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PREFACE

This assessment of risks and vulnerabilities in the French financial system brings together analyses prepared by staff from the Banque de France and the Autorité de contrôle prudentiel et de résolution (ACPR). The exercise is steered and coordinated by the Banque de France's Financial Stability Directorate, with an assessment published twice annually, in June and December. This is done as part of the financial stability assignment entrusted to the Banque de France by Act 2013/672 of 26 July 2013 on the separation and regulation of banking activities, and is coordinated with France's Haut Conseil de stabilité financière (High Council for Financial Stability – HCSF).

The following report seeks to identify the risks and vulnerabilities present in the French financial system along with the system's strengths and sources of resilience. This analysis is used in particular to inform the deliberations of the Banque de France's governing authorities, the college of the ACPR and the HCSF. It seeks to provide support for proposals on macroprudential policy made by the governor of the Banque de France to the HCSF and, where applicable, to assess the impact of these prudential proposals or measures on financial stability.

François Villeroy de Galhau Governor of the Banque de France

CONTENTS

1.	IN THE FRENCH FINANCIAL SYSTEM	4
2.	MACROECONOMIC RISK	9
2.1	Mounting policy uncertainty	10
a.	Macroeconomic consequences of the US presidential election	10
b.	Risks linked to the effects of Brexit	12
C.	Rising policy risk in Europe	14
2.2	Risks linked to growth in emerging economies	14
a.	Despite a brighter economic situation, risks persist	14
b.	The impact on the euro area and France is expected to be limited	16
2.3	Risks linked to the real estate sector	17
a.	Residential real estate	17
b.	Commercial real estate	18
2.4	Risks linked to the increase in NFC debt	19
a.	NFC debt is growing in the low rate environment	19
b.	Analysis of the linkages between increased corporate debt and investment flows	22
C.	The sharp increase in NFC cash holdings reflects new approaches	23
3.	RISKS FOR FINANCIAL INSTITUTIONS	25
3.1	Risks for banks	26
a.	Impact of the low interest rate environment on profitability	26
b.	Risks linked to regulations	31
C.	Vulnerabilities of the European banking sector	34
d.	Adjustments to business models	37
3.2	Risks for insurance companies	38
a.	Comparison of market indicators for banks and insurance companies	38
b.	Insurers' vulnerabilities and adjustments	40
3.3	Risks linked to the digital revolution	41
4.	RISKS FOR FINANCIAL MARKETS	46
4.1	Risks linked to asset valuation	46
a.	Correlation between US and European yield curves	46
b.	Impact and effectiveness of the CSPP	50
C.	Stretched valuations	51
4.2	Risks linked to asset management activities	53
a.	A sector that has been evolving since the crisis	53
b.	The main vulnerabilities are liquidity and leverage risks	54
4.3	Risks linked to financial market regulation	58
a.	Impacts of regulatory reforms on the financial system	58
b.	Brexit: what is at stake in negotiations over access to the internal market	59

Summary: Assessment of risks and vulnerabilities to the French financial system

The Banque de France tracks stress in the French and European financial sectors through a range of indicators. Some of these indicators measure systemic risk, revealing it to be lower and less volatile in France than in the euro area as a whole (Chart 1).

Box 1

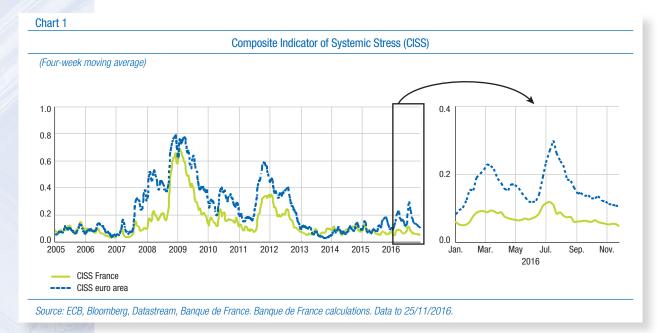
Composite Indicator of Systemic Stress (CISS)

The CISS distils information from five financial market sectors, namely the bond, money, stock and foreign exchange markets, and financial intermediaries.

The CISS is an aggregate measure of financial stress. It is standardised to present a value between 0 and 1 (four-week moving average). A high value is a sign of pressure on the five underlying markets or "pillars". The CISS captures spillover between risk pillars.

Since 2016 got underway, the Composite Indicator of Systemic Stress or CISS (cf. Box 1) for the euro area has been rising and exhibiting greater volatility. The increase in the CISS and its recent volatility reflect turbulence on the stockmarkets of several euro area countries, and particularly stress among Italian financial intermediaries, as well as mounting policy uncertainty. That being said, stress levels remain below those seen at the height of the 2012 sovereign debt crisis or during the onset of the Greek crisis in 2009.

France's CISS¹, which is centred on French market risks, is fairly closely correlated with the euro area CISS overall. However, the level of financial stress measured by the CISS for France has been low and stable compared with the euro area CISS since 2013. This is attributable to lower risk levels for France than the euro area in each of the five measured sectors², reflecting the relative resilience of the French financial system.



Even so, the French financial system is still under pressure. The main risks to financial stability are connected with weak economic growth in an environment marked by growing policy uncertainty, which generates volatility on financial markets. The low interest rate environment is squeezing the profitability of banks and insurers and driving growth in private debt. This has led to a sizeable risk of a correction to risk premia on bond markets. In the real estate sector, there is further evidence that office prices are significantly overvalued. Finally, uncertainty over completion of the Basel III reforms is a drag on bank balance sheets.

¹ The CISS for France is computed in accordance with Hollo, Kremer and Lo Duca (2012), "CISS - A Composite Indicator of Systemic Stress in the Financial System", ECB working document.

² Note that the foreign exchange sub-index is more volatile and fluctuates around that of the euro area, in contrast with the other pillars, which are all below the euro area sub-indices.

1. Macroeconomic risk: growth is holding up in France and the euro area against a backdrop of depressed global growth, risks to growth in emerging economies (especially China) and mounting economic policy uncertainty.

Macroeconomic conditions are characterised by flat growth in the euro area, reflecting a downbeat global environment. According to macroeconomic projections by the Banque de France conducted within the framework of the Eurosystem, French GDP is set to expand by an average annual rate of 1.3% in 2016 and 2017, gradually gaining momentum to reach 1.4% in 2018 and 1.5% in 2019. However, with consumption no longer receiving support from falling oil prices and in view of the weak global economic conditions, growth forecasts for 2017 were revised downwards. The International Monetary Fund (IMF) estimates that world GDP will expand by 3.1% in 2016 and 3.4% in 2017 before accelerating to 3.6% in 2018. Despite accommodative monetary policies, domestic demand is flagging, especially in emerging countries, on both the consumption and investment sides.

This macroeconomic scenario will depend in the short and medium term on the direction and timing of negotiations for the UK's exit from the European Union and on the economic policy stance adopted by the incoming US administration. Various models capturing both a downturn in trade flows as well as a financial shock (reduction in capital flows) suggest that short-/medium-term economic activity (2020) in the UK could contract by between 2.0% and 6.0%, but the impact on the euro area should be relatively mild. In addition to the direct macroeconomic transmission channels and potential financial spillovers, the political costs of a challenge to the European integration process and possible knock-on effects for the integration and governance preferences of other European Member States or regions are hard to quantify. These questions over the future of European integration are compounded by more specific concerns about the ability of Member States to follow through on structural reforms during a busy electoral calendar.

Emerging countries are displaying increased financial fragility despite an improved economic situation, with the IMF forecasting GDP growth of 4.2% in 2016 and 4.6% in 2017. The risk of contagion remains limited for France and the euro area in most scenarios, except in the event of a systemic crisis (e.g. following a major shock in China). Accordingly, in terms of external shocks, a watch should be kept on the impact of higher US interest rates on financial conditions and the reallocation of capital flows. Regarding internal shocks, a sharper slowdown in China, higher corporate debt in emerging countries (particularly China) and the risk of foreign exchange losses on dollar-denominated debt also need to be monitored.

2. Risk linked to the low interest rate environment: increased risk taking because of pressure on the profitability of banks and insurers; growth in private sector debt.

French financial institutions are demonstrating their resilience amid challenging economic and financial conditions characterised by persistently low interest rates. French banks are holding up owing to structural features, which have mitigated the adverse effects of low rates on profitability, and to solid fundamentals in terms of solvency and liquidity. That being said, the French banking sector is indirectly affected by the weakness of other European banking sectors to which it is exposed. This is pushing up the cost of equity and pulling down stockmarket valuations, which could be problematic going forward. In the medium term, the continuing wave of mortgage renegotiations and repurchases could severely dent the return on banks' assets, while sticky returns on regulated savings are constraining the reduction in financing costs on the liability side.

The low rate environment could also encourage banks to step up their risk taking, whether through their securities portfolios or by relaxing lending criteria, although this

Summary: Assessment of risks and vulnerabilities to the French financial system

risk has yet to materialise. Conversely, a sudden increase in interest rates would exert a squeeze effect on bank P&L accounts by affecting liabilities more swiftly than assets, which are less sensitive to interest rates.

