THE CRISIS TOOLKIT

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The bank for a changing world

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Crisis Management Toolkit

A Clear Head	Asset Actions	Liability Actions
Where were we?	New Production	Funding & Capital Issuance
What is happening? How bad is it? How long will it last?	Asset Sales	Call / NoCall Strategies, Dividend Policy
What are they doing?	Risk Transfer	Liability Management
What do banks need to do?	Risk Shield	State Recapitalisations
What is the "New Normal"?	Loan Guarantee Schemes	Sovereign Issues

Source: BNP Paribas

[Recap from May 2019, Berlin]

Are we succeeding in our efforts to be smart? Partially

ARE WE SUCCEEDING IN OUR EFFORTS TO BE SMART?

Partially

- The market backdrop is unclear and confusing. Conditions are at the same time frothy and fragile
- Risks abound. Some, like credit risk, are well understood. Others, like cyber risk, are difficult to comprehend. Industry disruption means status quo is obsolete and requires reinvention
- European banks seem well capitalised but profitability is weak (7% ROE)
- Basel IV seems like a negative development but European authorities will adapt it to avoid excessive collateral damage
- IFRS 9 is a bad development and CECL is even worse but initial impact has been muted. Markets remain bewildered, raising the cost-of-capital. We urgently need Basel to adapt reg-cap
- At this stage in the banking cycle, attention is naturally turning to capital efficiency and value management. Credit Portfolio Management plays a key role in steering and transactions

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A Clear Head

Where were we in December 2019?

In retrospect, despite elevated risk levels, markets were toppy

December 2019: A confident, perhaps complacent, world

- Following the GFC, banks were well capitalised and funded, with better risk management and liquidity support structures
- But banking was not fully reformed. Profitability was weak and legacy NPL stock still huge – more than a decade on
- Banks pursued NIM, ROE, CI ratios; investors were "yield hungry". Shadow banking grew
- The credit cycle showed signs of turning but operational risk (esp. cyber) and strategic risk (climate) were feared more
- Macro risks abounded. The shock could have come from anywhere
- Risk was neglected
- Life outside the bell curve was neglected

What is happening? How bad is it?

The global economy is expected to experience a harsh recession as an indirect impact of the pandemic

Taking Stock of the Current Crisis

- To contain CoVid-19, a shutdown of major sectors of the economy has been put in place
- The economic shock has been profound in the short term: for example, in the third week of March, 5% of the Canadian workforce registered as newly jobless
- Corporate and household finances have become stressed and cashflow constrained
- Governments have been swift to provide virtually limitless liquidity support and financial support to alleviate some pressures. Deficits and government borrowing have rocketed
- A severe global recession is beginning, with defaults and credit losses across all sectors: consumer, mortgage, corporate, institutional and sovereign
- More profoundly, the next order of impact has the potential to reshape some business models and even our society
- Unlike the GFC, this crisis is not primarily a financial crisis. Banks will take losses but state actions may limit the extent of these losses

Should we have pre-empted it?

This pandemic is improbable and unusual but not unimaginable nor unpredictable

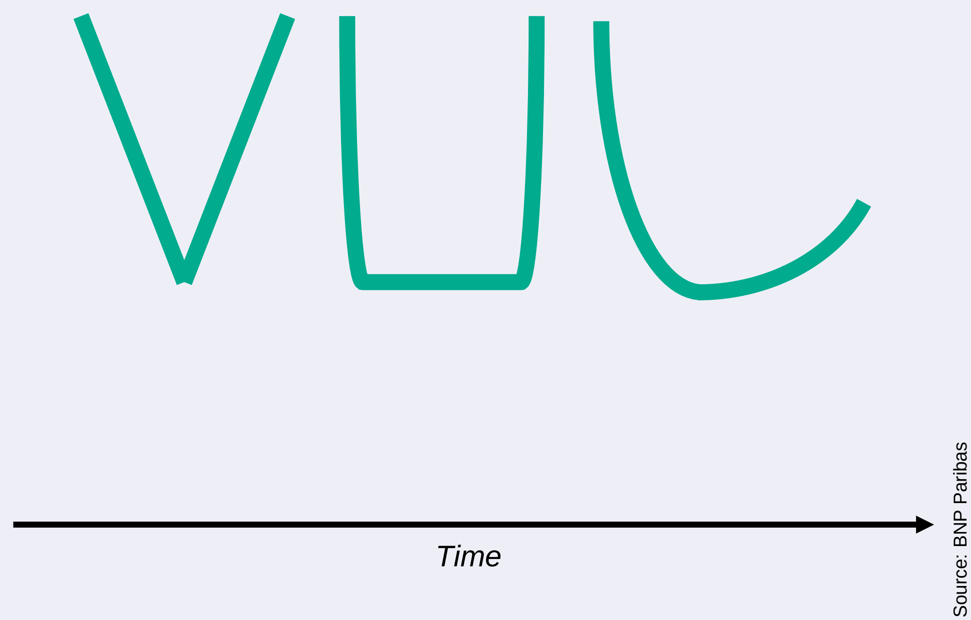
Something unusual just happened (aka Risk)

- Unlike the GFC, banks were not the cause of this crisis
- Like Katrina, CoVid-19 was improbable but not unimaginable
- Improbable things happen all the time
- Is CoVid-19 a “black swan”?
  - Beyond “normal distribution” expectations
  - Unimaginable? (Swans are white)
  - Extreme in impact
  - Retrospectively predictable
- “This pandemic was not a freak black swan event. An event of this nature was not just predictable, it was predicted, by a range of experts for a number of years” (Centre for the Study of Existential Risk, Cambridge University)
- “A small number of Black Swans explains almost everything in our world” (The Black Swan: The Impact of the Highly Improbable, Nassim Nicholas Taleb)

How long will the rebound take?

A sharp shock for sure – but how strong a snapback?

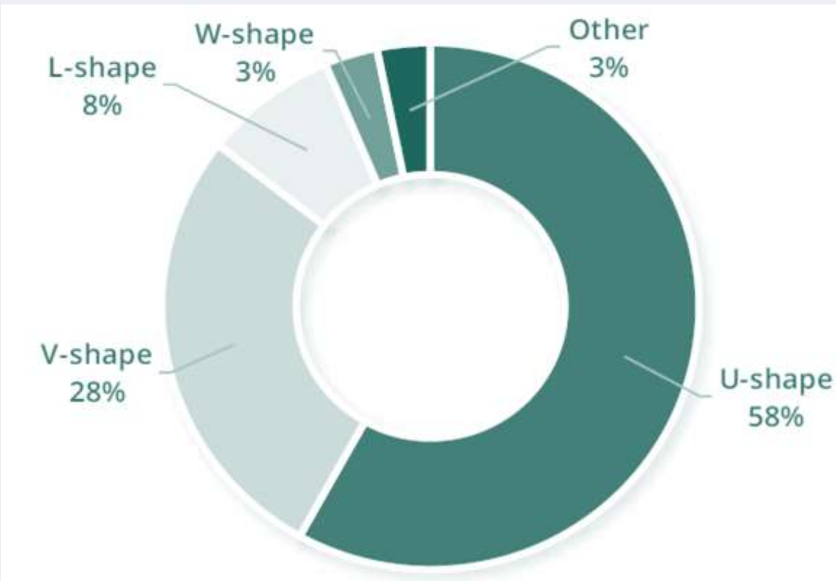
Shape of Recession / Recovery?



