation from increased revenues, and that costs cannot be cut quickly or decisively enough given labour market inflexibility.

The positioning of the German government on this transaction warrants a mention: they are exposed through Commerzbank, and wished to reduce their risk, not increase it. The German government would have been looking to Deutsche Bank, other stakeholders in Commerzbank, and third-party investors to bail them out of their risk, and certainly not for the transaction to have led to an increased exposure.

Given the legal and regulatory framework in which Deutsche and Commerzbank operate – created by the European authorities and the German government jointly – the collapse of the merger makes it more likely in the medium term that the German government will have to meet the cost of the eventual failure of these two banks, unless an alternative option is found at the time.

If these two banks collapsed, the German government would have to fund compensation to depositors of up to €100,000 each, according to a law enacted after the 2012/13 Eurozone crisis.

EU bank resolution rules and what has happened in practice

The EU passed a Directive in the wake of the 2012/13 crisis for how, going forward, failed banks would be dealt with. It was meant to ensure that taxpayers did not bail out bad banks, and thereby bail out bad bankers like a blanket insurance policy for their mistakes.

This EU Bank Recovery and Resolution Directive 2014/59 was passed on 15th May 2014 with detailed provisions, but in practice it has been ignored, more often than not because the taxpayers that it was meant to protect have been the same people who would lose out upon its implementation.

The Directive foresees shareholders and many classes of bondholder having their investments expunged when the bank fails. The new shareholders in a bank that had been resolved and had recovered would be the erstwhile depositors in the same bank, where they had held over €100,000 or equivalent in their accounts. The

excess over this €100,000 would be converted into “capital-like instruments” (a process known as a “bail-in”), and the same depositor would get the €100,000 paid out from the national depositor compensation scheme. Depositors with less than €100,000 or equivalent in their accounts would be paid out in full from the national depositor compensation scheme.

As a result of the bail-in and the holders of shares and subordinated debt in the old bank having their claims expunged, the new bank would have two claimants:

1. At a senior level, the national depositor compensation scheme;
2. At a junior level, the large depositors in the old bank.

This is not the way in which failing banks have been dealt with:

1. Monte dei Paschi di Siena hobbles along with support at various levels from the Italian authorities, without expunging the deposit or share investments of Italian retail investors;
2. Santander was wheeled in as a “white knight” for Banco Popular Espanol, with previous shareholders expunged but larger depositors not bailed-in;
3. Intesa SanPaolo was wheeled in as a “white knight” for Veneto Banca and Banca Popolare di Vicenza, with inducements from the Italian state of €5 billion in cash and a promise of €12 billion of Republic of Italy guarantees on securitisations of Non-performing loans;
4. Cassa di Risparmio di Genova has been put under the special administration of the ECB, who wish now to close it down, while the Italian government proposes to rescue it.

Authorities have eschewed strict implementation of their own laws for political expediency, where the bail-in and the expunging of holdings of shares and subordinated debts would penalise voters, and in order to disguise the nature of the national depositor compensation scheme.

This is an unfunded scheme where claims on it simply constitute claims on the government. In order to pay out depositors through the scheme, the government would have to issue new debt itself. With government debt in Italy already at 130% of GDP and in Spain at 97%, this needed to be avoided.

Problem of arbitrary Risk-Weighted Assets methodologies

Central to the problems of the banking sector is the unaltered fact that banks are permitted to make their own assessment of how much risk their business contains.

Banks are permitted to use an Internal Risk-Based Approach to calculating their need for capital, based supposedly on long runs of historical data about customer defaults on different types of business. The application of an Internal Risk-Based Approach converts the face value of the business that the bank has on its books, into its risk-weighted value – and this risk-weighted value is the one that is used to determine how much capital the bank needs to have.

Supposedly sophisticated banks are allowed to go one step further and use an Advanced Internal Risk-Based Approach, rather than a Standard one.

The impact of a bank using an Advanced rather than a Standard approach is always that the bank has to hold less capital against a given book of business, because it is assumed that this bank is better at managing its risks.

The approach is applied both to the business which the bank has on its balance sheet – mainly loans and leases – and the business that the bank holds off its balance sheet, which will include derivatives, future foreign exchange, guarantees, and trade finance commitments.

The approach converts both types of business into a “Risk-Weighted Asset”.

Usage of an Internal Risk-Based Approach is permitted under the various Basel regimes of the Bank for International Settlements, converted, in the EU, into a succession of Capital Requirements Directives. These Directives focus on the amount of capital that a bank must hold in proportion to its Risk-Weighted Assets, and the amount has indeed been strengthened since the financial crisis.

Capital requirements under Capital Requirements Directives

The requirements are for a minimum 7% Common equity composed of Core capital of 4.5% and a Capital conservation buffer of 2.5%.

The 29 Global Systemically Important Financial Institutions (GSIFIs) must have 1%-3.5% more capital and therefore more loss-absorption capacity to reflect the greater risks that they pose to the financial system. The GSIFIs are allocated into five levels. Deutsche Bank and HSBC are in level 3 and require 2% more capital. Barclays and BNP-Paribas are in level 2 and require 1.5% more. Unicredit, ING and Societe Generale are in level 1 and require 1% more.

In addition a Countercyclical buffer of 0%-2.5% can be imposed when authorities judge credit growth is resulting in an unacceptable build-up of systemic risk.

We can show what the loss-absorption capacity must be of different levels of GSIFI, of a non-GSIFI, and given four different levels of counter-cyclical buffer:

Capital element	Level 3 GSIFI	Level 2 GSIFI	Level 1 GSIFI	Non-GSIFI
Core capital	4.5%	4.5%	4.5%	4.5%
Capital conservation buffer	2.5%	2.5%	2.5%	2.5%
Minimum Common equity	7%	7%	7%	7%
GSIFI premium	2%	1.5%	1%	0%
GSIFI-adjusted Common equity	9%	8.5%	8%	7%
Example counter-cyclical buffer	1%	2%	0.5%	0%
Total capital	10%	10.5%	8.5%	7%

These are the minimum standards. A bank's actual ratio is known as its CET1 ratio = Capital/Risk-Weighted Assets.

The counter-cyclical buffer – set by a national authority such as the Bank of England – can have a major impact on total capital, but the leading impact on the amount of capital a bank needs is its Internal Risk-Based Approach. All of the above percentages are “...of Risk-Weighted Assets”.

This can raise or, more likely, diminish the need for capital in a manner that cannot be seen through or reconciled by a third-party.

Unicredit as an example of opaque Risk-Weighted Assets

It can then emerge that Unicredit claimed to have, as at 30/9/18, capital in the amount of 12.11% of its Risk-Weighted Assets, based on Risk-Weighted Assets of €362.6 billion, at a time when the face value of its loans alone was €432.0 billion. In the Q3 2018 Results Presentation in which these figures were included, Unicredit stated neither:

- The group's total assets at the same date, although we know that they were €836.8 billion on 31/12/17 of which loans to customers were €447.7 billion; nor
- The total face value of off-balance sheet business as at 30/9/18; nor
- How that amount of off-balance sheet business and the on-balance sheet business were reduced down to a risk-weighted value of €362.6 billion.

It seems fair to assume that total assets had declined between 31/12/17 and 30/9/18 in the same proportion as loans to customers: by -3.4%. Total assets at 30/9/18 would then have been €808.3 billion. Risk-Weighted Assets on the same date - €362.6 billion - were 44.9% of all on-balance sheet business if one makes no allowance at all for off-balance sheet business. Alternatively, if one allows an arbitrary €100.0 billion for the Risk-Weighted Asset value of all off-balance sheet business, the Risk-Weighted Asset value of all on-balance sheet business falls to €262.6 billion, 32.5% of its face value.

It is not credible that Unicredit's Risk-Weighted Assets genuinely reflect the risks in their book of business, on- or off-balance sheet, given their track record of poor risk management that led to write-offs in Q4 2016 of over €12 billion on its “Fino” and “Porto” books of bad loans.

The unreliability of banks' Internal Risk-Based Approach models has recently given rise to a damning interim report from the department of Mr Andrea Enria, head of the ECB's board of supervision. It is in the form of this letter of 3rd April 2019 entitled "Interim update on the Targeted Review of Internal Models (TRIM)": https://www.bankingsupervision.europa.eu/press/letterstobanks/shared/pdf/2019/ssm.TRIM_information_letter.en.pdf?utm_source=ecb_LinkedIn&utm_medium=social&utm_campaign=190405_TRIM_letter

The TRIM process has been ongoing since 2015 but seems now to have reached a milestone, subsequent to which the ECB will insist on consistent and high standards, and proper auditing.

The ECB has – better late than never – woken up to the fact that it has expended the last twelve years concentrating on the Numerator in the calculation of the CET1 ratio - Capital/Risk-Weighted Assets - without concerning itself sufficiently with the Denominator.