Banks are seeking to **boost their fee and commission income**, **but growth in this area could be slower in the future** because of the low rate environment and competition from fintechs. Banks are also aiming to curb costs by resizing their networks, restructuring some business lines – especially corporate and investment banking arms – and investing in fintechs. These adjustments involve short-term costs and risks, particularly operational and employee-related risks, that need to be monitored.

For insurers, the transition to Solvency II is a major milestone in regulation of the sector. The coverage ratio for the solvency capital requirement (SCR) as at 1 January 2016 remained high across the market as a whole. An analysis of the SCR's structure reveals the significance of the market risk module (comprising among other things interest rate and equity risk), which accounts for 88% of the risk borne by life insurers. If the low interest rate environment persists, insurance companies may review their relationship to risk by transferring risk to retail investors through extensive use of unit-linked life insurance policies or, conversely, by increasing their risk taking in a bid to maintain profitability.

The run-up in the debt of non-financial companies (NFCs), which has been supported by the low rate environment, continues to be closely monitored. The gross debt ratio of NFCs, which is largely determined by major companies, continues to increase and now stands at 88% of GDP according to the European Commission's methodology. However, this trend has neither impacted their ability to repay their debts, nor affected their leverage ratio, owing to the simultaneous increase in equity. This is not true for all large companies, some of which do suffer from financial structure vulnerabilities. These debt dynamics are fuelling tangible and financial investment flows, but also holdings of cash and financial assets, which have been on the rise since 2010.

3. Market risk: market volatility heightened by policy uncertainty and increased interest rate risk in the euro area due to steeper yield curves and wider spreads, creating the threat of a sudden asset price correction

Over 2016, financial markets experienced repeated bouts of heightened volatility, generally followed by a quick return to equilibrium. The results of the UK referendum disrupted markets briefly, but relative calm soon returned because it is still too early to say under what terms the UK will leave the European Union. Donald Trump's election on 8 November 2016 was another surprise and amplified inflation expectations that were already built into US bond prices, while equity markets displayed a relatively moderate upside reaction.

In a setting of weak inflation and moderate growth, **euro area monetary policy maintained an accommodative stance in 2016**, which was additionally strengthened in the spring by the launch of a corporate bond purchase programme and an increase in the monthly target for the securities purchase programmes to EUR 80 billion. Following the decorrelation of yield curves from 2014, in a trend accentuated by monetary tightening begun by the US Federal Reserve in December 2015, US and euro area yield curves as anticipated by the markets have exhibited similar movements in the more recent period, with steepening at the long end despite continued divergence in the two zones' economic fundamentals and inflation expectations. Higher yields on euro area sovereign bonds may be attributable in particular to higher term premia, which are independent of short rates. Since July 2016, the clarity of these two components – interest rate risk and credit risk – has been blurred in the euro area by questions over the duration of the Expanded Asset Purchase Program (EAPP) and, more recently, by volatility and herd

behaviour following the surprise effect caused by the election of the new President of the United States. The purchase programmes implemented by the Eurosystem within the framework of the EAPP have had the effect of compressing yields on bonds issued in the euro area, raising questions about the significant performance gap between European equities and bonds. An abrupt correction in interest rates could create portfolio risk or trigger a sudden exit by investors that would hit less liquid segments, such as corporate bonds.

The asset management sector in France, which accounts for 14% of total euro area outstandings, has seen assets under management (AUM) grow vigorously since 2009, climbing from EUR 2.816 trillion to EUR 3.472 trillion, chiefly on the back of valuation effects. Growth has also been driven by the rise of passive management, which has gained thanks to strong performances from exchange-traded funds (ETFs), and by the hunt for yield in a low rate environment. International regulators have identified

Table 1

two sources of vulnerabilities in the asset management sector: liquidity risk, linked to timing mismatches in the liquidity of assets and liabilities of open-ended funds, and the risk associated with leverage, which investment funds use to boost returns.

On the regulatory side, post-crisis reforms are forcing market participants to make significant use of liquid, highquality collateral, either to comply with Basel capital adequacy ratios or to post margin with clearing houses within the framework of the European Market Infrastructure Regulation (EMIR). This pronounced appetite for safe, liquid securities has pushed up the price of collateral in the euro area and increased the velocity of transactions connected with securities lending and borrowing. To forestall the risk of a securities shortage following central bank interventions, the Eurosystem has set up a securities lending programme to facilitate the circulation of collateral.

4. Real estate risk: closer watch on certain segments of the commercial real estate market; monitoring lending criteria for households in view of the increase in their debt

The assessment of the residential real estate sector remains the same as that of June, while in the commercial segment the risk signals are on the rise. Residential prices have evened out in the recent period, but household debt indicators are deteriorating, although there is no evidence of increased delinquency. Accordingly, an eye needs to be kept on household solvency.

Main risks to the French financial system	Level and outlook December 2016
Macroeconomic risk Growth is holding up in France and the euro area against a backdrop of depressed global growth, risks to growth in emerging economies (especially China) and mounting economic policy uncertainty.	1
2. Risk linked to the low interest rate environment Pressure on the profitability of banks and insurers. Increase in household and corporate debt. Increased interest rate risk in Europe through transmission of higher US rates.	→
3. Market risk Market volatility heightened by policy uncertainty and increased interest rate risk in the euro area due to steeper yield curves and wider spreads, creating the threat of a sudden bond correction.	→
4. Real estate risk Closer watch on certain segments of the commercial real estate market. Monitoring lending criteria for households in view of the increase in their debt.	1

5. Regulatory risk for French banks

and final negotiations to complete Basel III.

Heavy regulatory pressure on French banks to adjust their

business models and balance sheets to comply with Basel

ratios. Uncertainty about additional adjustment costs for banks

SUMMARY OF THE MAIN RISKS TO THE FRENCH FINANCIAL SYSTEM:

LEVEL AND CHANGE

Moderate risk

The current level (shown by the colour code) is based on an expert assessment that reflects the

probability that the risk will occur and its potential systemic impact over the medium term. The outlook (shown by the direction of the arrow) shows the likely change over the next six months.

Summary: Assessment of risks and vulnerabilities to the French financial system

However, the main point to watch is commercial real estate prices, which have risen steadily since 2009 even as rental yields have fallen. The sector's response to an interest rate shock will depend on investor sensitivity to compression of the risk premium, which is currently high because of the high level of prices. The premium would contract if rates go up, which might cause investors to leave the sector, sparking a violent price correction.

5. Regulatory risk: heavy regulatory pressure on French banks to adjust their business models and balance sheets to comply with Basel ratios. Uncertainty about additional adjustment costs for banks and completion of Basel III

Reforms to prudential rules since the 2007 crisis have made the European banking system more resilient. However, an excessive step-up in requirements could adversely impact the profitability and business models of banks and encourage them to deleverage or hold riskier assets. For this reason, as the Basel III reforms are being finalised, monetary and prudential authorities reiterated the commitment made by the Basel Committee and the G20 at the beginning of the year to complete Basel III without a significant increase in capital requirements for the banking sector as a whole. France is working to ensure compliance with this commitment. However, the latest impact studies suggest that this goal is not currently being met and that the impact could vary across geographic zones and be costly for European and French banks.

2 Macroeconomic risk

After three years of muted growth and a mild rebound in 2015, France's GDP is expected to expand by 1.3% in 2016. Household consumption will be the main engine, thanks to the purchasing power gains generated by low inflation.

Further out, the pace of GDP growth is expected to pick up gradually, holding at 1.3% in 2017 before rising to 1.4% in 2018 and 1.5% in 2019, reflecting the slacker pace of domestic demand. The positive effects of lower oil prices on household purchasing power are set to dwindle from 2017, with oil expected to firm slightly over the projection horizon. These effects will be partly offset by the slow recovery in earned income. Despite a slight downturn in the saving rate, household consumption is expected to decelerate. Business investment will continue to be buoyed by the low level of interest rates, expanding activity and corporate saving. However, it will increase less vigorously than in 2016, when the temporary measure allowing increased business write-downs on certain capital goods had a material impact. Household investment will continue to benefit from supportive factors through to 2017, including zero-interest loans, the Pinel buy-to-let scheme and low rates. However, this upturn is likely to be short-lived, as structural factors, including demographics, will dampen housing investment in the medium term.

The growth forecasts for 2017-2019 remain dependent on a pick-up in global demand. Projections suggest that euro area demand will be a key driver. Accordingly, external trade's contribution to French growth, which was a negative 0.6pp in 2016, could shift to become almost neutral between 2017 and 2019.

inflation, Average annual measured by the harmonised index of consumer prices (HICP), will be 0.3% in 2016 before increasing to 1.2% in 2017, 1.4% in 2018 and 1.5% in 2019. The stabilisation of oil prices will be the key factor driving the recovery in inflation in 2017. Higher inflation rates in 2018 and 2019 will more clearly reflect inflation in non-food and non-energy components, notably owing to an acceleration in nominal wages and increased prices for imported products.