Global Crisis Recovery Predictions

Despite uncertainty, brokers' guesses achieve consensus that this crisis will only be a short recession

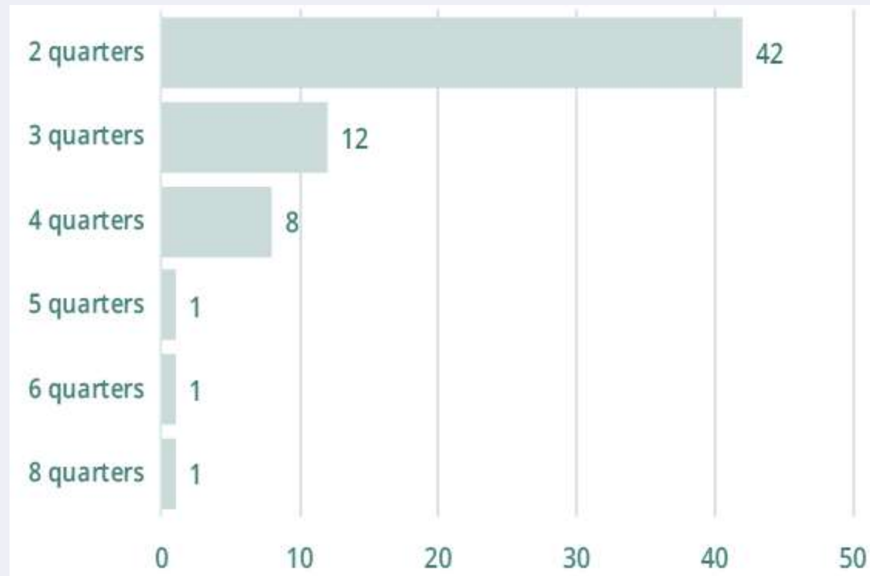
What will be the shape of the global economic turndown?



Number of Responses in %

Source: FocusEconomics

For how many quarters will the global recession last?



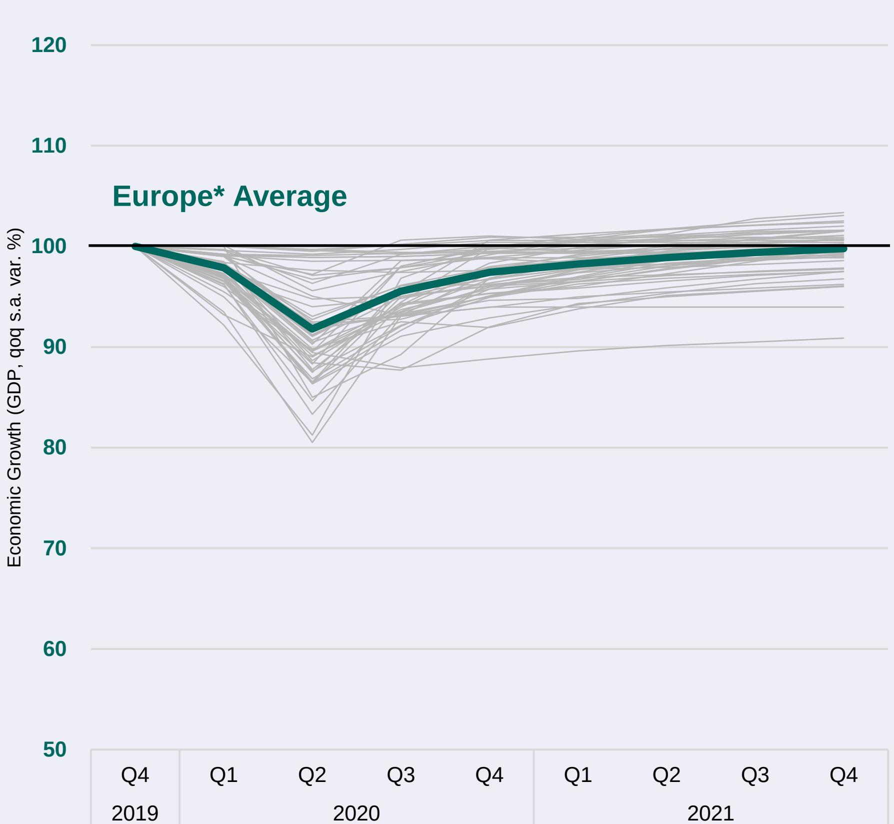
Number of respondents for each recession length

Source: FocusEconomics

EU & US GDP Forecasts

Despite uncertainty, brokers' guesses achieve consensus that this crisis will only be a short recession

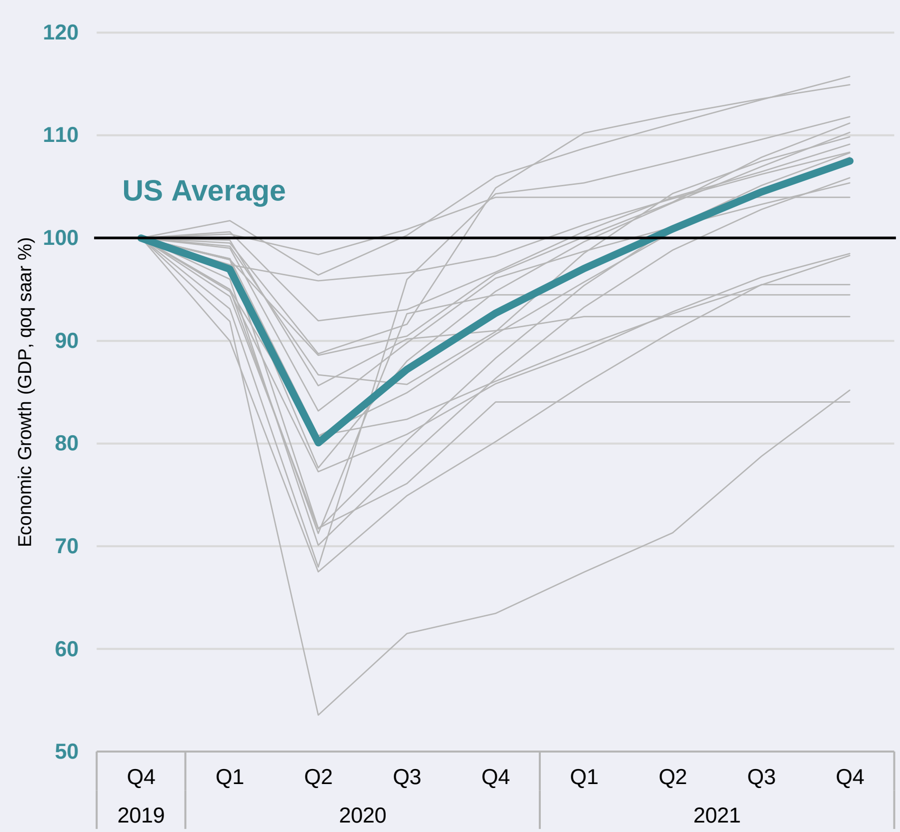
European Cumulative GDP Forecasts



Source: FocusEconomics: Coronavirus Update 1 April 2020. Original Sources (grey): sample of 24 brokers, with estimates across the 5 countries

*Note: Europe figures consist of individual GDP estimates for Germany, UK, France, Italy and Spain, averaged for each country and then weighted by country GDP to give the European average

US Cumulative GDP Forecasts



Source: FocusEconomics: Coronavirus Update 1 April 2020. Original Sources (grey): sample of 20 brokers