The ECB is for sure opening up a can of worms here, because banks' Internal Risk-Based Approach models for calculating their Risk-Weighted Assets were overly generous (to themselves) under Basel II in the run-up to the 2007/08 financial crisis, and have remained so under Basel III.

Bringing that out into the open is a major risk, as it could cause a loss of confidence and a collapse by showing that the Eurozone banking system is clad in the Emperor's new clothes.

Problem of Non-performing loans

Underneath all of this we have banks' bad lending, both domestically, cross-border, and pseudo cross-border, meaning where the local branch or subsidiary of a major foreign bank headquartered in one Member State engages in bad lending in another Member State. That would be, for example, where the BNP-Paribas Group has a bad loan portfolio in its Italian subsidiary Banca Nazionale de Lavoro.

Banks have been left with large portfolios of Non-performing loans, notably to borrowers in Italy, Greece and Cyprus.

This problem can be construed as a hangover from the elimination of foreign exchange risk between Euro-In currencies, where the returns on investments appeared far higher in the Club Med countries and in locations like Ireland than those available on investments in Northern Europe.

There was a "gold rush" into the Club Med countries and Ireland, in particular into real estate, and then a bust. Banks have not fully recognised the bust in their own accounts or they would go bust themselves. Instead they hold extensive portfolios of bad loans, which they try to write down as best they can, but not to the level where the write-downs diminish their CET1 ratios below the minimum standard. This is the problem: the loans are bad but the banks cannot afford to acknowledge it.

"NPLs" fall into three accounting categories, which in turn imply a guideline valuation in the bank's books relative to the loan's face value if the bank's accounting policies are conservative:

Category	Meaning	Valuation
Non-performing and past due	It is over 90 days since non-payment of a scheduled debt service payment under the loan contract	70%
Unlikely to Pay	The borrower is unlikely to meet its obligations to the bank in full, without recourse by the bank to actions such as realising security (if held)	40%
Bad Exposures	The loan is lost	0%

Notwithstanding the Risk-Weighting of Assets to determine the CET1 ratio, banks are also under a limitation on the total face value of on-balance sheet business they can transact. This is called the Leverage Ratio.

A bank, with its Performing Loans, its NPLs and its other assets (buildings, computers etc.) on the Asset side of its balance sheet, must have capital of at least 5% of these assets on the other side of its balance sheet, with

no more than 95% of its assets being funded with liabilities to third-parties such as depositors and bondholders.

On-balance sheet assets must not exceed 20x the bank's capital.

Banks benefit from over-valuing their NPLs, since a write-down in the value of an NPL on the asset side of the balance results in a 1-for-1 reduction in capital, without reducing liabilities. With the bank's capital diminished by a write-down of amount n , it loses the ability to support assets of $20 \times n$. This could be disastrously deflationary for the economy in which the bank is operating: if it is forced to write off €500 million of NPLs and reduce its capital by this amount, it must oblige borrowers to repay €10 billion, forcing a number into bankruptcy and creating new NPLs.

When you have a banking system like that of Cyprus with over 40% of all loans on NPL status, the system only remains afloat if the NPLs are allowed to remain over-valued.

Bank of Cyprus as an example of a zombie bank

An article in the Cyprus business press in April 2018 cheerfully announced that Bank of Cyprus – “BoC”, the country's largest bank - had reduced its NPLs for a 12th consecutive quarter. As of March 31st 2018 BoC's NPLs had a face value (i.e. the amount stated in the loan contracts) of €8.3 billion, with a 51% “coverage ratio”. This means that the bank had written the value of these NPLs down in its books by 51%, to 49% of their face value. This 49% figure is known as the “carrying value”, meaning the value they are assigned in the bank's balance sheet.

The key formula is Face Value less Write-down = Carrying Value.

With these figures we can re-construct the face value of all of BoC's loans, Performing and Non-Performing:

#	Measure	Calculation	Amount
A	Face value of total loans	--	€18,629 million
B	Face value of NPLs	--	€8,345 million
C	Write-downs taken on NPLs	B x 51%	€4,256 million
D	Carrying value of NPLs	B x 49% or B - C	€4,089 million
E	Carrying value of all loans	(A - B) + D	€14,373 million

Writing NPLs down from their face value of €8,345 million to a “carrying value” of €4,089 million has the same effect as continuing to hold the loans at their full face value on the Asset side, and holding a Loan Loss Provision of €4,256 million against them on the Liability side.

49% as an average valuation for NPLs is not conservative: an average of 25% would be.

Bank of Cyprus had CET1 capital in the order of 10% of its total assets, or around €1.5 billion. But €4.1 billion of these assets were over-valued, by as much as 50% - i.e. by €2 billion. BoC's assets should have been valued at €12.4 billion and not €14.4 billion.

With that downward adjustment to assets of €2 billion, BoC's capital would have been reduced by the same amount, down to -€500 million. Then BoC would have had a negative Leverage Ratio – BoC would have still had total assets for €12.4 billion but with negative capital.

Even the improvements that BoC's press releases lay claim to are not supported by an underlying recovery and by borrowers clearing their arrears, but by creative accountancy.

BoC's quarterly report as of 31/3/18 bears ample testimony, in sections F1 to F8 on pages 28 to 35, to the improvements having been brought about solely through:

1. “Forbearance” techniques, meaning measures like the unpaid interest has been capitalised or the repayments have been stretched out. The loan then continues to rank as Performing and does not fall into Non-performing status;

2. “Restructuring” actions such as taking extra mortgage security, no doubt with suitably lax conditions around the Loan-to-Value, whether there is a re-sale market for the asset if repossessed and so on. The loan is then backed out of the NPLs figure and into Performing.

The unresolved problem of NPLs in the Eurozone banking system recently led to this second intervention by Mr Andrea Enria, head of the ECB’s board of supervision. It demands that banks set aside additional capital to mitigate risks:

<https://uk.eos-solutions.com/Article-Stub.html?id=ea9e2649-97c0-4596-bda2-b4538f0487c3>

The result of this intervention could again be to precipitate disaster, as it becomes clear that all the improvements to NPLs have been conjured up either thanks to creative accountancy (as per the case of BoC above), or through questionable sales of portfolios of NPLs using the method of securitisation.

This leads us on to Italy, the Member State with the largest quantum of NPLs.

Explanation of market-based securitisations in Italy

A template was devised by the Italian authorities for their banks to divest themselves of their portfolios of NPLs. The template was meant to be market-based as it rested on third-party investors buying bonds that had a risk-return profile which the investors would compare favourably with other investment options open to them.

The NPLs would first be sold by the respective bank to a special-purpose company (“SPC”) in neutral ownership, and with very low share capital. In other words the securitisation SPC has no loss-absorption capacity of its own. The loss-absorption capacity is provided by bondholders.

The sale price of the NPLs from the bank to the SPC would be their Carrying Value in the bank’s books at the time of the sale. The SPC would raise the money to buy the NPLs by issuing three tranches of bonds:

Tranche	Proportion	Bond subscriber
A	85%	The selling bank itself
B	10%	Hedge funds and other “high risk” investors
C	5%	Atlante II Investment Fund

This is a typical “creditor ladder” where the holders of the ‘A’ tranche get paid first, then the holders of the ‘B’ tranche and so on. The lower tranches act as the first and second loss-absorption layers or, put another way, each tranche acts as “credit enhancement” for tranches that rank higher than it.

This should have led to the A Tranche being rated as “investment grade” by at least two rating agencies (i.e. at least Baa3 by Moody’s, or BBB- by Standard & Poor, or their equivalents in the Fitch or DBRS systems). The A Tranche bonds could then be entered onto the ECB list of eligible collateral, and consequently the selling bank would be able to borrow almost the entire face value of the A Tranche bonds from the Eurosystem.

The Atlante II Investment Fund, as proposed buyer of all C Tranche bonds, would act as the first layer of loss-absorption. Atlante II is itself a special-purpose investment company owned by the Italian banks: they all subscribed to a portion of Atlante II’s capital, and Atlante II was to subscribe to the C Tranche of all the same banks’ securitisations of the NPLs.

Since no one Italian bank owns more than 3-4% of Atlante II, the amount each one does own can be accounted as a Trade Investment and on the equity method. There is solidarity in this approach: as long as every bank puts something into Atlante II, and as long as Atlante II invests in every securitisation deal, the ability of every bank to sell off its NPLs and deconsolidate them from its own accounts is enhanced, without any one bank taking meaningful extra risk.

Each bank’s risk of loss on any one securitisation through Atlante II is Transaction Size x 5% x 3-4%: in other words it is minimal. It does not actually matter if Atlante II loses all its money because the benefits to the

Italian banks of the template are enormous, although for form's sake Atlante II has some nominal underwriting criteria for the portfolios of NPLs it will buy into.

With the investment in Atlante II being a throw-away for its owners, and with the banks (Atlante's owners) able to sell their NPLs at an inflated Carrying Value as well as receiving back a bond eligible for refinancing by the Eurosystem, only two parties would be performing the "market test" by acting in strictly commercial interests when discharging their role:

- The rating agencies, being asked to rate at least Tranche A, if not Tranche B as well;
- Hedge funds and other "high risk" investors buying Tranche B.