These projections are subject to several uncertainties. Household investment could continue to strengthen over the coming quarters. Furthermore, measures introduced from 2013 onwards to make French companies more competitive could progressively lead to more pronounced market share gains.

By contrast, the household saving rate, which is already relatively low, could decline less aggressively than expected. Support from the

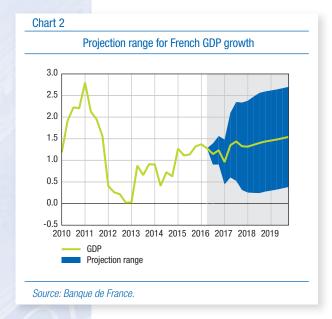
Table 2

Summary of macroeconomic projections for France						
	2015	2016*	2017*	2018*	2019*	
HICP	0.1	0.3	1.2	1.4	1.5	
HICP excluding food and energy	0.6	0.6	8.0	1.1	1.3	
GDP deflator	0.6	8.0	0.9	1.2	1.3	
Real GDP	1.2	1.3	1.3	1.4	1.5	
Contributions (in GDP percentage points)**:						
Domestic demand excl. changes in						
inventories	1.4	1.8	1.3	1.5	1.6	
Net exports	-0.3	-0.6	0.0	-0.1	-0.1	
Changes in inventories	0.1	0.1	-0.1	0.0	0.0	
Private consumption	1.5	1.5	1.2	1.5	1.6	
Government consumption	1.4	1.5	1.1	0.9	1.1	
Total investment	0.9	2.8	1.8	1.9	1.9	
Government investment	-3.9	2.6	1.4	1.9	1.8	
Household investment	-0.8	1.5	1.9	0.5	0.0	
Business investment						
(NFCs-FCs-IEs)	2.9	3.3	1.8	2.4	2.7	
Exports	6.0	1.2	4.3	3.8	3.9	
Imports	6.4	3.0	4.1	3.9	3.9	
Household real gross disposable income	1.6	1.8	1.2	1.3	1.5	
ILO unemployment rate (France and						
overseas territories, % of labour force)	10.4	10.0	9.9	9.7	9.5	

Sources: Insee for 2015 and the first three quarters of 2016, published 28/10. Annual growth rate unless stated otherwise.

^{*} Banque de France forecasts at 9/12/2016.

^{**} Because of rounding, the sum of contributions does not necessarily match GDP growth.





international environment also represents a downside risk for growth on the whole. In October, the IMF cut its growth forecasts once again as the outlook has dimmed for advanced economies, especially the UK and the USA. Although they are not back to pre-crisis growth rates, emerging economies continue to act as the engine of global growth.

The procedures governing the UK's exit from the European Union could be accompanied by a period of damaging uncertainty. Also, the outcome and effects of elections both at home and abroad (USA, Italy, Germany) could impact the projections to varying degrees.

As regards inflation, despite the decision taken in September by OPEC members to scale back production, oil prices remain extremely volatile. On a more general note, imported inflation could turn out to be weaker than expected, particularly if the recovery in global activity is less sustained than expected. Conversely, recent market developments in long-term interest rates may signal expectations of a sharper recovery in global inflation than that built into our projections.

2.1 MOUNTING POLITICAL UNCERTAINTY

a. Macroeconomic consequences of the US presidential election

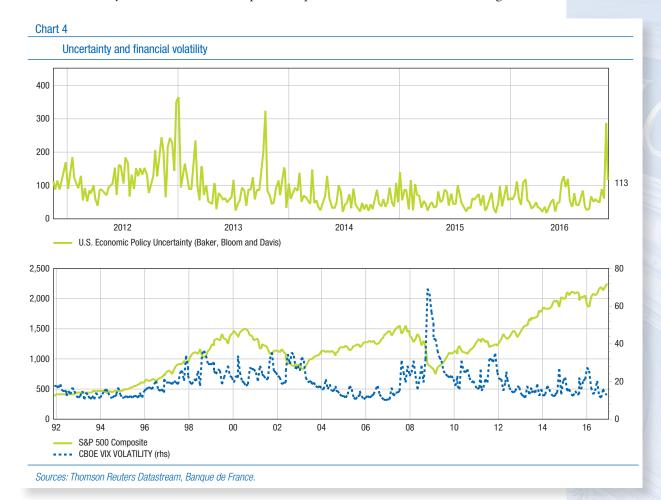
• Increased volatility but positive market reaction

The election of Donald Trump as US President triggered a substantial increase in economic policy uncertainty as measured by the Baker, Bloom & Davis index (Chart 4), which rose after the election to levels close to those seen during the crisis or, more recently, when the debt ceiling was reached, before falling markedly thereafter. Following an initial bout of high volatility in the wake of the elections, equity markets responded positively to the Trump victory, especially bank stocks, owing to his comments about a partial roll-back of the Dodd-Frank Act. The prospect of a more expansionary fiscal policy also seems to have played positively on markets.

An uncertain economic programme, but thought to be pro-growth

Although President-elect Trump's economic programme is subject to considerable uncertainty at this stage, information provided during the campaign suggests a massive

tax-cutting plan and **support for infrastructure investment** (even if, on this second point, there is uncertainty over the breakdown of public vs. private and federal vs. state financing).



Tax cuts are to be partly funded by measures on the receipts side, but overall the plan could cost USD 4.4 trillion (24% of 2015 GDP) over ten years, which would be offset by tax receipts linked to a sharp acceleration in GDP growth. However, the size of the tax cuts could be tempered by opposition from some Republicans in Congress, particularly since the question of the debt ceiling will come up again before 2017 is out.

• Major risks for trade policy

In a breach of the rules laid down by the World Trade Organisation (WTO) and trade agreements, Mr Trump has said that he will impose tariffs of 45% on Chinese products, 35% on Mexican products and 10% on other imported products. Were he to follow through on his pledges, these decisions could lead the USA to leave the WTO and renegotiate the North American Free Trade Agreement (NAFTA) with Mexico and Canada. Current talks over the TransAtlantic Free Trade Agreement (TAFTA) and the Trans-Pacific Partnership Agreement (TPP) are expected to be broken off.

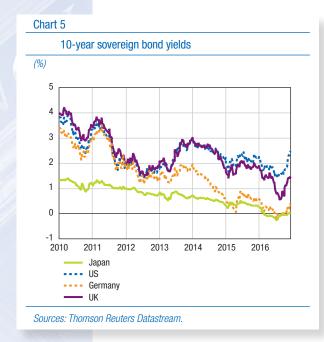
The USA has an extremely low customs tariff rate, standing at approximately 1.5% of total imported goods according to the World Bank. The mooted increases could have a major direct impact on external trade and cause US external trade to plummet¹.

¹ According to the elasticities used in the Federal Reserve's FRB/US model, a 10pp increase in customs tariffs would cause imports to fall by 5% (while exports would also contract by 5% assuming that partner countries apply the same increase). Raising tariffs to 45% on Chinese products, 35% on Mexican products and 10% for other imported products would mean an overall increase of 17% in customs tariffs, leading to an estimated decline of 8% in imports (and exports), applying the elasticities of the FRB/US model.

Renegotiating trade agreements would, moreover, usher in a period of uncertainty that could have major ramifications for foreign exchange, trade regulations and more.

• Consequences for monetary policy, interest rates and foreign exchange

The prospect of more accommodative fiscal policy could lead to swifter monetary policy tightening, a point made by members of the Federal Open Market Committee (FOMC) in recent statements. In the short run, at least, the likelihood of a rate hike in December rose substantially (estimated by the markets at more than 80%) following Mr Trump's election and Federal Reserve Chair Janet Yellen's testimony before Congress on 17 November. These developments led to pronounced movements in foreign exchange, the fixed income market and inflation expectations. US yields leapt higher (ten-year sovereign yields were at 2.28% on 17 November) and seemed to pull European yields in their wake (Chart 5). Inflation expectations also rebounded sharply (Chart 6), likely in connection with the prospect of more accommodative fiscal policy and the possibility that higher customs tariffs might push up the price of imported goods.





b. Risks linked to the effects of Brexit

In a national referendum held on 23 June 2016, 51.9% of British people voted in favour of Brexit, i.e. taking the UK out of the European Union. Although the effects of Brexit on the UK economy look to be limited for now, the biggest challenges still lie ahead. There is no precedent for the UK's EU departure. The timing and end point of negotiations are highly uncertain², adding to the uncertainty about the effects. The literature suggests that uncertainty often affects the economy with a lag and, depending on the nature of the shock, may have persistent effects. In the medium term, Brexit could translate into increased confidence-sapping uncertainty, persistent sterling depreciation and higher financing costs (via risk premia), even before the material effects (higher tariffs) are felt on trade and capital flows. The available estimates as to the impact of Brexit vary from source to source, but all point to relatively large effects (Table 3).

² The ruling by the High Court of London delivered on 3 November whereby Parliament must decide on leaving the EU further complicates the situation (the High Court also granted the government permission to appeal its decision in the Supreme Court, the UK's highest court; the appeal is to be heard between 5 and 8 December).