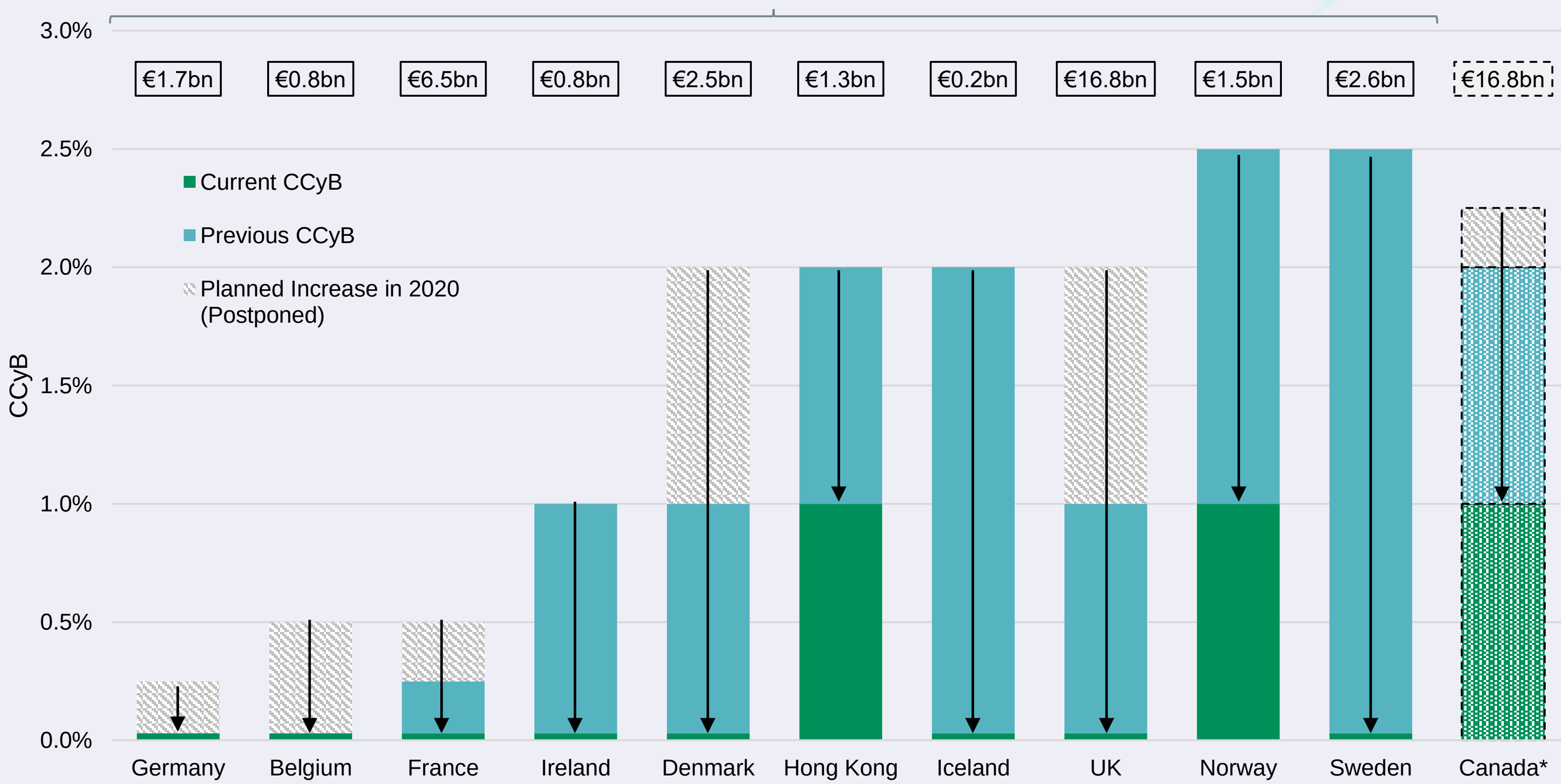
What are they doing?

Prudential Actions – Countercyclical Buffers

Authorities have been swift in reducing their countercyclical buffers in response to the crisis

Reduction in CET1 requirement for European banks with exposures in these countries totals €35bn.

Countercyclical Capital Buffer Changes



Reduction in CET1 requirement for Canadian banks due to the DSB change equates to €17bn

Source: BNP Paribas; BIS; EBA Transparency 2019

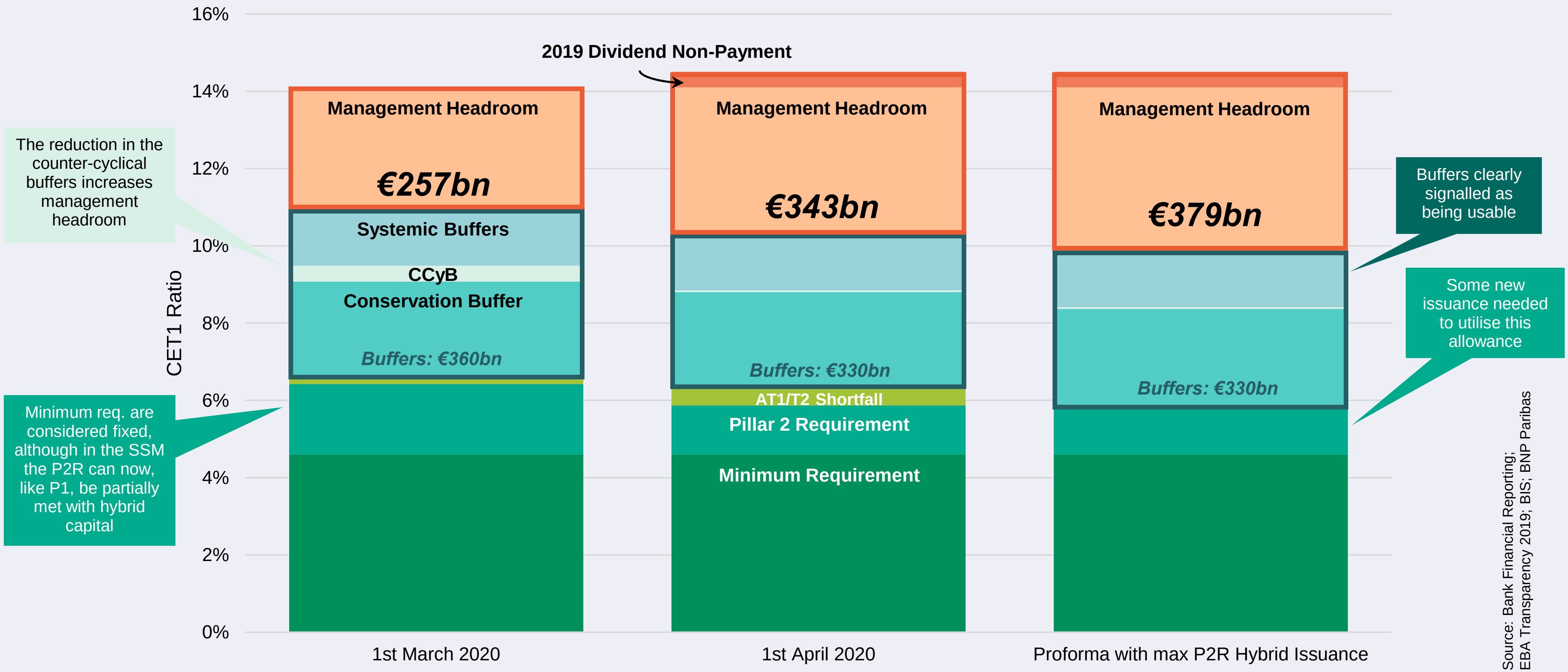
*Note: *Canada figures are for Canadian banks and the Domestic Stability Buffer (DSB) change*
Note: for all others, CCyB applies to domestic exposures in these countries – total CET1 change is calculated for European Banks found in the EBA Transparency Database

Capital Forbearance

Management headroom has increased by over €100bn due to the regulatory response to the crisis

The initial lesson of this crisis is that the capital structure (commonly known as the "stack") is cumbersome and overly complex!