Both would be looking at the NPL portfolio to ensure it was of high enough quality to meet the claims of both the Tranche A and the Tranche B investors, such as to warrant:

- The rating of Tranche A as at least Baa3 (Moody's), BBB- (Standard & Poor), or their equivalents in the Fitch and DBRS systems so as to render these bonds eligible to be entered into the ECB collateral list;
- Investors buying the Tranche B bonds.

Unfortunately the template has failed to achieve the necessary ratings for the Tranche A bonds, frustrating a major benefit for the selling banks. This is due to the NPL portfolios being worth less than their Carrying Value. Even more creative structures have had to be dreamed up in order to preserve the secondary benefits for the selling banks:

1. To complete the sell-off and deconsolidate the portfolio of NPLs, underpinning the illusion that the NPL problem is being dealt with;
2. To consummate the sale, optically at least, at the Carrying Value;
3. To avoid the bank taking a further write-down through its Profit-and-Loss account in order to reduce the Carrying Value to what third-party investors regard as the realisable value, or market-tested value.

The securitisation template did not deliver market-based securitisations, but securitisations have taken place nevertheless, the need being so great. The terms of those securitisations have been opaque, because almost none have achieved public credit ratings. One can guess that the selling bank had itself to subscribe to parts of the higher-risk tranches, and in one case we have proof of that.

Unicredit's "Fino" project: example of a bogus securitisation

Unicredit undertook an emergency rights issue in early 2017, raising €12.9 billion, an amount barely sufficient to replenish its capital after it made major write-downs in Q4 2016 on the value of NPLs, both ones that Unicredit intended to retain (the "Porto" project) and ones that it intended to sell off and securitise (the "Fino" project).

The write-downs totalled €12.2 billion such that, for the period between the write-downs in Q4 2016 and the pay-in of the rights issue in early March 2017, Unicredit was out-of-compliance with its minimum capital requirement. A substantial amending supplement had to be issued on 15th February 2017 to the offering prospectus for the rights issue of 3rd February 2017.

Shareholders' Equity in Unicredit SpA had stood at €44.2 billion in the 2015 Annual Report, and indeed at €43.9 billion on 30th September 2016. The figures as at 30th September 2016 were the anchor figures for the offering prospectus because the rights issue was launched too early after 2016 year-end for the figures for 31st December 2016 to be available. When they were, it became clear that Shareholders' Equity had fallen to €32.7 billion at year-end, thanks largely to "Porto" and "Fino".

It remains a puzzle as to whether the investors that took up the rights issue believed they were adding capital to the figure as at 30th September 2016, or whether they were aware that they were simply filling a hole in the bank's capital that had appeared since 30th September 2016.

The entire "Fino" portfolio was sitting in the "Bad Exposures" category of NPLs on Unicredit's balance sheet at the time it was sold, as opposed to in "Unlikely to Pay", or in "Non-performing and past due" – the two better categories of NPL.

The “Fino” portfolio as it sat in Unicredit’s books after the write-down in Q4 2016 but before its sale was as follows:

Valuation level	Amount
Face value	€17,045 million
Write-down from face value	€14,836 million
Carrying value	€2,209 million
Carrying value as % of face value	13%

The Fino project is incomplete, contrary to the bank’s own contentions. Unicredit deconsolidated this portfolio at the end of 2016, but so far has only managed to fully complete the securitisation of a portion of it. The Fino 1 Securitisation S.r.l. company, 49% owned by Unicredit itself, raised €769.9 million by issuing four tranches of bonds. The ratings assigned by Moody’s are shown in detail in Appendix 1 but in brief they were:

Tranche	Amount	Rating
A	€650.0 million	A2
B	€29.6 million	Ba3
C	€40.0 million	B1
D	€50.3 million	No rating
Total debt financing	€769.9 million	

This is again a typical “creditor ladder” where the holders of the ‘A’ tranche get paid first, then the holders of the ‘B’ tranche and so on. The lower tranches act as “credit enhancement” for the higher ones, hence the difference in rating. The capital of the company will be minimal, such that the holders of the ‘D’ tranche take the first loss; that tranche is unrated because the assets of the company are the same loans that Unicredit had rated as “Bad Exposures” before deconsolidating them.

The first anomalies in Fino 1 compared to the official template are:

- That Unicredit itself owns 49% of Fino 1 Securitisation S.r.l.;
- That there is no involvement of the Atlante II fund;
- There is a D Tranche as well as A-C Tranches.

Since the Fino portfolio came out of “Bad Exposures”, we can assume that the portfolio quality was so low that it did not meet even Atlante II’s perfunctory underwriting standards.

Rather than being able to sell the portfolio to an SPC in neutral ownership with Atlante II taking the first-loss position, Unicredit sold the portfolio off to its own controlled affiliate company at an inflated price of 13% of its face value, which third-party actors refused to confirm. Indeed the existence of an unrated Tranche D is a sign that potential investors in the A, B and C Tranches had severe misgivings about the value of the Fino portfolio and demanded an extra loss-absorbing cushion.

Even with a Tranche D in place, the rating on Tranche A from Moody’s was just A2, below “investment grade” and ineligible as collateral at the Eurosystem. This reflects the low quality even of the most senior tranche of Fino 1. We can further surmise that Unicredit packaged the least worst pieces in the Fino portfolio into Fino 1, and that what sits in Fino 2 is of even lower quality.

The proof of over-valuation is the failure to fully complete the refinancing.

The total refinancing raised for Fino 1 was €769.9 million, which left €1,439.1 million of Fino in a state of semi-completion, no doubt sold to a Fino 2 Securitisation S.r.l. but without any bonds having been rated. We can surmise that bonds have been issued, though, in the same pattern as out of Fino 1, and that Unicredit owns all of Tranche A, and 49% of Tranches C-D.

We can further surmise that Unicredit has retained 49% of the bonds issued by Fino 1 Securitisation S.r.l. across all Tranches - €384.9 million – and possibly even more of Tranche A, since it is the sell-down of 51% of more of Tranches C-D that is the key to the deconsolidation of Fino.

Assumed bond issuance by Fino 2:

Tranche	Fino 1 Amount	%	Fino 2 Amount
A	€650.0 million	84.4	€1,214.6 million
B	€29.6 million	3.9	€56.1 million
C	€40.0 million	5.2	€74.8 million
D	€50.3 million	6.5	€93.6 million
Total debt financing	€769.9 million	100	€1,439.1 million

Assumed Unicredit holdings of bonds issued by Fino 1 and Fino 2:

Tranche	Fino 1 total	UCB %	UCB Fino 1	Fino 2 total	UCB %	UCB Fino 2
A	€650.0 million	49	€318.5 million	€1,214.6 million	100	€1,214.6 million
B	€29.6 million	49	€14.5 million	€56.1 million	49	€27.5 million
C	€40.0 million	49	€19.6 million	€74.8 million	49	€36.7 million
D	€50.3 million	49	€24.7 million	€93.6 million	49	€45.9 million
Total	€769.9 million		€377.3 million	€1,439.1 million		€1,324.7 million

Total of Fino bonds owned by Unicredit:

Fino 1	€377.3 million
Fino 2	€1,324.7 million
Total	€1,702.0 million

If Unicredit owns €1,702.0.1 million of the bonds issued by the Fino securitisation companies, that is 77% of the €2,209 million needed by these companies in order to buy the Fino portfolio from Unicredit in the first place.

The result is a completely bogus securitisation. Unicredit retains the major risk of loss. The Fino portfolio should first be reconsolidated and then further written down in Unicredit's accounts to the value that Atlante II and third-party investors were prepared to put on it. The failure to complete Fino 2 and the insertion of a D tranche in Fino 1 are clear signs that the portfolio was over-valued at 13% of face.

Banks failing to deduct capital-in-subsidiaries back

An ECB spokesperson recently made an interesting intervention regarding the accounting by an EU bank for the capital it holds in a branch or subsidiary in a different Member State:

https://www.reuters.com/article/uk-ecb-policy-villeroy-idUKKCN1RH0WY?utm_campaign=trueAnthem:+Trending+Content&utm_content=5ca746e400e48b00017e1aac&utm_medium=trueAnthem&utm_source=twitter

In summary, according to this official, capital held in banking entities in other Member States should be accorded preferential treatment merely on the contention that the capital is by nature at less risk than if it were held in a banking entity in the USA or Japan.

Such benevolent treatment is only justifiable if the capital is less at risk as a matter of certainty.

This has been part of the problem of the Euro: banks took it as read, between 1999 and 2012, that the structure of the Euro implied inter-government support in a crisis, and that Germany and the other Aaa-rated Member States were obligated to render support. With that certainty in their minds, banks regarded the higher returns on lending into Club Med countries and Ireland as a free lunch. They lent into the Club Med and Ireland from their head offices, and from their in-country branches and subsidiaries. Given the current

situation, a German or French bank's subsidiary in a Club Med country or Ireland should be required to hold more capital than the norm, not less.