Short/medium term	0E	CD+	NiESR			HM Treasury	
2020	WTC	WTO/FTA EEA FTA WTO		FTA	WTO		
GDP	-3.	3%	-1.9%	-2.1%	-2.9%	-3.6%	-6.0%
Trade	-8.1%	-6.4%	-15.0%	-17.0%	-26.5%		
Assumptions							
Financial shock	*	*	*	*	*	*	*
Reduced trade	*	*	*	*	*	*	*
Productivity	*	*				*	*
Immigration	*	*					

Sources: OCDE, NIESR, HM Treasury.

Long-term growth could be derailed by the decline in capital flows (particularly in foreign direct investment (FDI), and in flows of people and trade between the UK and the EU, and even the rest of the world). It is important to remember that FDI, growth in trade and immigration have played an important role in the UK's economic expansion over the last decade. In the long run, labour productivity could be dampened by a reduction in skilled labour, which would have a noticeable negative impact on potential growth.

Brexit is expected to have a moderately negative impact on euro area growth through to 2018. This effect will pass chiefly through: (i) the trade channel, which may be relatively significant, and (ii) the uncertainty channel, which may affect investment and consumption also in the euro area. It could be that Brexit affects the main euro area economies differently, since direct exposure to the UK varies considerably from country to country.

In summary, the magnitude of Brexit's impact remains largely unknown thus far, in the absence of precise information about the future negotiations between the EU and the UK, which could be more difficult than expected (a scenario referred to as "hard Brexit") and also about the future of relations (notably in trade and migration) between the two zones.

• How will trade relations between France and the UK look after Brexit?

The UK is France's second-largest trade partner and accounts for 8.5% of its exports of goods and services (the UK takes 7% of French goods exports, making it France's fifth-ranked partner for goods). The significance of services in trade between France and the UK relative to other European countries means that an increase in barriers to trade in this sector would be highly detrimental.

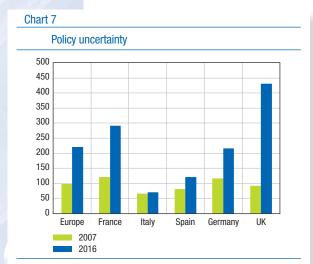
Four exit scenarios are possible: (1) entry into the European Economic Area; (2) an accord based on the Swiss model; (3) an "à la carte" partnership agreement covering different aspects of economic relations with the EU; (4) a return to economic relations governed by WTO rules.

Scenario (3) is currently the most probable given the UK's reluctance over the free movement of people and the importance of the UK in the economic relations of EU countries. UK banks could however lose their European passport.

France, meanwhile, would benefit from an agreement promoting trade in services, given its relative specialisation in this sector compared with neighbouring countries, including Germany, Spain and Italy. As a proportion of total exports, exports of services are at

close to 28% in France in 2015, compared with approximately 17% in Germany and 18% in Italy. Only Spain has a slightly higher ratio, at around 30%³.

c. Rising policy risk in Europe



Source: Baker, Bloom and Davis (www. policyuncertainty.com).

Note: This indicator calculates economic policy uncertainty in the form of an index constructed using three components: i) the volume of news articles discussing economic policy uncertainty (news index), ii) tax code provisions, and iii) dispersion in forecasters' predictions. It has been queried on some fronts, however: for some countries, only the news index is taken into account; also, the selection of newspapers is routinely criticised (too few, too generalist, etc.).

Economic policy uncertainty has increased generally in Europe over the last decade (Chart 7) and may feed into rising concerns over the European integration process. This could result in the election of parties that are not supportive of the free movement of people and goods, ultimately threatening Europe's integration project.

2.2 RISKS LINKED TO GROWTH IN EMERGING ECONOMIES

a. Despite a brighter economic situation, risks persist

The economic situation has stabilised in recent months across emerging nations. Activity remains vigorous in China, largely reflecting stimulus measures put in place by the authorities, which are likely to be maintained at least until the IXth plenum. However, financial risks are intensifying, notably owing to the effects of the run-up in private sector debt. Activity in Russia and Brazil also appears to be normalising,

after bottoming out in the first half of 2016. India remains one of the fastest-growing economies. Commodity-importing countries with few trade ties to China (emerging Europe excluding Russia) also continue to expand at a sustained pace. The economies of Sub-Saharan Africa, conversely, are suffering from weak commodity prices, compounded by internal political and economic difficulties.

After the financial turmoil of 2015, the financial situation of many emerging countries has stabilised in recent months, notably in connection with the Fed's decision to hold off on raising rates. Financial conditions have improved in many countries, with credit spreads narrowing and capital inflows resuming. Brexit, meanwhile, has had a limited impact on most emerging countries so far. The brighter financial situation of many emerging countries has thus sparked renewed investor interest in recent months.

Despite these signs of recovery, the risks remain high for many emerging countries. An increase in US rates could see financial conditions become tougher once more. Additional risks have emerged with the election of Donald Trump, whose trade policy programme⁴ could negatively impact the economies that are most reliant on the US economy, such as Mexico, but also China. The effect is hard to quantify, because of uncertainty surrounding the level of protectionism applied by the incoming US administration. In the case of China, the possibility of retaliation measures cannot be ruled out and would strengthen China's position in Asia. Mexico is particularly exposed to future US economic policy measures. The Mexican economy depends heavily on trade with the USA. In terms of tighter financing conditions on international markets,

³ Source Eurostat, national accounting.

⁴ Mr Trump has said that he will impose tariffs of 45% on Chinese products, 35% on Mexican products and 10% on other imported products. Were he to follow through on his pledges, these decisions could lead the USA to leave the WTO and renegotiate the North American Free Trade Agreement (NAFTA) with Mexico and Canada. Current talks over the TransAtlantic Free Trade Agreement (TAFTA) and the Trans-Pacific Partnership Agreement (TPP) are expected to be broken off.

the risks in relation to sovereign debt appear to be limited at this stage. In corporate debt, too, the risks seem to be under control.

Other external factors could affect capital flows and financial stability, particularly a sharper-than-expected slowdown in China and other emerging countries, sluggish global trade, the adverse effect of continued low commodity prices on exporting economies, as well as political risks (geopolitical uncertainties, the threat of conflicts, the migrant crisis, the rise of protectionism, and so on). Net flows of capital towards emerging countries took a nosedive between late 2013 and end-2015, falling from USD 200 billion to USD -156 billion (USD 80 billion to USD 3 billion if China and Russia are excluded). The rebound that began in late 2015 continued over Q2 2016 (USD 31 billion). Whether this trend continues will depend on the size of the increase in US interest rates, whether the change is sudden or broadly anticipated, and the health of major emerging economies such as China and Brazil.

Another source of considerable concern is the debt of non-financial companies (NFCs) in major emerging economies, which rose, on average, from 55% of GDP in 2006 to 110% of GDP in late 2015, overtaking the corresponding ratio in advanced economies. China, Korea and Brazil are especially vulnerable in this regard (Box 2). Furthermore, as a result of accommodative monetary policies, which have provided plentiful liquidity to the markets, currency mismatches have increased markedly since 2010 in emerging countries and represent a growing risk for their financial sectors. A further bout of currency depreciation could see the balance sheets of companies from emerging countries heavily exposed to currency risk. Overall, this run-up in NFC debt, combined with waning profitability and weak balance sheets, may test investor confidence from time to time.

Meanwhile, many emerging countries are facing declining potential growth along with the need to implement structural reforms in investment, education and healthcare in order to boost productivity and economic growth.

Table 4

Main emerging countries: GDP growth (%)							
	2014	2015	2016 (f)	2017 (f)			
Emerging and developing countries	4.6	4.0	4.2	4.6			
Argentina	-2.5	2.5	-1.8	2.7			
Brazil	0.1	-3.8	-3.3	0.5			
China	7.3	6.9	6.6	6.2			
India	7.2	7.6	7.6	7.6			
Indonesia	5.0	4.8	4.9	5.3			
Mexico	2.2	2.5	2.1	2.3			
Russia	0.7	-3.7	-0.8	1.1			
Saudi Arabia	3.6	3.5	1.2	2.0			
South Africa	1.6	1.3	0.1	0.8			
Turkey	3.0	4.0	3.3	3.0			

Sources: IMF, World Economic Outlook, October 2016.

Box 2

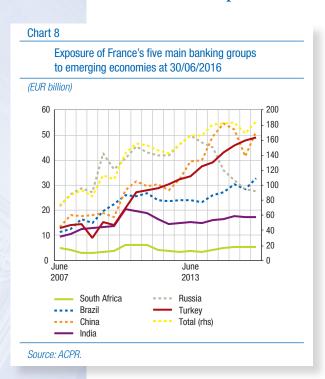
Risks raised by the mounting debt of Chinese companies

The economic situation in China, marked both by sharp growth in payment delinquencies and low profitability in the heavily indebted industrial sector, raises concerns about the impairment of bank assets and risks to financial stability. Corporate debt ballooned after 2010 to reach 160% of GDP in 2015, despite the growing difficulties experienced by the industrial sector, which is having to contend with excess production capacity and shrinking profits. Consequently, the value of non-performing loans (NPLs) grew by 51% in 2015 relative to 2014 to CNY 1.270 trillion (USD 195 billion). Because of the sharp growth in lending, the official doubtful loans ratio was just 1.75% in the first quarter of 2016, which is considerably underestimated. Although the ratio looks low compared with those in other countries, it would be much higher – at between 3% and 5% – if Chinese banks were to book NPLs according to the definitions provided by international accounting frameworks. The difference stems in large part from the implicit state guarantee enjoyed by publicly owned companies. If loans to companies in difficulty are added, 15.5% of corporate loans could be at risk, or USD 1.3 trillion according to the IMF. Sectors carrying the most risky debt include real estate, manufacturing, retail & wholesale, mining and steel.