What has changed with banks' capital structure? (Europe)



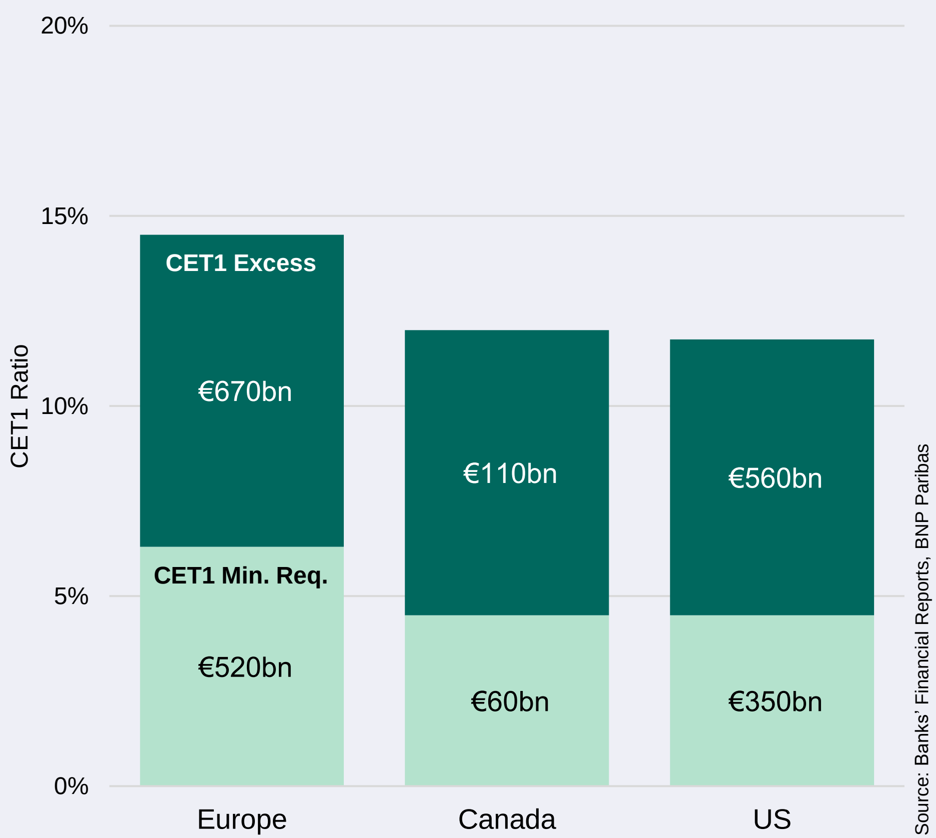
Source: Bank Financial Reporting; EBA Transparency 2019; BIS; BNP Paribas

Number of banks in sample: 41

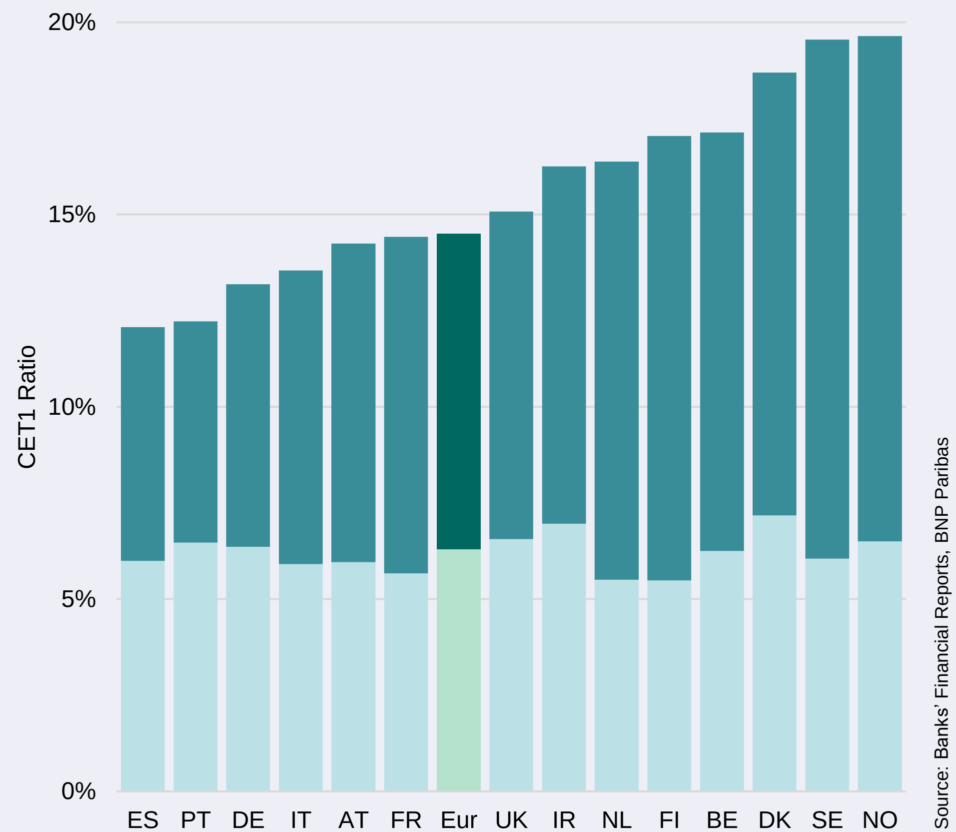
Are we prepared?

Banks are well capitalised to absorb resulting credit losses

Spare CET1 by Region



Spare CET1 in Europe



Number of banks in sample: Europe 41, Canada 7, US 21

IFRS 9 / CECL

A bad development is being pragmatically overruled but requires a permanent fix

What's wrong with ECL provisioning?

A Process Error

Subjectivity
Arbitrariness

Complexity

Procyclicality

Incompatible with Basel

Scrap it

Simple Solution: Excess Provisions are CET1

Full FV approach

What's happening with ECL provisioning?

- Crisis-related delinquencies don't automatically mean Stage 2 or Default
- US CECL part neutralised in regulatory capital for 2020 – 2021
- EU banks urged by EBA to avoid groundless pessimism due to "*the scarcity of available and reliable information*"
- Eurozone banks should note that "*the ECB would not object to any judgement that this rebound might occur within 2020 given the current level of uncertainty*"
- EU banks urged to use transition rules
- Basel allowing neutralisation for 2020 - 2021

Additional forbearance measures

Authorities are expediently quashing counterproductive rules and boosting capital resources

Pulling out the stops

- ☑ Dividends blocked
- ☑ Buffers “released”
- ☑ More hybrids allowed, freeing up CET1
- ☑ Government guarantees on loans →
- ☑ ECL provisions quarantined
- ☑ Delay to Basel IV roll-out
- ☑ Pause to many supervisory tasks
- ☑ Sovereign, CB, MMLF exposures out of Lev Ratio
- ☑ Softening of NPL definitions and rules
- ☑ Acceleration of software add-back RTS (CRR2)
- ☑ Market risk rules relaxation (outliers, multipliers)
- Eurozone-wide bad bank?
- DTAs and DTCs?
- Precautionary recapitalisations?

Government guarantees on loans

Country	Total Government Commitment	Government Guarantee %
Germany	*€600bn*	up to 100%
France	*€300bn*	up to 90%
Italy	*€200bn*	up to 100%
Spain	*€100bn*	up to 80%
Netherlands		75%
Belgium	*€50bn*	up to 80%
UK	*£330bn*	80%
Canada	*C$65bn*	80%
US	*$600bn*	*95%*

Source: BNP Paribas

What do banks need to do?

What should I do?