It is not even as if the Basel rules are being adhered to now. The rule is that a bank must deduct back from its own capital the capital it owns in its foreign banking operations, before determining its own capital for the purposes of its own computations of leverage and risk-weighted assets.

As of 31/12/18, Unicredit SpA – the Italian bank and Unicredit group parent – had capital of €50 billion, and total assets of €406 billion, a leverage on the face of it of 8x. However its assets contained €43 billion of investments in other banks, principally the capital in its Central & Eastern European banking network.

This €43 billion should have been deducted 1-for-1 against Unicredit SpA's capital of €50 billion in order to determine Unicredit SpA's ability to leverage itself. That would have left just €7 billion to support assets of €363 billion (the original €406 billion less the €43 billion of capital in banking subsidiaries).

Under the proper calculation, Unicredit SpA was leveraged 52x, against a maximum permitted leverage of 20x.

Unicredit Group's consolidated total assets, including those held in its banking subsidiaries, were €831 billion at 31/12/18, still on the same €50 billion of capital – a leverage ratio of 16.6x. This is within the permitted ceiling – if one believes in Unicredit's valuation of its own assets.

The market does not seem to, as its market capitalisation is currently €30 billion, a discount to book value of 40%.

In November 2018 we issued a paper with the title "Unicredit needs €35 billion more capital"; the market puts the shortfall at €20 billion. Were Unicredit SpA's CET1 capital to be its market capitalisation of €30 billion, it would have a shortage as Bank of Cyprus does, in Unicredit SpA's case of €13 billion once its capital in its subsidiaries had been deducted back.

At the group level, and with the same €831 billion of assets but €30 billion of capital, the bank's Leverage Ratio would be 27.7x, well outside the highest permitted level.

WHO BORROWS FROM THE EUROPEAN INVESTMENT BANK DIRECT AND THROUGH THE EUROPEAN FUND FOR STRATEGIC INVESTMENTS?

Then we have the EIB inserting significant amounts of lending into commercial banks and public sector entities in the same countries whose banking systems are stretched and who are such large borrowers through other channels.

The EIB has major exposure to commercial banks, through its SME on-lending programme. EIB lends to the bank, and the bank on-lends to SMEs. EIB's credit risk is the bank, not the SME, and the banks involved are those which have a significant customer base in SMEs, such as Unicredit in Italy, Bank of Cyprus in Cyprus and so on.

Borrowers in Italy and Spain are the largest creditors of the EIB, although the non-bank borrowers are not the sovereign borrowers but a mix of:

- Regional public authorities;
- Municipal public authorities;
- Established public sector companies such as power utilities, airports and train operators;
- Commercial banks who on-lend to SMEs;
- Private companies in which public sector entities hold a majority stake, albeit that no single shareholder has control;
- Special purpose companies established to create assets for use by the public sector, on the Private Finance Initiative model.

The key point is that none of these borrowers are the central government, meaning the sovereign borrower i.e. the Republic of Italy or the Kingdom of Spain.

Regions and municipalities in particular have their own borrowing powers, such that the public sector indebts itself at several levels in addition to at the sovereign level. These loans fall outside computations of government debt for the purposes, inter alia, of the EU Fiscal Stability Treaty.

The Republic of Italy's debt is 130% of Italy's GDP, but this does not include these secondary public sector debts, although they must all draw their debt service from the same well.

The EIB's signatures of new loans in 2017 were as follows, showing both the new loans under their traditional programmes "from their own resources", and those under the EFSI where the EIB enjoys a first-loss guarantee from the EU – which is a joint-and-several liability of all EU Member States including the UK:

Borrower country	Total new loans	Of which EFSI	Of which traditional	Percentage of EIB total	Total new loans 2016	Percentage of EIB total
Italy	€11.0 billion	€1.8 billion	€9.2 billion	16%	€9.9 billion	13%
Spain	€10.2 billion	€2.3 billion	€7.9 billion	15%	€10.0 billion	13%
France	€7.4 billion	€2.3 billion	€5.1 billion	11%	€8.0 billion	11%

In other words the EIB has been substantially adding to the secondary public sector debt of Italy and Spain, at the risk of other Member States including the UK.

The EIB claimed to have a CET1 ratio of 28.5% on 31/12/17, based, of course, on its Internal Risk-Based Model. Such a model gives a particularly favourable rating to public sector borrowers (EIB traditional loans) and to transactions whose debt service derives from public sector entities (EFSI loans).

EIB's CET1 ratio implies that its assets are rock-solid, and yet the largest borrowers are secondary public sector entities in countries whose sovereign borrowers are rated Baa3 and Baa1. Were these public sector entities to be rated themselves, they might achieve a rating one or two notches below that of the sovereign. In Italy that would be Ba1-Ba2, and in Spain Baa2-Baa3.

EIB's own rating is Aaa, the highest possible one, and based substantially on the supposed high quality of its assets. There is a disconnect there, because "public sector" and "sovereign risk" do not equate to undoubted quality.

ECB and Eurosystem balance sheets, and change-over in QE from APP to TLTRO

Now we turn to the stretched financial situation of the ECB, acting as it does as the nexus of the Eurosystem and the instigator of various monetary policies. It does not enact these itself. Instead the other Eurosystem members – the NCBs – enact them but at the ECB's risk.

The balance sheet footing of the ECB was €414 billion on 31/12/17, as per its published accounts.

The aggregate balance sheet footing of the "Eurosystem" was €4.4 trillion at the same date, as per the 2-page balance sheet issued by the ECB. The Eurosystem's largest asset was "7.1 Securities held for monetary policy purposes" at €2.4 trillion and the second largest was "5.2 Long-term refinancing operations" at €761 billion.

The "Securities held for monetary policy purposes" are the ECB Quantitative Easing, known as their "Asset Purchase Programme" or "APP".

APP, at its height, involved the Eurosystem buying €60 billion per month of fixed-rate securities in the secondary bond market, thereby propping up their prices and reducing their yields, as well as exchanging fixed-term investments for cash.

The structure of APP is that the securities of a given issuer are bought by the NCB of its Member State: Republic of Italy bonds are bought by the Banca d'Italia and Kingdom of Spain bonds by the Banco de Espana. The NCB buys the bonds from an institutional investor, and the cash settlement is paid to their bank account through the TARGET2 payment system.

Since institutional investors have their accounts predominantly in Luxembourg or Germany, the proceeds appear in the TARGET2 assets of the Banquecentrale du Luxembourg and of the Bundesbank – and are then lent back to Banca d'Italia and Banco de Espana through TARGET2 to fund the purchase: a perfect round trip. Banca d'Italia and Banco de Espana are the largest creditors in TARGET2.

The APP portfolio may be bought and held by the NCBs, but it is held at the risk of the ECB, through the profit-and-loss sharing mechanism: profits or losses incurred by an NCB on ECB-mandated operations are passed back to the ECB, and are then re-allocated to every Eurozone NCB based on their ECB Capital Keys, increased from their nominal ones via the exclusion of the Capital Keys of the non-Eurozone Member States, such as the Bank of England.

Size and market impact of APP

The APP portfolio was €2.4 trillion at the end of 2017. It had been continuing at a rate of new purchases of €60 billion per month until late that year, and was then reduced to €30 billion of new purchases per month plus reinvestment of maturities.

The average duration of APP has not been disclosed, but we can moot that it is 3.5 years as all the bonds purchased have been in the secondary market and not new issues. A portfolio of €2.4 trillion with a duration of 3.5 years has a monthly run-off of €57 billion. If the average duration was 5 years, then the run-offs per month would be €40 billion.

If the ECB continued APP until late 2017 at a rate of €57 billion of run-offs and €60 billion of purchases per month, the balance would have been level. A new policy of reinvestment of run-offs at this level as well as €30 billion of new purchases would have increased APP by €27 billion per month, not reduced it as the ECB's publicity inferred. If the monthly run-offs were €40 billion, then run-offs plus €30 billion of new purchases would have meant an increase of €10 billion a month.

Only if run-offs were €30 billion per month or less would the ECB's new policy have caused an actual reduction in the APP portfolio, but run-offs of €30 billion would point to an average of portfolio duration of 6.66 years and €20 billion a month to an average duration of 10 years. These average durations seem too long if all APP activity was in the secondary market.

Of course the real problem is lack of disclosure, but then that is what you get in a false market.

Now that the ECB has stated more positively that APP will come to an end, it has announced a new programme called "Targeted Long-term refinancing operations" or "TLTRO" to replace APP. As we have seen, asset line "5.2 Long-term refinancing operations" was €761 billion at 31/12/17, the second largest asset position in the Eurosystem balance sheet, so the plan is clearly for this line to take up the slack when line 7.1 is tapered off.