Chinese banks are also exposed to the shadow banking sector, both on the liability side (fund-raising via wealth management products distributed to customers), and on the asset side (granting loans without booking them as such). These interconnections between the official banking system and the shadow banking sector, through trusts, brokers and subsidiaries of management funds, make it tricky to precisely measure NPLs.

That being said, the Chinese banking system, which is extremely profitable and well capitalised, seems sufficiently robust to absorb the losses in a stress scenario. According to the IMF, a 60% loss on potentially at-risk loans would lead to losses amounting to approximately 7% of GDP, which the Chinese banking system could absorb without any risks to financial stability. However, uncertainty remains over loss-absorbing capacity if bank exposures to the shadow sector are factored in. Finally, while the lack of transparency on banks' true exposure may undermine investor confidence, this is unlikely to trigger a liquidity crisis and a deterioration in banks' solvency along the lines of what happened in the USA and Europe during the 2008 crisis.

b. The impact on the euro area and France is expected to be limited



A potential slowdown among emerging countries would have a limited macroeconomic impact on activity in the euro area and France. According to Banque de France assessments, a simultaneous slowdown by the large emerging countries would cause their domestic demand to contract by 2 percentage points (pp), while currency depreciation would see euro area GDP growth shrink by between 0.2 and 0.3 pp. The impact on activity in France would be relatively mild, at approximately 0.1 pp. The risk of financial spillover to France also remains small in most scenarios, since French institutions have relatively little direct financial exposure. By contrast, in the event of a systemic crisis triggered by a financial shock in China, the impact on financial markets could be major, exerting a strongly negative effect on the global real economy and hence on France⁵.

Note however that after declining for six months, the exposure of France's five main banking groups to the BRICS countries⁶ and Turkey rebounded by EUR 15 billion between December 2015 and June

- 5 In particular, the large stock of government securities held as reserves could, if sold, cause significant spillover effects
- 6 Brazil, Russia, India, China, South Africa.

2016, overtaking its peak in June 2015 (Chart 8). This increase, the largest since H1 2007, was attributable in particular to the unprecedented increase in exposures to China (EUR 10.1 billion) and Brazil (EUR 4.3 billion) over H1 2016, while exposure to Turkey also continued to grow, albeit at a more moderate pace (EUR 1.4 billion). The French financial system's exposure to China could be a source of risk in the event that China's economic and financial situation worsens further.

2.3 Risks linked to the real estate sector

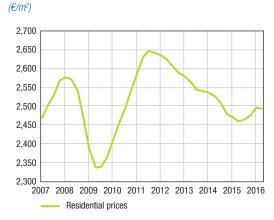
The analysis put forward in the June 2016 assessment of risks to the French financial system is broadly unchanged. The residential real estate sector does not appear to be overvalued overall, but some regions, such as Paris, need to be watched because firming household demand has set prices on an uptrend since mid-2015. This should draw attention to the solvency of households and the risk of poor-quality claims finding their way onto lender balance sheets if lending criteria become less stringent. That being said, the increase in risk taking by households on the residential real estate market remains contained. On the commercial market, demand for commercial real estate (CRE), which has been steadily rising since 2009 and is partly sustained by the low rate environment, has driven prices sharply upwards. A shock to the economic or financial environment could spark a reversal in demand for French CRE. On the commercial market, while careful monitoring is essential, the visible imbalances do not look to be a systemic risk to the financial system.

a. Residential real estate

In Q2 2016, residential real estate prices (Metropolitan France, new and existing homes) remained stable, edging down just 0.1% quarter-on-quarter after rising for three quarters straight (1.5% between Q3 2015 and Q1 2016; Chart 9). The upturn that got underway in late 2015 followed a period of more than three years during which prices fell steadily, with a 6.9% decline between Q3 2011 and Q2 2015. The rebound since end-2015 is thus consistent with previous trends and the low rate environment.

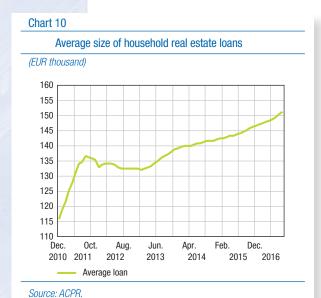
While recent price trends are not, in and of themselves, likely to generate risks to financial stability, it is necessary to make sure that households, who are keen to take advantage of low interest rates and the fact that the prices have come down considerably from their peak in 2011, do not engage in risky purchases that could lead to defaults on real estate loans and losses for the banking system.

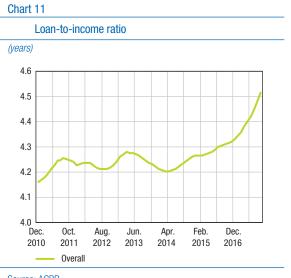




Sources: OECD, INSEE, Banque de France calculations

In this regard, the latest data from the monthly monitoring of new residential lending⁷ reveal an across-the-board deterioration in risk indicators, which is a new development for some of these metrics, including initial loan term and the affordability ratio. The average loan amount continued to increase, to an average of EUR 151,200 in the 12 months to end-August 2016, compared with EUR 146,600 at end-2015 (Chart 10), while average initial loan maturity climbed to 18.5 years compared with 18 years at the end of 2015. The 12-month average affordability ratio went from 29.37% in late 2015 to 29.59% at end-August 2016, while average annual initial borrower income declined from EUR 33,807 at end-2015 to EUR 33,417 at end-August 2016. These





Source: ACPR.

Note: The loan-to-income ratio measures the relationship between the loan amount and the income of the household taking on the loan.

developments ultimately translated into a relatively sustained increase in the loan-to-income ratio⁸, which rose from 4.34 years as an annual average at end-2015 to 4.52 years in August 2016 (Chart 11). Only the loan to value⁹ (LTV) ratio improved slightly, falling from 85.7% as an annual average at end-2015 to 85.5% in August 2016.

Structural data gathered for the European Household Finance and Consumption Survey (HFCS) may be used to refine the information on distribution and vulnerabilities. For example, household real estate debt rises steadily as a function of wealth, except in the case of the very wealthy. Also, the very wealthy tend to use real estate loans less to acquire a primary residence than to purchase other properties, which may be secondary residences occupied by the household or buy-to-let investments.

The median amount of real estate debt rose markedly between 2010 and 2015, climbing from EUR 56,000 to EUR 87,000. This increase was essentially attributable to the wealthiest households. In fact, the average debt of the very wealthy is more than 80 times higher than that of the quartile containing the least affluent households.

b. Commercial real estate

In general, the French commercial real estate (CRE) market remains extremely active. Prices increased briskly from 2009 to 2015 (Chart 12), and growth likely continued in 2016 judging by quarterly data disseminated by the ECB¹⁰. This trend is being accompanied by an increase in take-up, causing vacancy rates for offices in Paris and the immediate suburbs to go down. Furthermore, rents continue to increase, even if substantial support measures¹¹ remain in effect. Finally, investments made in the first three quarters of 2016 slightly exceeded the amounts seen over the same period in 2015.

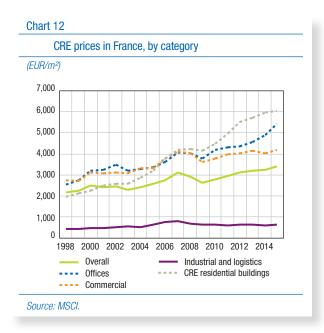
The strength of the French CRE investment market is reflected in data from the ACPR survey of financing for real estate professionals: in H1 2016, new financing in France

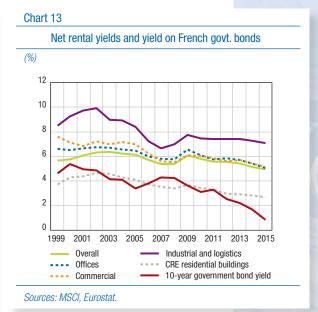
⁸ The loan-to-income ratio measures the relationship between the loan amount and disposable income.

⁹ The loan-to-value ratio measures the relationship between the loan amount and the value of the asset being financed at the time when the loan is granted

¹⁰ Mixed data: accounting estimates and transaction prices. Real estate prices based on accounting estimates used in the last ERS risk assessment and the HCSF report are available only at an annual frequency; 2016 values will not be available until Q1 2017.