Instead of brave but unreliable forecasting, it may be more insightful to consider a range of potential scenarios

Wargaming as a Risk Management Tool

- In periods of great uncertainty, planning around a single, central scenario is unwise
- Rather, it is instructive to consider management actions under a number of simulated scenarios

"Rethink risk management – businesses will shift from linear thinking based on quantifiable risks based on past precedent to a new focus on mastering uncertainty with resilience and agility"

Source: "Pandenomics – how Covid-19 could change the world", ING Economics, 7 April 2020

- What kind of insights might wargaming give?
  - The option value of raising capital or shedding risk
  - Financial pressure points (eg. contingent liquidity)
  - Logistical preparedness and pre-emptive discussions

Wargaming: Illustrative Covid-19 Crisis Scenarios

Short, Sharp, Limited Shock

Prolonged Crisis

Structural Damage

Crisis Becomes Intense

Source: BNP Paribas

Wargaming Scenarios

Beyond consensus, other scenarios are imaginable

Illustrative Covid-19 Crisis Scenarios

Scenario	Main Features	Impact on Banks	Hits
Short, Sharp, Limited Shock	• Virus is overcome by the end of 2020 • Fiscal response effective • GDP and unemployment shock followed by rebound • "V-shaped recovery"	• Temporary, pre-emptive dividend restrictions • Increase in NPLs (offset by forebearance) • Interest and trading income subdued • Reduced profitability in 2020, 2021	Dividends Profit
Prolonged Crisis	• Virus takes longer to tackle – end of 2021 • Fiscal response effective • Economic shock takes a while to reverse • "U-shaped" recovery	• Prolonged dividend bans • Major NPL formation • RWAs increase (offset by forebearance) • Losses depleting solvency capital towards MDA • Some AT1 coupons skipped?	Bonus Buffers
Structural Damage	• Virus persists for three years • Global supply chain struggles • Fiscal packages reach their limits • "Hockey stick" recovery	• All distributions (equity, AT1, bonus) curtailed • Solvency capital pressured: recaps required • Risk shields for sensitive sectors; forbearance fails • Weaker banks nationalised or resolved (T2, MREL)	AT1 Coupons
Crisis Becomes Intense	• Virus persists and recurs, lockdowns repeated • Muted economic recovery, isolated depressions • Sovereign crises • Cases of social unrest, political upheaval	• Widespread cases of nationalisation and resolution • EM banking systems become nationalized • Private sector credit dries up	Recap Resolution

Source: BNP Paribas

What should my objectives be?

Risk-sensitive financial management needs a re-plan

Strategic (Re)Plan Needed

- In a crisis, banks are more than just commercial entities
- Given the speed and severity of recent market moves, financial plans need to be revisited

For example:

- What is the correct cost of capital to use now, for planning and pricing purposes?
- What are the revised *risk appetite* levels of the bank?
- What trade-offs need to be made, for example between profitability and liquidity?

Financial Parameters to be Revisited

- Product volumes and margin sensitivities
- Operating cost budget
- Cost of forbearance
- Market risk model parameters
  - Expected returns, variance, covariance
  - Betas, deltas, gammas, vegas, durations, convexities
  - Basis risk
  - Prepayment levels
- Credit risk model parameters
  - PD
  - LGD
  - Credit conversion factors for undrawn facilities
- IFRS 9 ECL provision levels
- Operational risk
- Cost of capital
  - Target capital levels
  - Assumed cost-of-equity
  - AT1, T2 and MREL / TLAC coupons
- Cost of funding & liquidity
  - Funding curves
  - Liquidity costs
  - Collateral considerations
- ICAAP and ILAAP scenarios

Asset Side Actions

New Production

Lending will and must continue – risk management needs to adapt to crisis environment

Business as Usual?

- **Societies** are relying upon banks to maintain and extend financing for real economic activities
- **Banking** is a long-term franchise business. Its unique qualities constitute a formidable barrier to entry but require franchise-based, through-the-cycle lending
- **Governments** are expected to shoulder much of the burden of the fallout from this natural disaster. This is not a rerun of the 2007-09 GFC and banks should not be punished for their risk-taking activities this time round. Government-guaranteed financing schemes will be crucial

Updated Perspectives on Origination and Underwriting

- Speculative activities do not benefit from the same social purpose for financing. Some sectors could be prone to a credit crunch
- Banks have a fiduciary duty to maintain prudent risk management practices. In particular, internal risk models should be updated to manage risk *even if regulatory and accounting models are pushed into optimistic bias as a form of forbearance*
- Provision of credit can be maintained with additional risk-reducing features, for example:
  - More appropriate (but not onerous!) collateral
  - Longer maturities
  - Debt restructuring (eg. payment holidays)
- Origination models that rely upon market placement (aka “originate-to-distribute”) may still make sense but warehousing risk must be closely monitored

Asset Sales

Non-banks can be natural buyers of banks' risk assets and a significant source of systemic solvency in a stress

Asset Sales and Disposals as a Source of Solvency

- Portfolio sales can derisk and improve solvency positions
- Over the last 15 years, PE houses have become very familiar with financial assets as investments and even whole banks
- Focus has been on distressed assets
  - High value-add and capital gains potential
  - Large regulatory capital relief for seller
- Some buyers have managed to obtain attractive funding terms and/or state risk shields
- Also, higher quality assets are sought after by pension funds, assets managers and private credit funds

Illustrative Case Studies: Private Equity in Banking

Acquirer	Year	Description
		Loan Portfolios
Lone Star	2012	£850m of distressed debt from Lloyds Bank
	2014	Lloyds Bank sells £870m of Irish residential mortgages
	2017	Bought NovoBanco, the "good bank" out of Portuguese BES, for €1bn
Apollo	2018	Bank of Cyprus €2.8bn NPL portfolio for €1.4bn (Project Helix)
Cerberus	2012	Bayern LB portfolio of apartments valued at €2.4bn
	2018	RBS Ulster Bank sold €1.4bn of non-performing mortgages
GS/ CarVal	2014	Lloyds sells £1.6bn Irish BTL / commercial mortgage portfolio
	2015	Lloyds sells £2.6bn Irish commercial loans portfolio for £827m
OakTree	2014	Bought "Project Adelaide" (German CRE) portfolio from Nationwide BS for €675m, a 24% discount
		Businesses
Lone Star	2008	Buys IKB for a reported €150m. IKB Group had equity of €830m at 31 March 2019
Cerberus	2006	Bought 35% of Bawag in 2006 at a valuation of €3.2bn; IPOd in 2017 at a valuation of €4.8bn
Wilbur Ross	2011	Bought 9% of Bank of Ireland at 10c per share, sold out at roughly triple that level

Source: FT, Reuters, KfW, Bloomberg, Moody's, Estates Gazette, Bank of Cyprus, Lloyds Bank, CoStar News

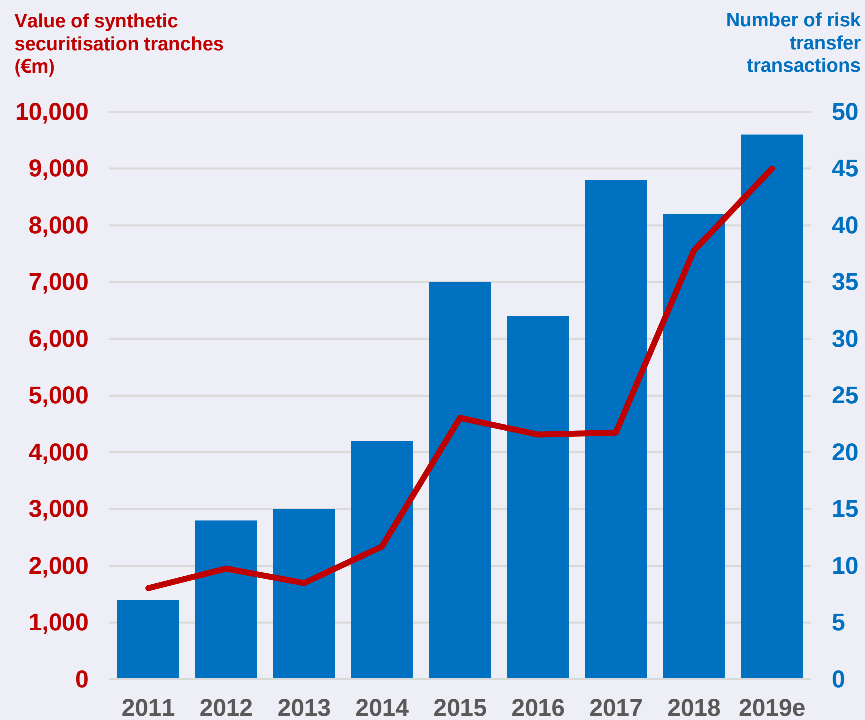
Risk Transfer

SRT has become a significant source of risk capacity and remains valid

RWA Reduction through Risk Transfer as a Source of Solvency

- Aim is to mitigate future pressures
- Need to sidestep objections of "too slow", "too expensive", "too difficult to do now"
- CoE has changed: re-consider cost hurdles
- Focus on assets giving high RWA relief efficiently, so mezz rather than equity tranches
- SRT market remains open, but…
- …Market is different to 2019
  - Wider costs due to pull-back of levered buyers
  - More conservative structure (attachment, sectors)
  - Lower SRT market capacity in 2020
- Bilateral transactions will be the market norm for now; small club deals also possible