The effects of APP have been clear at one level: propping up the Eurozone GDP with a flood of free money.

But the effects at the second level have been more subtle and covert, but all the more devastating:

- Reducing the yields on bonds of Eurozone governments in the secondary market, so allowing new issuance by the same Eurozone governments at very low interest rates;
- Creation of a false market in Eurozone Member State government bonds that reduces the debt service costs of these governments to the detriment of commercial banks, their shareholders and depositors, and savers and investors generally;
- The false market has been created by the Eurosystem members acting as a concert party: the NCBs, which are owned by the Eurozone Member State governments, and the ECB, which is owned by the NCBs;
- Flattening or inverting of the yield curve, eliminating the source of revenues for banks from borrowing short and lending long, both eroding banks' capital and the wealth of banks' shareholders, and depressing returns paid by banks on savings;
- Destroying the time-value of money: returns for savers and investors are below the rate of inflation.

It is not that the Eurosystem had any choice: destroy the economy and the commercial banking system in the short-term with higher interest rates, or destroy the entire financial system and the currency itself in the medium-term with APP...and then with TLTRO.

ECB mark-to-market loss on APP portfolio

Seeing that global interest rates have tended to rise over the last year, and that the Eurosystem has maintained a false market in Eurozone government bonds for the last 4 years, there are inherent risks in APP:

- If interest rates rise, the value of the bonds in the APP portfolio falls;
- The Eurosystem cannot sell out its portfolio because that will cause a crash, as the false market unravels, in which they were themselves the main buyer;
- If the Eurosystem allows interest rates to rise in the real economy, it will cause "zombie" companies to default and bring down the commercial banking system.

The only possible way forward is to pretend to bring APP to a conclusion – by having the TLTRO programme take up the slack - and by holding the APP portfolio until it runs off.

Since the APP portfolio is held at the NCB level, no profit or loss need be realised and passed up to the ECB for re-allocation, as long as the portfolio is allowed to run off i.e. as long as the issuer pays their debt service on time and does not default in the meantime.

This is vital for the ECB's survival: as at 31/12/17 its capital was only €9 billion. It did also have Revaluation Reserves of €22 billion and Provisions of €8 billion, but these were either based on marking other ECB assets to market and were established to cater for specific risks: neither position is contemplated as being there to absorb a loss arising at an NCB due to APP.

With an APP portfolio value of €2.4 trillion, it can be calculated what movement in the price of the portfolio would eliminate the ECB's Capital, and its Capital, Reserves and Provisions:

Measure of ECB Resources	Amount	Percentage fall	% rate rise
ECB's Capital	€9 billion	0.375%	0.075%
ECB's Capital, Reserves and Provisions	€39 billion	1.625%	0.325%

As a rough guide, and to select an easy example using a period of 5 years, an interest rate rise of 10 basis points (that is 0.1% per annum) would cause the price of a bond with 5 years of remaining life to fall by $5 \times 0.1\% = 0.5\%$ or 50 basis points. The nearer absolute interest rates are to 0%, the more accurate this simple calculation is.

We assume here that the average duration of the APP portfolio is 5 years, although it could be longer or shorter than this: we do not have disclosure on that point.

An interest rate rise of 7.5 basis points or 0.07% at the 5-year maturity would be enough to eliminate the ECB's capital.

An interest rate rise of 32.5 basis points or 0.325% would be enough to eliminate all of the ECB's resources.

A swing of 10 basis points can easily happen within one trading day, as is borne out by the security margins built into the ECB's own list of eligible collateral. The margin – called a "haircut" – on Republic of Italy bonds is in the range of 5-9%, depending upon the remaining life.

Even these "haircuts" are thin compared to prudent lending practices, where an over-collateralisation of 20% would be a common condition of lending against readily marketable securities.

ECB and NCB lending policies allow an inadequate margin on collateral

The Eurosystem stipulates lower haircuts than prudent lending would dictate. The ECB and NCBs can be regarded as under-collateralised on their loans to one another and to commercial banks. Their list of eligible collateral has over 24,000 bond issues on it. There is no proof that there is a ready secondary market for all these issues, should the ECB or an NCB have to execute on its security and try to sell it to cover a loan.

It looks instead as if any NCB can sponsor issuers in its own country onto the list, as a service to that NCB's clients: the banks in its own country to whom it lends on the security of these bonds, or rather on the security of anything that has the legal form of a bond and which is legally tradeable, whether it is liquid or not. After all, the banks to which the NCB is lending are the principal market-makers in bonds in their own countries, so that, if the bank went under and the NCB repossessed the collateral and tried to sell it, the NCB would be selling into a market that had just lost one of its principal market-makers.

What these calculations show is that losses incurred on APP at the NCB level, given the size of the portfolio, could not be passed up to the ECB without bankrupting it, which is why the portfolio must be held until maturity by the NCBs, and why APP must be continued under the guise of TLTRO to reduce the chance that meaningful mark-to-market losses arise at the NCBs, about which they may become uncomfortable and which they may wish to limit by crystallising them. Crystallising the loss means selling the bond and passing the loss up to the ECB, which would precipitate disaster.

THE SAFETY VALVE – TARGET2

TARGET2 is the lynchpin of Economic and Monetary Union. It is the high-value payments system to which the ECB and all the Eurozone NCBs – as well as five non-Eurozone NCBs – belong.

It carries the proceeds of all dealings between the ECB and both NCBs and financial institutions, as well as a substantial portion of the proceeds of dealings amongst financial institutions and between financial institutions and their clients. Lastly it is used for settlement of obligations that have arisen in Financial Market Infrastructures – such as other Euro payment systems, futures and options exchanges, and securities settlement mechanisms.

TARGET2 is also the safety valve through which the main creditor countries in the Eurozone finance the deficits of the main debtor countries – outside of the formalised bailout mechanisms for government-to-government support like the European Stabilisation Mechanism, European Financial Stabilisation Mechanism and European Financial Stability Facility.

As has been shown above, TARGET2 is the mechanism through which APP is operationalised, supporting a false market in Eurozone government bonds and enabling Eurozone governments to issue new debt on preferential terms.

It also contains modules – the Home Accounting Module or “HAM” and the Standing Facilities Module or “SFM” – through which NCBs lend both intraday and overnight to the commercial banks that they sponsor into TARGET2. These loans are secured on bonds in the ECB list of eligible collateral, and the HAM and SFM will be particularly prone to an NCB lending to its big banks against bonds that the NCB itself has sponsored onto the eligible collateral list, and which are not liquid. Issue BE6311194839 of Stad Ronse will have been sponsored by the Belgian NCB; likewise issue BE0001721720 of Stad Hasselt. These are modest sized towns somewhere in Belgium, and of appeal to Belgian dentists rather than to a global investor base.

Whilst there are controls, notably in Germany, on one Eurozone member state making loans to other Eurozone member states, the loans in TARGET2 that the ECB reports are made between the NCBs of the Eurozone member states, and so neatly sidestep the controls.

The substance is a Member State-to-Member State loan, but the construct falls definitionally outside.

The amounts involved are enormous – in excess of €1 trillion is admitted to - but even these amounts are the result of creative accounting aimed at minimising their appearance. The true amounts are hidden.

They are hidden by three means:

1. a multi-stage netting of balances from the gross, bilateral balances down to what the ECB discloses;
2. the disclosed figures are only at month-end;
3. the figures show only what was outstanding during the 50-minute long TARGET2 end-of-day.

The extent the balances reach during any one day, or during the rest of the month, or on an unnetted basis, is a matter of conjecture.

ECB reporting of TARGET2

The ECB now issues a monthly report, usually one month in arrears, of its claim on or liability to each NCB, and of its own net claim², arising from the process whereby the balances on 600 accounts - held by the ECB and the participating National Central Banks (“NCBs”) with one another - are netted down.

The net claim as of year-end is what the ECB puts on its own balance sheet, along with a note of the total of all its claims on and liabilities to the NCBs³.

² <http://sdw.ecb.europa.eu/reports.do?node=1000004859>

³ <https://www.ecb.europa.eu/press/pr/date/2018/html/ecb.pr180222.en.html>

As at 31/12/17 these amounts were, as per Note 11.2 to the ECB's accounts:

	2017 €	2016 €
Due to euro area NCBs in respect of TARGET2	1,263,961,444,256	1,058,484,156,256
Due from euro area NCBs in respect of TARGET2	(1,047,197,405,166)	(908,249,140,203)
Matched TARGET2 imbalance	(1,047,197,405,166)	(908,249,140,203)
Net deposit as a result of TARGET imbalance	216,764,039,090	150,235,016,053

Up until June 2018 the ECB only issued quarterly averages of the TARGET2 balances, making it difficult to reconcile their statistics with their published balance sheet.