¹¹ Such as rent holidays, for example, or payment of construction work for tenants.





amounted to EUR 19.2 billion, or 21.4% more than in H1 2015, but 6% less than in the second half of 2015. New lending continues to go chiefly to promoters (50.2%) but their share shrank once again in favour of investors, who are almost on a level footing, at 48.5%. In terms of assets financed, while residential real estate accounts for a majority share (42.5%), office real estate recorded a sharp increase in H1 2016 (4.9 pp growth relative to the previous half, to 26.5%), notably reflecting a large jump in the Île-de-France region (8.2 pp increase to 24.1%). In a new development, the share of unsecured transactions rose from 0.5% in the second half of 2015 to 21% in H1 2016. For the time being, however, the quality of exposures remains satisfactory, with the current LTV ratio remaining moderate at below 60% in 76.2% of cases. Moreover, the NPL ratio remains low, standing at 3.38% at 30 June 2016, down from its level of 3.53% at 31 December 2015. Overall, and taking account of the strength of economic demand (decline in the office vacancy rate), CRE counterparty risk looks to be low and unlikely to generate significant losses for the financial system in the short run.

However, the principal focus of attention concerns the continued run-up in prices since 2009 despite the significant decline in rental yields over the period (Chart 12). This seemingly paradoxical increase stems from the record high level of "risk premia", i.e. the spread between rental yields and a benchmark (ten-year government bond yield). Because the benchmark has fallen faster than rental yields, French CRE has given the impression of outperforming in terms of profitability, which has fuelled continuous growth in investment volumes since 2009. The long-term sustainability of this situation is questionable. Economic factors (excess supply of CRE) and financial factors (risk premia reduced by higher sovereign bond yields) could trigger a reversal in demand and in the prices of French CRE assets.

2.4 Risks linked to the increase in NFC debt

a. NFC debt is growing in the low rate environment

According to the definition provided by the Bank for International Settlements (BIS), the financial debt of non-financial companies (NFCs) comprises three items: (i) **debt securities**, whose rapid growth in the wake of the crisis slowed in mid-2015 before picking up again more recently; (ii) **loans from financial institutions**, which have been on the rise since 2014; and (iii) other loans, chiefly intra-group loans. Considering

these three components, the gross debt/GDP ratio of French NFCs came to 128% in Q2 2016, or slightly higher than the average rate in the euro area. According to the Macroeconomic Imbalance Procedure (MIP) Scoreboard, which excludes loans by NFCs to other resident NFCs as well as debt securities issued by NFCs and held by resident NFCs (sector consolidation), the gross financial debt held by NFCs stands at 88% of GDP¹².

The volume of non-bank loans, particularly intra-group loans, in the debt of French NFCs reflects the specific structure of France's manufacturing base, which features a 12 The BIS and the European Commission (MIP Scoreboard) measure outstanding debt securities at market value.

Box 3

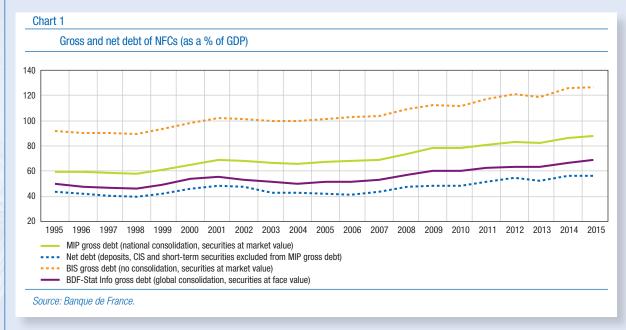
A variety of measures used to track NFC debt

The BIS uses an NFC debt indicator that considers total debt securities at market value and total loans recorded in NFC liabilities without any consolidation. This therefore includes all loans granted, irrespective of the creditors, and encompasses all intra-group transactions, including cross-border transactions. It thus offers a measure of non-consolidated gross debt.

The European Commission's Macroeconomic Imbalance Procedure (MIP) Scoreboard measures debt securities at market value and considers total loans recorded in NFC liabilities excluding loans extended by NFCs to other NFCs (sector consolidation or national consolidation in the sense that loans between NFCs belonging to the same group but based in two different countries are not consolidated): according to this method, NFC debt in France has increased by less (14 pp between 2008 and 2015) than the non-consolidated debt published by the BIS (18 pp).

The Banque de France measures outstanding debt securities at face value and applies a global consolidation approach. This consists in excluding, in addition to intra-sector transactions, transactions involving non-resident counterparties belonging to the same group¹. According to this measure, NFC debt in France grew less swiftly between 2008 and 2015, rising by 12 pp.

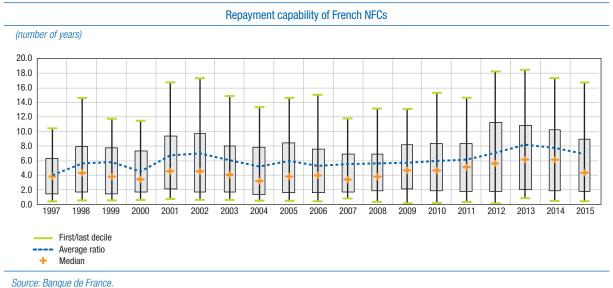
Another approach is to subtract specific financial assets held by NFCs, such as deposits, short-term debt securities and securities issued by collective investment schemes, from gross debt. This net indicator also differs significantly from the indicators published by the BIS and European Commission in terms of both level and trend (Chart 1).



large number of major international groups. However, while intra-group loans explain much of the difference between the level of debt held by French NFCs and the euro area average, they are not enough by themselves to account for the overall increase in the debt of French NFCs. In particular, financing for foreign partners, subsidiaries, equity investments has run to EUR 10 billion a year for the last three years, accounting for about 15% of the growth in the overall debt of NFCs (EUR 63 billion in the 12 months to end-August 2016).

Even so, repayment capability and the debt-to-equity ratio show that French NFCs are in control of their debt overall. The repayment capability of large companies has improved on average since 2014 (Chart 14), as measured by the ratio of financial debt to cash generation ¹³. However, while median repayment capability is more or less back to its pre-crisis level, the gap between average and median repayment capability is the widest it has been since 1997, reflecting considerable dispersion in the financial situations of large companies.





Meanwhile, the increase in the debt level of French groups since 2009 has not been accompanied by slippage in the financial debt / equity ratio, because equity has kept step, rising by 80% over the 2009-2015 period. Factoring in goodwill does not alter this assessment. However, if we consider the change in the leverage ratio of the parent companies of French groups based on their consolidated accounts so as to highlight the external debt of these groups, we see that leverage at parents¹⁴ publishing accounts under IFRS (the largest groups) continued to grow slightly in 2015, edging up by 0.7%, while leverage at the parent companies of smaller groups has been shrinking since 2013. However, debt trends among the parents of IFRS groups need to be considered in conjunction with the vigorous investment drive by these firms (+10.0% points of VA between 2014 and 2015).

This being said, large companies' improved repayment capability and control of leverage are set against an environment characterised by falling interest rates. Accordingly, the cost of five-year debt for NFCs on the market has declined steadily since 2008, falling from around 5% in early 2008 to approximately 0.6% in August 2016. While the low

¹³ This ratio gives a theoretical period of repayment that would be reached if the equivalent of total cash generated for the current year were entirely put towards repaying current debt each year.

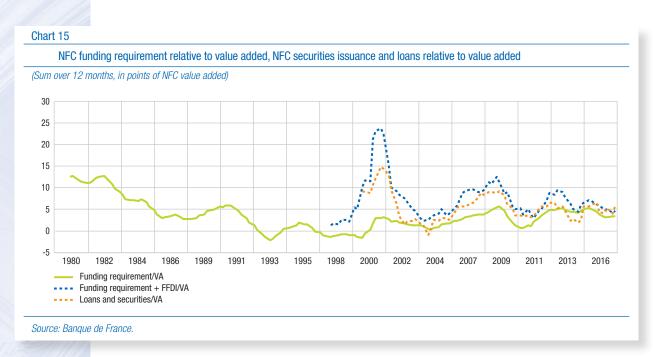
¹⁴ The parent companies of the groups in this sample account for 41.4% of all French groups publishing accounts under IFRS.

rate environment may have supported growth in the gross debt of French NFCs without causing an overall deterioration in their financial situation, the risk associated with a potential rise in interest rates is an area to watch.

b. Analysis of the linkages between increased corporate debt and investment flows

The increasing debt of French NFCs is attributable to a funding requirement arising from the fact that their gross saving 15 is insufficient to cover the cost of their tangible and intangible investments and changes in inventories. The self-financing ratio 16 has decreased since the 2000s, when it peaked at 100%, and currently stands at approximately 80%, despite a slight rebound over the recent period because of the recovery in margins. Even so, while the ratio of the NFC funding requirement to value added has improved since 2010, according to national accounts data, the ratio remains low, at close to 4%.

In this setting, securities issuance by NFCs and new loans to these companies between 2010 and 2015 look consistent with the change in funding requirement. Note, though, that market debt grew more swiftly than bank credit between 2008 and 2016, with its share rising from 26% of total NFC debt in the third quarter of 2008 to 39% in the third quarter of 2016¹⁷. However, in the early 2000s, then again between 2007 and 2008, securities issues and loans largely exceeded the NFC funding requirement. The difference was attributable to financing for substantial direct investment flows, although these were smaller and less concentrated in 2007-2008 (Chart 15).