European Risk Transfer Market Volumes



Range of asset classes covered expanding; includes Corporate, SME, Specialised Finance, Trade Finance, Auto/Consumer, residential Mortgage, CRE

Source: IACPM, BNP Paribas

Liability Side Actions

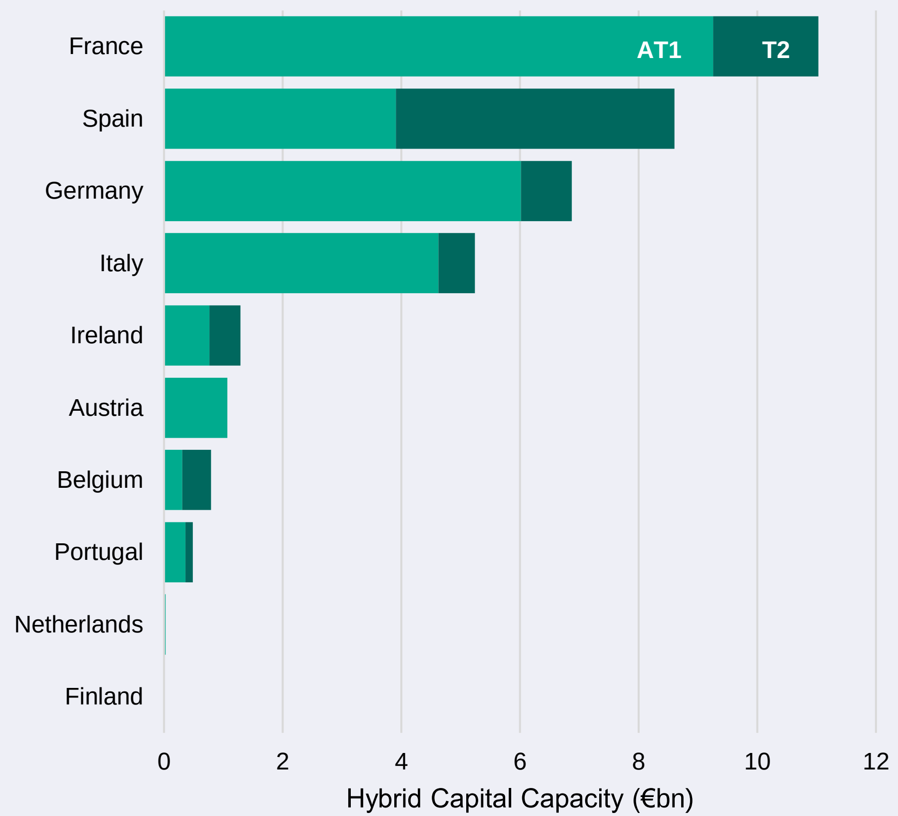
Funding & Capital Issuance

€36bn of hybrid capital issuance is needed fully to utilise the regulatory changes for P2R

Issuance Considerations

- The ECB has brought forward aspects of the CRD V, under which banks can meet a large chunk of their Pillar 2 Requirements with fixed income capital
- This reduces CET1 requirements but only for those banks who have sufficient AT1 and Tier 2
- BNP Paribas estimates that there is currently a deficit of some €36bn
- Capital issuance conditions are challenging and variable. Banks seeking to fill their “hybrid capital gaps” will need to be generous and decisive in accessing the market
- A similar approach applies to funding markets, though central bank liquidity operations mean that the pressure is less intense for senior and secured funding instruments

Hybrid “Gaps” to Regulatory Tolerance



Source: BNP Paribas; Bank Annual Reports and Quarterly Updates 2019

Number of banks in sample: 27

Call / NoCall Strategies

Market conditions make the call / no-call decision for hybrids increasingly strategic

Potential Arguments for Call / No Call of Capital Instruments

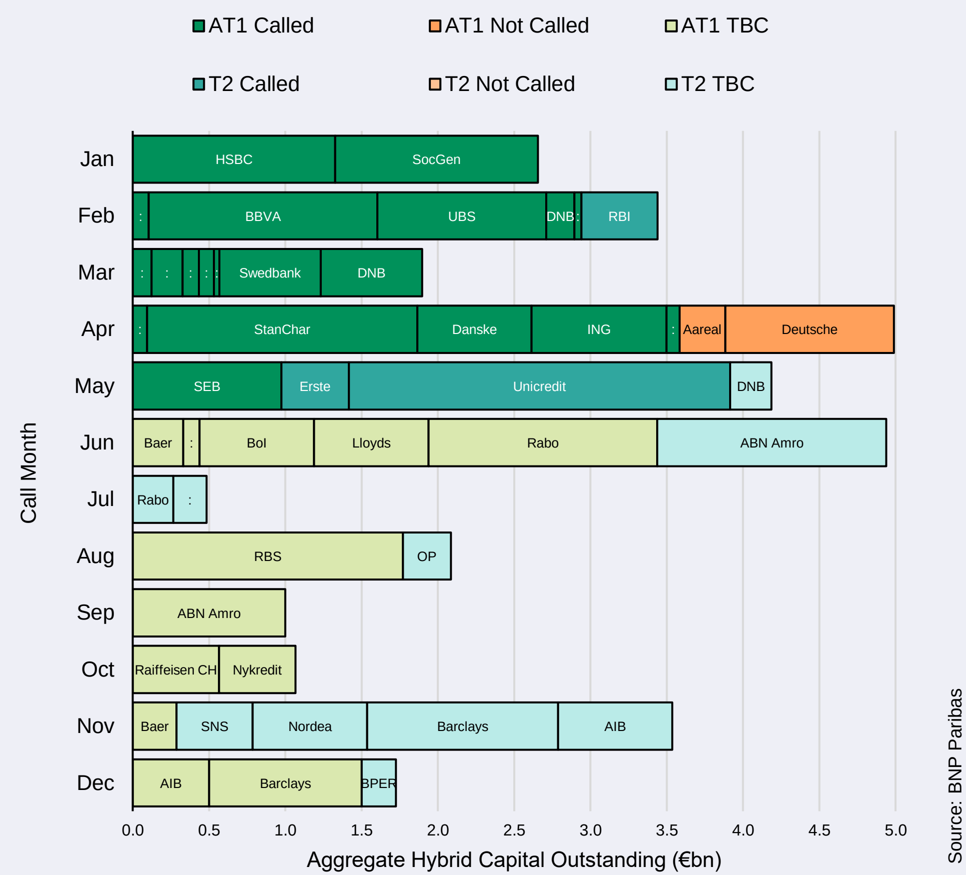
Call

- Instruments represent excess capital above regulatory minima?
- Have been refinanced already?
- Market expectations are for a call
- No call would increase cost-of-capital
- No call could be interpreted as a sign of weakness

No Call

- Call is a bail-out for bond investors at the expense of shareholders
- Investors were paid for extension risk
- Liability management can be used to equalise bond investors' and shareholders' interests fairly
- In a crisis, reducing precious capital resources does not make sense