However, since June 2018 the ECB has published the statistics monthly, and, by way of example, here is the status on 31st October 2018 when the ECB-to-NCB balances were:

Borrower NCBs	€ billions	Depositor NCBs	€ billions
Belgium	5.3	Germany	927.6
Estonia	0.2	Ireland	11.8
Greece	29.3	Cyprus	8.4
Spain	397.5	Luxembourg	223.7
France	25.8	Malta	3.6
Italy	489.5	Netherlands	91.7
Latvia	7.3	Finland	49.6
Lithuania	4.8	Slovenia	0.2
Austria	47.0	Slovakia	10.5
Portugal	78.7	Non-Eurozone	4.2
	1,085.4		1,331.3
Matching Balance	1,085.4		
Mismatch	245.9		
Imbalance shown as "ECB"	245.7		

The two largest debtors are the NCBs of Italy and Spain, accounting for €887 billion. The largest creditor is Germany, but Luxembourg is a disproportionately large creditor because of the number of institutional investors that have bank accounts there.

Stages of netting of gross balances to reach the ECB figures

The TARGET2 imbalances as documented by the ECB are very large, but even these figures are the result of three preceding stages of netting:

1. To net the balances of the two accounts that NCBs hold bilaterally with one another into a single, bilateral position;
2. To novate each such single, bilateral position into two separate claims: the creditor NCB becomes instead a creditor of the ECB, and the debtor NCB becomes instead a debtor of the ECB;
3. The 25 positions that each NCB holds with the ECB as a result of (2) above are combined with the balances on that same NCB's nostro and vostro accounts that the NCB has directly with the ECB, to reach its single claim on or liability to the ECB.

The result of those three stages is the figures in the table above.

The original figures at the three preceding stages are unreported.

Reliability of the legal documentation of the netting

Article 6 of the 2012 TARGET Guideline ECB/2012/27 is the legal backing for achieving the first stage of netting – of the balances that the 24 participating NCBs have on their accounts with one another. Each has a nostro account in the other's books, as well as a vostro in its own books for the other.

One can make up one's own mind about the efficacy of a single clause in an EU legal instrument causing the balances on two bank accounts to be combined. The accounts are held at different NCBs in different legal jurisdictions, and the clause must override any legal provisions at either NCB arising from the contracts signed to open and run the account, and must override any relevant provisions of local law. These provisions could afford either NCB, their owners or their creditors an opportunity to "cherry-pick": to seize assets and repudiate liabilities, thereby unravelling the netting that was supposed to have taken place to combine the two balances into one. Article 6 purports to bring about that 552 account balances become 276 bilateral claims.

The second and third stages of the netting are achieved via a Multilateral Netting Agreement signed between the ECB and the 24 TARGET2-participating NCBs.

The second stage is achieved via the usage of the technique of novation: the 276 bilateral claims arising from the first stage are each novated into two separate claims, without the underlying accounts being closed, and with the balances being returned to the accounts within an hour.

The result of the second stage is a series of bilateral positions between NCBs on one side, and always the ECB on the other: 552 bilateral positions between the ECB and an NCB. Each NCB then has 23 separate, novated positions with the ECB.

In the third stage the ECB combines its 23 positions vis a vis each NCB deriving from the novation, with the two direct positions it had with each NCB due to the direct nostro and vostro accounts. 25 separate positions between the ECB and that one NCB are converted into one claim on or liability to that NCB on the part of the ECB. 600 separate positions – the number of underlying accounts – are reduced to 24, each between an NCB and the ECB.

Then the ECB goes further and presents on its balance sheet only the sum of all its 24 separate claims on or liabilities to individual NCBs.

There is nothing in the netting agreement that permits the ECB to treat its separate claims on and liabilities to the different NCBs like this, as if they were positions with a Single Counterparty. The NCBs are clearly separate counterparties. Nevertheless the ECB accounts for them as if they were a Single Counterparty and this is incorrect: the ECB's balance sheet footing should be €1 trillion higher as what it has wrongly netted comes back onto its balance sheet.

The usage of a single operational procedure – a zero-balancing of NCBs' accounts with one another into an ECB account – to cover all of the legal construct of Article 6 and the phases in the netting agreement introduces a mismatch which would be highly dangerous if applied in a corporate banking environment.

The legal and operational techniques to shrink the gross, bilateral balances amongst the NCBs and between the NCBs and the ECB into a single figure must be regarded as unreliable.

Accuracy of the ECB figures and what the true risk position is

The ECB's presentation of the figures is valid for 50 minutes per business day at most, given that the zero-balancing occurs in the TARGET2 end-of-day either at 18:15 or 18:45 CET⁴, and that it is reversed using the "Cinderella" function⁵ at around 19:05 CET when the books are opened for the following business day.

⁴ It is unclear from the Target Information Guide pages 61-62 whether the zero-balancing takes place as part of the operational end-of-day process between 18:00 and 18:15, or during the internal central bank accounting between 18:30 and 18:45. Either way, given the nature of entries, they have to be the last ones passed on the affected accounts and therefore to be done at the end of the respective window: at 18:15 or at 18:45.

⁵ "Cinderella" function is the complete reversal at the start of the next business day of a zero-balancing undertaken at the end of this business day: each entry in the original zero-balancing is subject to an equal-and-opposite entry, and conducted in reverse order - last-in-first-out.

For the remaining 23+ hours of the business day, the NCBs have direct risk on one another, either without any netting if one believes that Article 6 fails to achieve it, or in the amount of their single, net bilateral obligation, whatever that is.

The credit risk is either a direct, unsecured risk of one NCB on another by virtue of the first NCB maintaining a credit balance on its nostro account with the second NCB, or a secured risk through the first NCB granting an overdraft to the second NCB on the latter's vostro account in the former's books. The security is likely to be bonds issued by a public sector entity in the same country as the borrowing NCB, which represents 100% correlated security: since a debt of the NCB is guaranteed by its owner - the government of the NCB's Member State - bonds issued by that same Member State or its agencies carry the same credit risk as the loan they are securing.

The quantum of credit risk being taken is unknown. It is certainly higher than what is shown in the ECB's accounts and monthly reports. Both are misleading in that the netting contract does not confer upon the ECB the mechanisms and the right to treat the NCBs as a Single Counterparty.

This raises the issue as to whether it is better for NCBs to have a credit risk on the ECB than on other NCBs (i.e. on their Member States). The ECB is unrated and thinly capitalised, and can only pay back the TARGET2 Obligations if it receives payment on the TARGET2 Assets.

The only benefit of the novation and netting to major TARGET2 creditors is that the ECB loss-sharing mechanism would serve to reduce their share of any loss from the amount that is owed to them by the NCBs direct, to a portion of the loss determined through their ECB capital key.

Germany, taking the figures from October 2018, would have its loss reduced from its direct exposure of €927.6 billion to €340.4 billion, which is the entire loss of €1,331.3 billion x the Bundesbank's 25.5674% Capital Key in the ECB after the Capital Keys of the non-Eurozone NCBs have been backed out.

The comfort derived from this may prove to be illusory as it is contingent upon other NCBs (and Member States) being willing to accept a larger share of the loss than their direct exposure would indicate, and the loss share will naturally rise as the Eurozone Member State/NCB causing the loss will not be able to pay its share, and it may rise further if other Eurozone Member States/NCBs try to "cherry-pick" the arrangement in the ways that are open in the corporate banking world.

Given that the underlying bank accounts are distributed around the NCBs and are subject to their local laws, the avenues available for "cherry-picking" are wider than is the case in a corporate banking set-up, which is customarily established in a single location of the bank and subject to a single governing law (e.g. at Bank Mendes Gans in Amsterdam and subject to Dutch law).

How matters would play out in practice if there was a major problem is a matter of conjecture. It cannot be held as certain that the incident would be handled in line with that is written in the agreements.

Indeed, given the questionable efficacy of the agreements, the possibility of challenge and the likely need for swift remedial action, it is more likely that the TARGET2 imbalances will be formally recognised as what they are latently: government-to-government loans from solvent countries to ones requiring ongoing financing and in large amounts.

Then it will need to be recognised that the loans are not repayable, and represent an excess debt burden that precludes the respective Member State from complying with the EU Fiscal Stability Treaty and/or from absorbing losses arising in its national banking system.

For the Euro to survive the EU Fiscal Stability Treaty must be adhered to, and to enable that to occur the excess debt burden must simply be cancelled by a pay-in from the solvent Member States – those that can comply with the treaty.

This conversion is what we mean by a "re-set" of the Eurozone financial system.

Of course it implies that the solvent Member States may have to increase their debt to afford the pay-in, and that is fine: the debt/GDP ratio of both the “giver” Member States and the “taker” Member States will then converge, initially at perhaps 87% of GDP as inferred earlier, which all of them have 10 years to reduce to 60%, and if it takes 14 years the financial markets will forgive that.

The impact on the economies of the solvent Member States, however, and the political ramifications, will be seismic.

QUALIFYING THE NEED FOR A “RE-SET”

The amount required to “re-set” the Eurozone financial system can be at best educated guesswork. It is the sum of the unrealised losses caused over a 20 year period by investors of all types “chasing the Bund spread”: looking for higher returns than those on German government bonds based on the illusory assurance that the structure of the Euro ensured that all Eurozone governments were obligated to step in to assist their peers in a crisis.