In addition, net issuance flows of long-term debt securities as well as net flows of credit to NFCs with a maturity of over five years are higher in France than in Germany, Spain or Italy. However, cross-country comparisons are somewhat flimsy, since Germany NFCs conduct a portion of their securities issues through foreign subsidiaries, notably in the Netherlands and Luxembourg.

¹⁵ For NFCs, gross saving is equal to gross disposable income, because NFCs do not have consumption expenditure.

¹⁶ In national accounting, the ratio between gross corporate saving and gross fixed capital formation (GFCF).

¹⁷ Source: Banque de France.

If we consider not only investments in tangible and intangible assets but also financial investments, i.e. the balance of acquisitions and disposals of equity investments plus other investments (non-consolidated securities), we find **that small and mid-sized companies primarily use bank credit for investments in tangible assets, while large companies use it chiefly for financial investments.** According to a study on the parent companies of large French groups¹⁸, financial investments currently make the largest contribution to the overall investment growth rate of these groups: between 2014 and 2015, investments in tangible and intangible assets contributed 8.4% to the overall rate, compared with 11.0% for financial investments resulting in changes in the scope of consolidation and 11.4% for other financial investments.

Yet generally speaking, French NFCs sold more securities than they acquired between 2008 and mid-2016, with the net change in holdings amounting to a negative EUR 24 billion. Notably, they disposed of EUR 186 billion in CIS units, particularly in 2011, with the annual net change in holdings totalling a negative EUR 113 billion. Conversely, they bought EUR 71 billion in listed shares (excluding individual equity investments of more than 10% in a non-resident company), including EUR 51 billion in 2011. Over the first half of 2016, they acquired EUR 18 billion in long-term debt securities and EUR 16 billion in listed shares.

c. The sharp increase in NFC cash holdings reflects new approaches

The sharp increase in NFCs' cash holdings mitigates their rising debt to some extent. The trend growth rate of French NFCs' bank deposits was markedly higher over the 2008-2016 period than over the 1999-2008 period. As a proportion of GDP, bank deposits climbed from 14% at end-2008 to around 25% at end-2015.

As a result, the overall net debt of NFCs – after subtracting bank deposits and other short-term investments – increased considerably slower than consolidated gross debt (1.9% compared with 4.3 percentage points of GDP, between end-2012 and end-2015). Over 2015 alone, gross debt increased by 1.3 points of GDP, whereas net debt was stable. Overall, net debt also remains below 60% of GDP, sitting at 56.1% of GDP at 31/12/2015. Bear in mind, however, that the economic significance of netting varies from sector to sector.

The overall increase in NFC cash holdings may be attributable to a number of factors: some NFCs, especially SMEs and micro-businesses, generate margins that enable them not only to cover their funding requirement without having to borrow, but also to invest available cash; in other cases, investments may act as low-cost precautionary savings during times of low interest rates. In this regard, it is worth pointing out the paradigm shift in terms of the accumulation of cash holdings by NFCs. It also seems to be the case that, in a setting of economic uncertainty, building up cash holdings gives groups the flexibility they need to respond quickly to investment opportunities.

Another possible explanation is that the preferential treatment given to SME deposits over other liability items when measuring the net stable funding ratio (NFSR) has led banks to continue to offer attractive – or at least positive – returns on term deposits. At a time when large companies may borrow in the short term at negative rates, the combination of these borrowing terms with the returns on corporate term deposits is creating an environment in which large companies might have an incentive to borrow in order to invest the proceeds of their issues in term deposits. That being said, a slight year-on-year downturn has been observed in issues by top-rated companies ¹⁹ since May 2016, along with a substantial year-on-year decrease in issues by companies with a

 ¹⁸ Because of the granularity of the required data, the sample considered here is narrower than the sample used in the study mentioned in section
 1.4.1. The parent companies in this second sample account for 27.5% of all French groups publishing accounts under IFRS.
 19 Short term rating A-1+ P-1 F1+

Macroeconomic risk

good rating 20 . Since these two populations enjoy the most favourable spreads with term deposits and marketable securities, this suggests that, at this stage, French NFCs are not developing opportunistic short-term debt strategies.

3 Risks for financial institutions

French financial institutions are demonstrating their resilience in a challenging economic and financial environment characterised by persistently low interest rates.

French banks are weathering these conditions well thanks to structural features that have mitigated the adverse effects of low rates on their profitability. Over H1 2016, the consolidated net profit of France's six main banking groups¹ totalled EUR 13.4 billion, compared with EUR 12.4 billion in H1 2015, although when restated for a non-recurring event (disposal of an interest in Visa Europe), it fell by 14.1%. The decline in the cost of risk (by 18.9% over the period) cushioned the impact of the fall in earnings, which chiefly affected retail banking. Although the French banking sector has solid fundamentals, especially in terms of solvency and liquidity, it is indirectly affected by the weakness of other European banking sectors to which it is exposed. This is pushing up the cost of capital and pulling down stockmarket valuations, which could be problematic going forward. In the medium term, a continuation – or even amplification - of the wave of mortgage renegotiations and repurchases could severely dent the return on bank assets, while sticky returns on regulated savings are constraining the reduction in financing costs on the liability side. The low rate environment could also encourage banks to step up their risk taking, whether through their securities portfolios or by relaxing lending criteria, although this risk has yet to materialise. Conversely, a sudden increase in interest rates would squeeze liabilities more swiftly than assets.

France's insurers reported aggregate net profit of EUR 12.7 billion in 2015, up from EUR 10.6 billion in 2014, while shareholders' equity increased by around 10% in 2015, further improving coverage ratios for the Solvency I minimum solvency margin requirement. Life insurance recorded positive net inflows of EUR 21.8 billion in 2015, a 12% increase on 2014, bringing total technical reserves to EUR 1.684 trillion. For insurers, the transition to Solvency II is a major milestone in regulation of the sector. The coverage ratio for the solvency capital requirement (SCR) as at 1 January 2016 remained high across the market as a whole, with an average of 222% for individual insurers and 225% if the focus is narrowed to life insurers only. An analysis of the SCR's structure reveals the significance of the market risk module (comprising among other things interest rate and equity risk), which accounts for 88% of the risk borne by life insurers (80% for all individual insurers).

More generally, several structural shifts are compounding the effects of the low rate environment, prompting French banks and insurers to adjust their business models. In particular, the digital revolution is exacerbating competition, while stiffer regulatory requirements are impacting balance sheets. Financial institutions are having to rethink their business models to contend with these challenges. This situation represents opportunities but also risks for the French financial system.

Banks are seeking to boost their fee and commission income, but growth in this area could be slower in the future because of the low rate environment and competition from fintechs. Banks are also aiming to curb costs by resizing their networks, restructuring some business lines – especially corporate and investment banking arms – and investing in fintechs. These adjustments involve short-term costs and risks, particularly operational and employee-related risks, that need to be monitored.

Insurance companies may review their relationship to risk by transferring risk to retail investors through extensive use of unit-linked life insurance policies or, conversely, by increasing their risk taking in a bid to maintain profitability in a low interest rate environment.

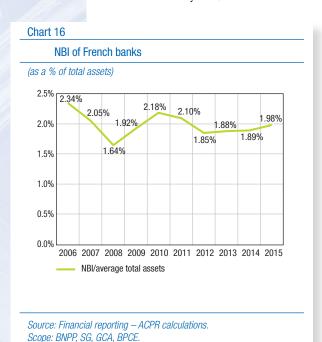
3.1 RISKS FOR BANKS

a. Impact of the low interest rate environment on profitability

The persisting low interest rate environment is generally reckoned to have a negative effect on banks' profitability, notably by squeezing their net interest margin. French banks have been less affected than the average European bank because of the lower interest rate sensitivity of their assets and the high share of market financing in their liabilities. Until now, French banks have offset their thin net interest margin through growth in fees and earnings from other business lines. The latest results indicate that these earnings are compensating for weak interest margins less than they used to. Looking ahead, although banks expect to see their profitability pick up after 2016, market analysts are more bearish and have built their expectations into asset prices.

• Until 2015, the low rate environment had a limited impact on French banks because of their structural features

Despite some compression between 2012 and 2013, **net banking income (NBI) at France's main banks has weathered the low rate environment** and at end-2015 was sitting, in relative terms (i.e. as a % of total assets), at its average level for the 2006-2015 period (Chart 16). In value terms, interest income has been relatively resilient over the last two years, while fees and other income have grown more vigorously (Chart 17).





This ability to cope with the low interest rate environment better than their European peers is attributable to the structural features of French banks:

- On the asset side, the vast majority of their loans are at fixed rates, which shields
 French banks more than their European competitors against decreases in interest
 rates. Decreasing rates do however translate into new loans and renegotiations of
 older loans paying higher interest rates;
- On the liability side, a substantial portion of their financing comes from the market, which has enabled French banks to take swift advantage of cuts to interest

rates, which feed quickly into the cost of market financing. Conversely, the rates paid on customer deposits are stickier on the downside, particularly in the case of regulated deposits such as Livret A passbooks and PEL plans.