Hybrid Capital: Main European Non-Legacy Calls in 2020

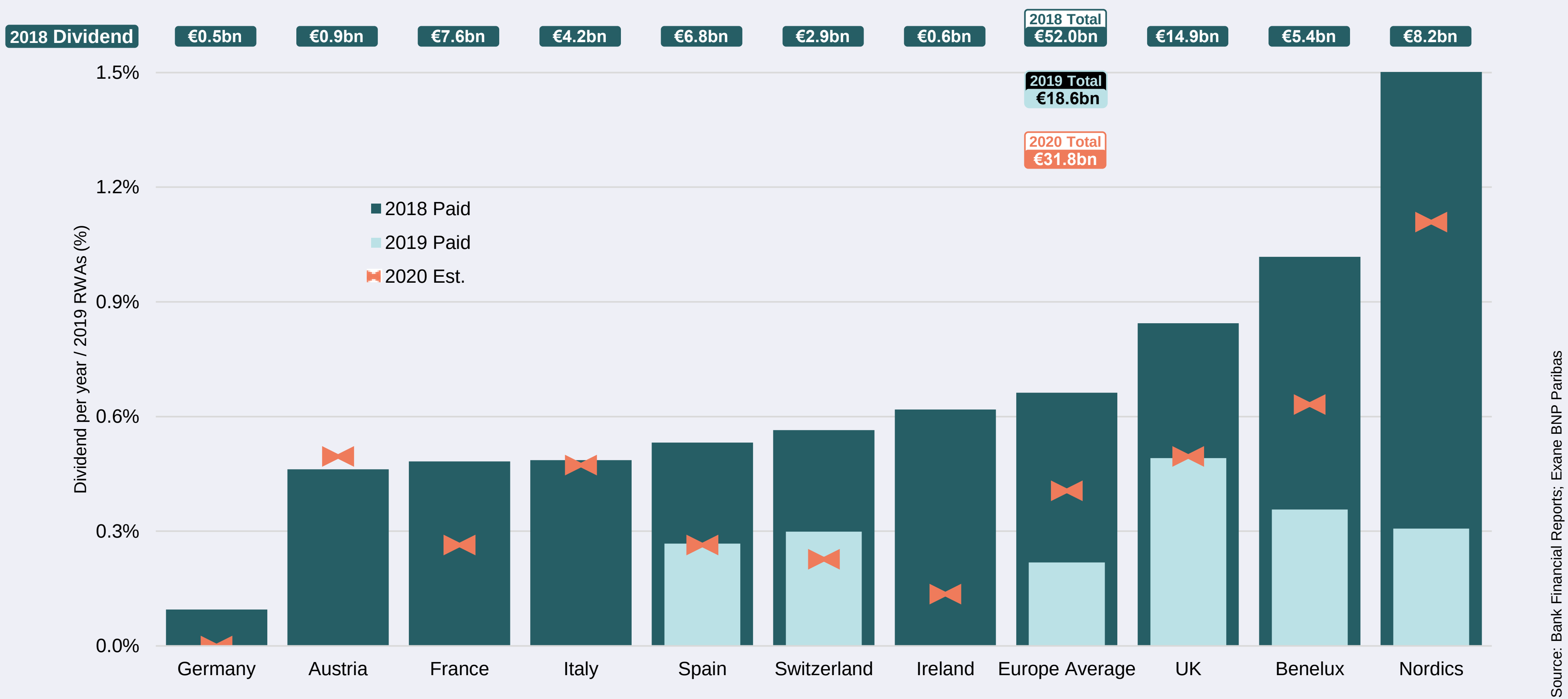


Note: for smaller amounts, issuer names have been omitted

Dividends

Dividends for 2019 have been blocked, with €33bn less paid than for the previous year

European Dividends as a proportion of RWAs

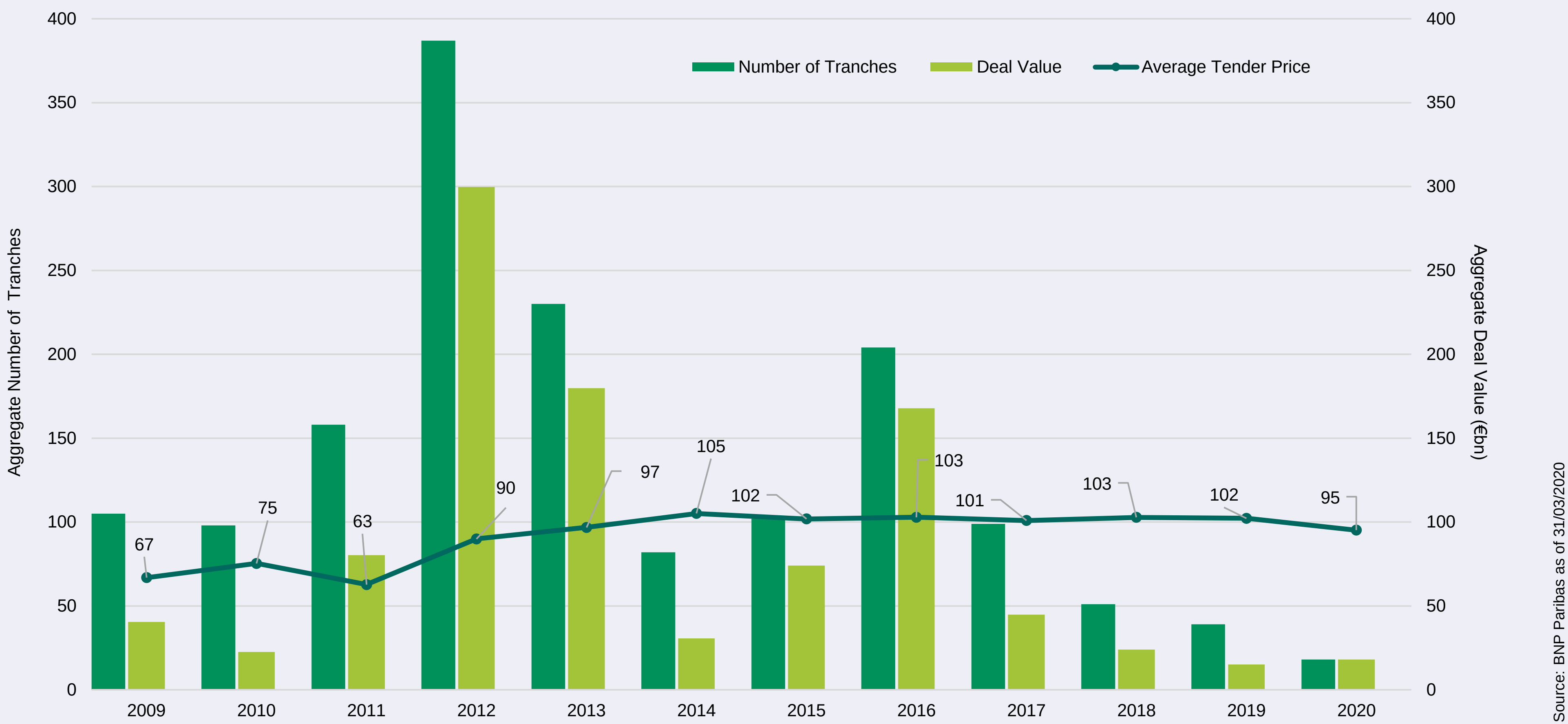


Note: 2018 and 2019 are paid dividends, 2020 are estimates as at 2nd April 2020 by Exane for all except Nordics which are consensus estimates; 35 European banks included in the analysis

Liability Management

Liability management is expected to come to the fore

Use of Liability Management in Europe



The Official Sector

Risk Shield

Government guarantees on risk asset pools can be a focused source of backstop solvency

Risk Shields as a Source of Solvency

- As an alternative to capital injections, governments can support institutions or whole sectors by providing guarantees on risk asset pools. Such guarantees are often called “risk shields”
- They have a number of benefits
  - Focused and targeted, rather than capital, which is fungible
  - Flexible: can be applied to various asset pools, such as SMEs; specific industrial sectors; or NPLs
  - Useful as a backstop to reduce market jitters about tail risk (cf. RBS’ Asset Protection Scheme)
- Risk shields can also be accounting-friendly. Governments’ capacity to inject capital is more limited than their capacity to underwrite risk on a contingent basis