This assurance was found to be absent during the 2012/13 crisis, and yet in another sense it has proven to be present in a covert manner: through the various bailout schemes, through the EIB and EFSI, through the ECB’s APP and TLTRO, and through tolerance of bogus NPL securitisations and creative accounting to massage NPL numbers.

But the black hole remains:

- In real estate assets held in balance sheets at the price paid, not the realisable value;
- In loans on banks’ balance sheets that have been massaged out of “Non-performing” back to “Performing” status through “forbearance” and “restructuring”;
- In NPLs on banks’ balance sheets that are held at an unrealistically high value;
- In bogus securitisations taking NPLs off banks’ balance sheets;
- In loans to “zombie” companies on banks’ balance sheets;
- In over-optimistic Risk-Weighted Assets methodologies that under-assess the risks inherent in bank’s assets and commitments, on- and off-balance-sheet.

The market capitalisation of banks points to the existence of the black hole. If there is a black hole in the balance sheets of banks, there is a commensurate black hole in the balance sheets of the ECB, the NCBs and the EIB due to their exposure to banks, both in direct lending and in accepting as collateral the bonds issued by banks.

If there are black holes in the books of the ECB, NCBs and EIB, there is a black hole in the budget of every Eurozone Member State, and indeed every EU Member State – because of the way the non-EU Member States are nevertheless exposed to the Eurozone financial system.

Locating where the “re-set” amount will be crystallised

It seems reasonable to assume that the “re-set” amount will be crystallised as a loss by the ECB, first bankrupting it and then necessitating its recapitalisation.

Losses on LTRO or TLTRO, and on APP, are subject to the ECB profit-and-loss allocation methodology, and come to rest directly at the ECB.

Losses by NCBs on their loans to their own commercial banks will also come to rest at the ECB. NCBs, wishing to fulfil the credit needs of banks that they have sponsored into TARGET2 and lacking sufficient funds themselves, draw the funds from other NCBs or from the ECB. The collateral an NCB has accepted from its banks is re-used by that NCB to borrow from other Eurosystem members. Thus an NCB’s losses on loans to its sponsored banks and/or in a shortfall on the value of the collateral it has taken appears in its nostro/vostro accounts with other NCBs and with the ECB.

In this way any imbalances in the Home Accounting Module and the Standing Facilities Module flow through into the TARGET2 imbalances as reported by the ECB.

The borrowers in the Home Accounting Module and the Standing Facilities Module are the same banks that have portfolios of NPLs and optimistic Risk-Weighted Asset methodologies, and who are used for relaying SME Financing by the EIB. If these banks go down, there will be losses to the EIB, as well as in the Home Accounting Module and the Standing Facilities Module in TARGET2.

Losses in TARGET2 – an ECB-instigated payment operation - are subject to the ECB profit-and-loss allocation methodology and so come to rest in the first instance at the ECB.

There could be losses in the EU Budget and at the EIB, and these could potentially be rolled into the recapitalisation of the ECB, although in a sense it does not matter which organisation is used as the platform for the “re-set”: it is the same EU Member States behind each one, and some Member States can afford to pay in an extra share and some cannot. Those that cannot will have to be taken out of the equation and the shares of the remainder adjusted upwards so that this smaller group of solvent Member States pays everything.

The proportions in which the amount would be allocated to Member States differ only marginally depending on which intermediate organisation is used as the platform.

The intermediate organisations like the EU, the EIB and the ECB are thinly capitalised and do not themselves have the resources to meet the amounts in question. They all represent a “look-through” to the Member States.

Quantifying the “re-set” amount

The best guess as to the size of the black hole is the unsettled balance in TARGET2 of €1 trillion, albeit that we know that even this amount is the result of three stages of netting, that the netting is based on questionable documentation, and that the figures as presented are only valid for 50 minutes at most and over month-end: we do not know the original unnetted figures, or even the netted figures during the business day and on any other business day than the final one in the month.

We showed earlier that an exercise to equalise the Debt/GDP ratios of Eurozone Member States would require a considerably higher figure.

The benefits of using the TARGET2 figure of €1 trillion are firstly that it is a round number and secondly that we can triangulate to it from two other startpoints as well.

Firstly we can divine it from the market capitalisation deficit of Eurozone banks compared to their balance sheet capital.

Taking Unicredit as the benchmark where the percentage deficit is 40%, it has a €20 billion deficit on assets of €831 billion: the market is saying that 2.41% of its assets do not exist (and that it has no profit stream). Our assessment in late 2018 was that Unicredit’s deficit was €35 billion, or 4.21% of its assets. The average of the two percentages is 3.31%.

If we took Deutsche Bank as the benchmark, then the deficit would be much higher: Deutsche, as we have seen, has a percentage deficit of 80%. Using Unicredit’s deficit as the benchmark is conservative by comparison.

We know from the ECB that the aggregate assets of Eurozone banks are €24.0 trillion:

<https://www.ecb.europa.eu/press/pr/date/2018/html/ecb.pr181114.en.html>

So we can multiply the range of three percentage deficits by the ECB figure and come up with a putative system-wide deficit:

#	Deficit benchmark	Deficit percentage	Total banking assets	Shortfall
1	Based on Unicredit market capitalisation	2.41%	€24.0 trillion	€578 billion
2	Average of 1 and 3	3.31%	€24.0 trillion	€794 billion
3	LydCon estimate of Unicredit capital shortage	4.21%	€24.0 trillion	€1.0 trillion

A third method of divining the size of the black hole is to take from the same ECB figures the statement that NPLs on the balance sheets of Eurozone banks amount to 3.6% of their assets. While these NPLs may have some realisable value so as to indicate that the entire 3.6% is not an unrealised loss, we also know that this figure excludes the NPLs that have been hidden off-balance-sheet through bogus securitisations, and that it accepts that NPLs have been reversed out of NPL status through “Restructurings” and “Forbearance”. In

addition the 3.6% figure itself will represent an insufficient write-down on the face value of the loans that sit in NPL status, and Eurozone banks run over-optimistic Risk-Weighted Assets methodologies on all of their business.

Knowing all of that, we feel justified in stating that €864 billion - 3.6% of €24.0 trillion – approximates to the latent loss from bad lending, as the recoveries on what is on-balance-sheet will be offset by losses on securitisations, on bad loans that are for the moment being kept out of the NPL figures, and on general business containing more risk than banks allocate to it in their Risk-Weighted Asset methodologies.

The average of the results derived from these three different methods is (€794 billion + €864 billion + €1 trillion) x 33%, or €886 billion. This is near enough to the TARGET2 unsettled balance of €1 trillion for us to take that figure through to the final stage, so as to make the calculations transparent.

Interestingly €886 billion is only €1 billion different from the combined TARGET2 debts of Italy and Spain in October 2018.

If we also brought in the figure of €1.4 trillion as the amount required to equalise the Debt/GDP levels of Eurobanks at 90%, the average becomes (€794 billion + €864 billion + €1 trillion + €1.4 trillion) x 25%, or €1.0 trillion. It increases, of course, if Debt/GDP levels are equalised at 87%.

How the “re-set” amount would be allocated to Member States in Phase 1

The central hypothesis is that the ECB would be used in the first instance as the platform for the “re-set”, since a majority of the losses would land directly on it, eliminating its capital and creating a major capital deficit.

The existing mechanism – following the logic of the ECB profit-and-loss allocation methodology - is that the “re-set” amount would be called up in new capital from Eurozone Member States only, in line with their ECB Capital Keys after the ECB Capital Keys of the non-Eurozone Member States had been backed out:

NCB	Country	Raw Capital Key %	Rebased Capital Key %	Contribution to re-set of €1 trillion
Nationale Bank van België	Belgium	2.4778	3.5200	€35.2 billion
Deutsche Bundesbank	Germany	17.9973	25.5674	€255.7 billion
EestiPank	Estonia	0.1928	0.2739	€2.7 billion
Central Bank of Ireland	Ireland	1.1607	1.6489	€16.5 billion
Bank of Greece	Greece	2.0332	2.8884	€28.9 billion
Banco de España	Spain	8.8409	12.5596	€125.6 billion
Banque de France	France	14.1792	20.1433	€201.4 billion
Banca d'Italia	Italy	12.3108	17.4890	€174.9 billion
Central Bank of Cyprus	Cyprus	0.1513	0.2149	€2.1 billion
Latvijas Banka	Latvia	0.2821	0.4008	€4.0 billion
Lietuvosbankas	Lithuania	0.4132	0.5870	€5.9 billion
Banquecentrale du Luxembourg	Luxembourg	0.2030	0.2884	€2.9 billion
Central Bank of Malta	Malta	0.0648	0.0921	€0.9 billion
De Nederlandsche Bank	Netherlands	4.0035	5.6875	€56.9 billion
Oesterreichische Nationalbank	Austria	1.9631	2.7888	€27.9 billion
Banco de Portugal	Portugal	1.7434	2.4767	€24.8 billion
Banka Slovenije	Slovenia	0.3455	0.4908	€4.9 billion
Národnábanka Slovenska	Slovakia	0.7725	1.0974	€11.0 billion
Suomen Pankki	Finland	1.2564	1.7849	€17.8 billion
Total		70.3915	100.0000	€1 trillion

Shortcomings with the Phase 1 solution

It is not plausible, however, that either the countries who had been in bailout before and/or the countries where the black hole had just opened up would be able to pay in their contributions: 6 countries - Ireland, Greece, Spain, Italy, Cyprus and Portugal – would have to be taken out of the equation.