Case Studies

Country	Year	Description
Portugal	2017	Sale of NovoBanco to LoneStar: The “Contingent Capital Agreement” allows for €3.89bn losses to be borne by the Portuguese state, as part of a capital aid package that “*corresponded to circa 23% of the RWA of EUR 47 billion at the time of resolution in 2014*”
Germany	2014	Nord LB’s Contingent Asset Guarantee. This gave Nord LB the option to get protection on a €700m mezzanine tranche that is 5% of a portfolio of €14bn corporate loans, if its CET1 ratio fell below 9%. Protection provided by the German regions of Niedersachsen and Sachsen-Anhalt at an off-market cost of 6.3%pa. Results in a €400m capital relief.
Italy	2016	Garanzia sulla Cartolarizzazione delle Sofferenze: GACS. To cover Italian NPLs. Has enabled Italian NPL volumes held by the banks to halve.
Greece	2019	Hercules. Capacity of €12bn in guarantees for senior tranches of NPL securitisations. Sufficient to cover circa €35bn face value of Greek NPLs.
UK	2009	In early 2009, the UK government put in place the *Asset Protection Scheme* covering £280bn of RBS’ financial assets. RBS took a £60bn first loss exposure. The measure stabilised RBS’ creditworthiness and broader market stability. RBS exited the scheme in October 2012, having paid guarantee preimiums of £2.5bn

Source: European Commission, UK National Audit Office, Euromoney, DBRS

State Recapitalisations

There is scope for systemic financial stability to be improved through precautionary, state-backed boosts to CET1 capital

Lessons from the GFC

- The Global Financial Crisis of 2007-09 taught us that banks, as providers of capital to the economy, are ultimately backstopped by governments
- Whereas the process of resolution can reduce the negative impact of an idiosyncratic bank failure, it is ill-suited to a systemic crisis
- State capital injections have proven successful in some situations
  - Mostly through state-owned preference shares that have limited voting rights
  - Avoids the governance perils of nationalisation
  - Over time, state can withdraw at a profit
- Those schemes that have been most successful have been large and pre-emptive

Case Studies

Country	Year	Description
US	2008	As part of TARP, the US Treasury provided $205bn of pref share capital to 707 banks. Citi, JPMC and Wells Fargo each took $25bn; BoA took $15bn; while GS, MS took $10bn each. Treasury charged 5% for the first 5 years and 9% thereafter; it also got share warrants. Treasury recovered $227bn. Banks undertook capital issuance to repay eg. Citi in December 2009.
France	2008	Société de Prise de Participation de l'Etat (SPPE) wholly owned by the French state and set up to boost the capital of the banking system, at a level equivalent to 1% of RWAs In early 2009, it bought non-voting preference shares (CET1) from French banks: BPCE €7.05bn, BNP Paribas €5.1bn, SocGen €3.4bn, Credit Mutual €2.4bn BNP Paribas repaid in October 2009 with 7 months interest. BPCE repaid in Q1 2011
Belgium	2008/9	KBC €7bn ultimately repaid €13bn by end 2013
Greece	2010	The Hellenic Financial Stability Fund is a major shareholder in all four systemic Greek banks. Despite this, it has limited governance rights. It has invested approximately €40bn in convertible CET1 instruments
Italy	2009	Tremonti bonds Four banks subscribed: Banco Popolare €1,450m (repaid March 2011); BPM €500m (repaid June 2013); BMPS €1,900m (June 2015 converted to equity); Creval €200m (repaid 2013).
Denmark	2009	Bank Package II (May 2009) DKK 100bn available for state hybrid (CET1) capital, with a goal to Tier 1 to at least 12% of RWAs eg Danske took DKK25bn at an interest rate of 9% with incentives to redeem early (principal increases); repaid in Q1 2014

Source: BNP Paribas

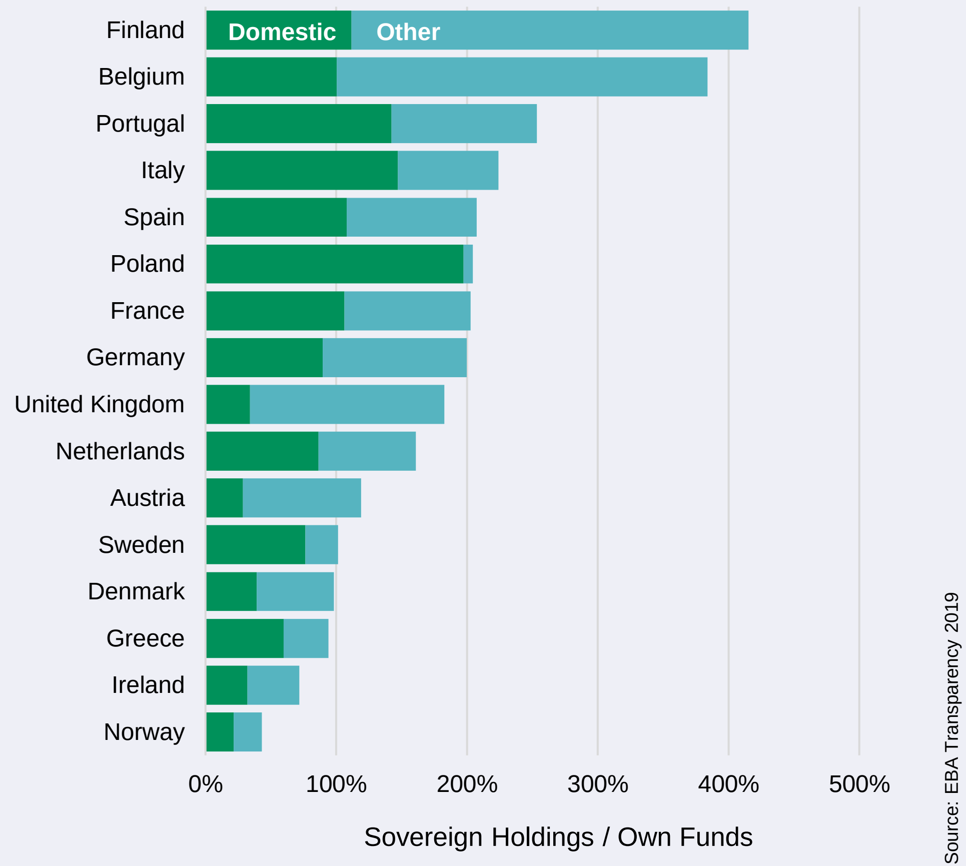
Sovereign Issues

Economic support will give rise to higher government deficits and weaker sovereign credits; banks are exposed

Sovereigns as a Source of Risk

- The European sovereign crisis of 2011 showed us what happens when a banking crisis requiring public bail-outs evolves into a sovereign crisis as markets fear for state creditworthiness
- The current crisis is likely to lead to major increase in state indebtedness and the potential for consequent sovereign weakness
- Banks are heavily exposed to and concentrated towards their domestic sovereigns and sovereigns in general
- Risk weight migration and mark-to-market are less important considerations as most sovereign exposures are HTM and 0% RW

Sovereign Holdings by Bank Domicile



The New Normal

The “New Normal”

Unclear at present

What will the “New Normal” look like?

- Major uncertainty – when will we be able to think about the “new normal”?
- Crisis phase unsettling in economic terms: layoffs, bankruptcies, damage to supply chains and societies, with potential for knock-on effects
- Increased role of the State
  - State ownership of industrial sectors and risk
  - Higher sovereign indebtedness and higher taxes
  - Review of priorities: more socialism and wealth distribution
- Risk management will improve in dealing with uncertainty
  - Wargaming
  - Horizon scanning
  - Agility & resilience
- Increased cost of capital, reduced risk appetite
- Need for more active CPM and capital efficiency

Questions and Comments Please!

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