That would leave a shortfall in the contributions of €372 billion, if they were determined through this methodology.

In addition, numerous countries are too small to move the dial, so in substance a further 7 countries with an ECB Capital Key of less than 1% fall away as well - Estonia, Latvia, Lithuania, Luxembourg, Malta, Slovenia and Slovakia.

That leaves only 6 Eurozone countries - Belgium, Germany, France, Netherlands, Austria and Finland – capable of making a meaningful contribution to the re-set.

Despite doubts about the long-term solvency of France and Belgium, they have to be counted upon if the Euro is to survive, and their credit ratings from Moody's – Aa2 and Aa3 respectively – identify them as countries that can cope with an increased debt burden.

Attention will inevitably then turn to the 8 non-Eurozone Member States whose ECB Capital Keys are as follows:

ECB Capital Keys of non-Eurozone Member States:

NCB	Country	Capital key %
Българска народна банка	Bulgaria	0.8590
Česká národní banka	Czech Republic	1.6075
Hrvatska narodna banka	Croatia	0.6023
Danmarks Nationalbank	Denmark	1.4873
Magyar Nemzeti Bank	Hungary	1.3798
Narodowy Bank Polski	Poland	5.1230
Banca Națională a României	Romania	2.6024
Sveriges Riksbank	Sweden	2.2729
Bank of England	UK	13.6743
Total		29.6085

Within this list three candidates present themselves as solvent, although only the UK is sizeable as well: Denmark, Sweden and the UK.

Allocation of the “re-set” in Phase 2

With the “re-set” funded by the reduced list of 6 solvent/large Eurozone Member States and 3 non-Eurozone ones, the contributions come out as follows:

NCB	Country	Raw Capital Key %	Rebased Capital Key %	Contribution to re-set of €1 trillion
Nationale Bank van België	Belgium	2.4778	4.1776	€41.8 billion
Deutsche Bundesbank	Germany	17.9973	30.3435	€303.4 billion
Danmarks Nationalbank	Denmark	1.4873	2.5076	€25.1 billion
Banque de France	France	14.1792	23.9062	€239.1 billion

NCB	Country	Raw Capital Key %	Rebased Capital Key %	Contribution to re-set of €1 trillion
De Nederlandsche Bank	Netherlands	4.0035	6.7499	€67.5 billion
Oesterreichische Nationalbank	Austria	1.9631	3.3098	€33.1 billion
Sveriges Riksbank	Sweden	2.2729	3.8322	€38.3 billion
Suomen Pankki	Finland	1.2564	2.1183	€21.2 billion
Bank of England	UK	13.6743	23.0549	€230.5 billion
Total		59.3118	100.0000	€1 trillion

This has to be regarded as broad-brush, because the re-set amount could be larger or smaller, but in essence we come by this route to the almost the exact same number for the UK - €230.5 billion – as we had earlier as the “Headroom for further funds/facilities/guarantees under 2014-2020 MFF” - €234 billion.

Re-set outcome for the contributor countries

This re-set increases the Debt/GDP ratios of all contributor countries and raises that of the UK back to 96.6%:

Country	2018 budget	2018 GDP in €billion	2018 Debt/GDP	2018 Debt in €billion	Contribution to re-set	New Debt in €billion	New Debt/GDP	Moody's rating
Belgium	-0.7%	451	102.0%	460	42	502	111.3%	Aa3
Germany	+1.7%	3,387	60.9%	2,063	303	2,366	69.9%	Aaa
Denmark	+0.5%	296	34.1%	101	25	126	42.6%	Aaa
France	-2.5%	2,353	98.4%	2,315	239	2,554	108.5%	Aa2
Netherlands	+1.5%	772	52.4%	405	67	472	61.1%	Aaa
Austria	+0.1%	386	73.8%	285	33	318	82.4%	Aa1
Sweden	+0.9%	466	38.8%	181	38	219	47.0%	Aaa
Finland	-0.7%	234	58.9%	138	21	159	67.9%	Aa1
UK	-1.5%	2,366	86.8%	2,054	231	2,285	96.6%	Aa2

Source: Eurostat: <https://ec.europa.eu/eurostat/en/web/government-finance-statistics/data/main-tables>

This is a horrendous outcome for the UK and would set the UK back many years in its efforts to escape from austerity.

SUMMARY AND CONCLUSIONS

It is a certainty that the Eurozone financial system is heading for another crisis, although the exact trigger and its timing remain unclear.

The “longstop” is the realisation that the EU Fiscal Stability Treaty is a dead letter, and that compliance is both impossible to obtain financially and politically. We would see that realisation occurring at the end of 2021 and causing financial markets to conclude that the Euro is not and never will be anything but a synthetic currency.

A comprehensive re-set of obligations will at that point be needed in order to save the euro and, in effect, the EU.

The question is whether the UK will have escaped involvement in the re-set by then.

The current Withdrawal Agreement fails to achieve this, and fails to ensure that any financial settlement of the UK’s supposed liabilities remains available to meet those liabilities when they fall due. It is palpably obvious that the EU plan is to spend the money on current needs immediately, begging the question as to what will happen when the liabilities fall due for payment. The UK government should insist that any severance payment is held in escrow and can only be used to meet the liabilities.

A Withdrawal Agreement signed in Q3 2019 – the earliest that it can come about – with a Transition Period of 21 months as currently drafted results in the UK still being an EU Member in Q2 2021. That is only 6 months before the “longstop”, and the crisis may well have been precipitated by other factors before then.

Crucially we are then into the next Multiannual Financial Framework 2021-2027.

Not only could the UK’s liabilities have been raised by a further €234 billion compared to now under the current MFF, but the UK becomes exposed to the “commitments appropriation” of the subsequent MFF: a further 0.26% of EU GNI for those 7 years, which could be mobilised in its entirety before the UK’s Withdrawal Date.

The only sensible option is to withdraw now, unilaterally and without a Withdrawal Agreement, and then to work on the anomalies (such as profit-shifting) that are causing significant hidden costs, and on the general terms-of-trade with the remainder of the EU that currently result in an annual trade deficit of €110 billion.

Appendix 1 – Moody's rating of Fino 1's tranches of bonds

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Fino 1 Securitisation S.r.l.

Moody's Org ID: 725347433 Market Segment: [Structured Finance](#) > [ABS](#) > [Esoterics / Other ABS](#) ...>>

KEY CHARACTERISTICS
 Closing Date: 22 Nov 2017
 Location of Assets(at issuance): ITALY
 MIS Collateral Type: ABS - Other

ORIGINATOR
 UniCredit S.p.A.

TRUSTEE
 BNP Paribas Securities Services, Milan Branch

SERVICER
 doBANK S.P.A.

ANALYST
 Lead Rating Analyst: **Daliya Nureeva**

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Tranche List

☒ Exclude Withdrawn Ratings ☐ Include Withdrawn Ratings [Export](#) Results: 4

Debt ID	Tranche ▲	Description	Current Rating	Indicator	Rating Action	Date	Face Amount(Mil)		Maturity	Currency
							Original	Current		
ISN:IT0005277311	A	PASS-THRU CTFS	A2	(sf)	New	23 Nov 2017	650	581.9	31 Oct 2045	EUR
ISN:IT0005277337	B	PASS-THRU CTFS	Ba3	(sf)	New	23 Nov 2017	29.6	29.6	31 Oct 2045	EUR
ISN:IT0005277345	C	PASS-THRU CTFS	B1	(sf)	New	23 Nov 2017	40	40	31 Oct 2045	EUR
ISN:IT0005277352	D	PASS-THRU CTFS	NR	(sf)	DECISION NOT TO RATE	23 Nov 2017	50.3	50.3	31 Oct 2045	EUR

Tranche Detail: ISN:IT0005277311

Pay Frequency	Quarterly	Reporting Date of Face Amount	
Coupon Type	Floating	Structure	
Coupon		Releasing Office	London - (Moody's Investors Service Ltd.)
Base Rate	Three month EURIBOR	Endorsement	EU Rated
Spread to Base Rate	1.5	Regulatory disclosures for the most recent rating action	
Support	Yes		
Support Type	Collection Account		
Support Provider	UniCredit S.p.A.		

28 June 2019