 Their income structure is less dependent on net interest margin, and fees and commissions account for a relatively higher share of income compared with the European average.

Ceteris paribus, French banks' earnings are therefore less sensitive than those of their competitors to changes in interest rates.

• The low rate environment has had a more pronounced impact recently, but French banks are using diversified business models to maintain profitability

The results of the large French banks over the first nine months of 2016 highlight the contrasting effects of low rates:

- Negative effects include a decrease in NBI for retail banking in France, with net interest margin and fees and commissions all affected. The slowdown for fees and commissions is significant insofar as strong growth in this area was an offsetting factor in 2015; a downturn in financial fees owing to unsupportive market conditions is responsible for the cooler pace, as service fees on retail banking activities remain stable;
- Positive effects include the continuing decrease in the cost of risk, driven by reversals of provisions for retail banking in France and Italy, despite modest economic growth in the main zones where French banks operate.

In a setting of persistently low rates, the main French banking groups are nevertheless posting strong profitability performances thanks to their diversified business models. The resilience of their other businesses, including specialised financing, asset management and insurance, has partly mitigated the declines observed in retail banking. Several one-off transactions, i.e. disposals of non-strategic assets, also positively impacted earnings over the first nine months.

Retail banking in France is likely to remain weak in the coming quarters because of the impact of previous waves of mortgage renegotiations/repurchases on net interest margin. However, the reduced cost of risk, which has made up for the decline in the net interest margin until now, may cease to play this offsetting role now that it has reached low levels close to those seen before the crisis.

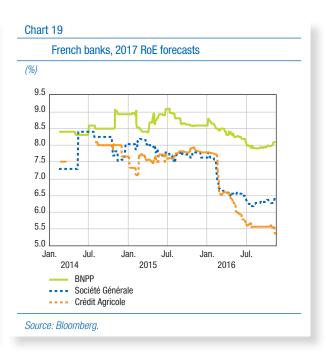
· Profit forecasts by banks and market analysts

After February 2016, market analysts slashed their return on equity (RoE) forecasts for French banks (Chart 18 and Chart 19). The forecasts for 2016 were cut by approximately 100 to 200 basis points (bps) depending on the institution between February and July 2016 before being revised upwards again when the H1 earnings were reported, revealing that French banks had held up better than expected by the market. However, for 2017, the market consensus on RoE has been down sharply since February, with no upward revision, suggesting that the market expects to see a deterioration in 2017.

In terms of risks:

 waves of mortgage renegotiations/repurchases could make assets more sensitive to reductions in interest rates and accelerate the decline in net interest income;





- in the event that interest rates go up, the weak sensitivity of assets and the high sensitivity of liabilities (as regards the market financed portion) to market rates could cause net interest income to fall by more than the European average;
- banks' behaviour, whether in their lending criteria or purchases of riskier securities, does not for the time being signal excessive risk taking with the potential to create vulnerabilities in a downside scenario.

Risks to the profitability of French banks in a low rate environment:

• Risk 1: brisk decline in return on assets linked to waves of mortgage renegotiations and repurchases



On the asset side, French banks have proven more resilient to the decline in market rates because the majority of outstanding home loans are at fixed rates. However, the recent waves of renegotiations and repurchases may make returns on bank assets more sensitive to market rates.

French banks saw a record volume of mortgage renegotiations and repurchases in 2015, at over EUR 80 billion over the year as a whole (Chart 20). A new wave began in spring 2016, and most institutions expect it to last because there is still a large outstanding amount of loans that are repurchasable or renegotiable, given their initial interest rates. Banks have tended to agree to renegotiations in order to keep customers, while seeking to minimise the impact on NBI by, for example, limiting the ground conceded on rates, charging renegotiation fees and stipulating requests of their own. For now, in terms of renegotiations and repurchases, banks are concentrating their efforts on the wealthiest customers because of the other earnings generated by this segment.

Overall, margins on new lending by banks are thinning, while remaining positive. Although renegotiations give rise to additional income when new loans are issued, because of early repayment penalties and handling or renegotiation fees, in the long run they lead to a reduction in net interest margin on the outstanding loan stock. A continued wave of renegotiations and repurchases would make assets more sensitive to the low level of market interest rates, which would adversely impact the profitability of French banks should the low rate environment persist.

• Risk 2: balance sheet squeeze in the event of a rapid increase in interest rates

A quick rebound in interest rates could dent the profitability of French banks if the return on assets adjusts less swiftly to interest rates – because of the large amount of outstanding home loans granted at low interest rates during the low rate period – than the cost of liabilities, which may be less rigid because of the high sensitivity (excluding hedging) of market financing and regulated deposits to increases in interest rates but also because of higher sensitivity to rates than that observed in the past.

• Risk 3: rigidity of liabilities pushes up financing costs

On the liability side, deposits and savings earning guaranteed rates offer a rate of return that comes with a regulatory floor that restricts their movement on the downside. Outstanding deposits held by households and non-financial companies with credit institutions established in France stood at EUR 1.7 trillion at end-September 2016. At that date, the average interest rate on household and NFC deposits was 0.8%, which translated into cumulative interest expense over 12 months of around EUR 14 billion. Although sight deposits make up 44% of deposits held with credit institutions, their average rate of return is 0.08%. Regulatory rates have, meanwhile, been reduced successively over recent years to be aligned with market interest rates. The rate of interest paid on Livret A passbooks has been 0.75% since August 2015, while the rate for new PEL home saving plans has been set at 1% since August 2016. While the Livret A rate is applied to all existing and new contracts, the same is not true for PEL contracts, which continue to pay the interest rate offered when the plan was opened. With an average rate of 2.74%, these are the most costly deposits for credit institutions and accounted for 47% of interest expense in the 12 months to end-September 2016.

To partly address the downside rigidity of bank balance sheets, a new Livret A formula was announced on 9 November 2016. It is designed to ensure consistency between market rates and the return paid on these products in order to preserve the model used to finance low-cost housing and SMEs, while at the same time maintaining the profitability of French banks (Box 4).

Box 4

Revision of the Livret A formula

From 2008 onwards, the formula used to set the rate on Livret A passbooks was the following, after rounding to the closest quarter point or, failing that, to the next highest quarter point:

$$Maximum \qquad \left\{ \begin{array}{ll} \frac{3 \text{ mo Euribor + Eonia}}{2} + \frac{\text{Inflation}}{2} \\ \text{Inflation + 0.25\%} \end{array} \right.$$

Monthly averages were used for the 3-month Euribor and Eonia, while inflation was the change over the latest available 12 months in Insee's all-household consumer price index.

The order of November 2016 revised this formula by introducing several modifications:

- Inflation and Eonia smoothed over six months;
- Reference to 3 mo Euribor removed;
- Extra 0.25% no longer added to inflation if the gap between the money market rate and inflation exceeds 25 basis points.

Under the new-look formula, the Livret A rate should be equal, after rounding to the closest quarter point or, failing that, to the next highest quarter point, to:

 $Maximum \qquad \left\{ \begin{array}{l} \frac{\text{Eonia} + \text{Inflation}}{2} \\ \text{Inflation} + 0.25\%, \, \text{unless (Inflation - Eonia)} > 0.25\%, \, \text{in which case Inflation} + 0.00\% \end{array} \right.$

The revised formula should keep the return on Livret A passbooks more closely tied to inflation, without allowing it to deviate excessively from market rates. Smoothing over six months is designed to avoid abrupt variations in rates, so providing participants with better visibility. In addition, the provision allowing the rate derived from the formula not to be applied in exceptional circumstances remains in place.

The government announced that the interest rate paid on Livret A passbooks would be kept at 0.75% in February 2017.

Risks to the asset quality of French banks in a low interest rate environment

• Risk 1: the hunt for yield in the portfolios of French banks

Portfolio data from French banks do not reveal, for now, a tendency towards increased risk taking in the low rate environment. However, these data need to be monitored, as increased exposure to riskier securities such as emerging markets assets or corporate bonds at the expense of sovereign securities could expose bank balance sheets to greater credit risk and make them more vulnerable to market valuation movements in an environment featuring increased correlation between asset classes.

• Risk 2: excessive easing of lending criteria

According to the Banque de France's monthly lending survey, home and consumer lending criteria have not changed much since early 2015. Banks confirm that the decline in margins on average-risk loans accelerated in 2016 in the home segment and continued in the consumer segment. Margins on loans to high-risk households held steady over the period. In 2016, the cost of funds coupled with competitive pressures supplied constant encouragement to give ground on lending criteria and margins on average-risk loans in the home and consumer segments alike.

Business lending criteria were increasingly eased in 2016, according to reporting by banks. The downward cycle in margins for average risk, which began in early 2013, gained added momentum from the fourth quarter of 2015, while margins for high-risk loans did not change much. The cost of funds was cited as a support factor for easing for the first time since early 2015, but the primary factor was competitive pressure, which intensified throughout 2016.

Excessive relaxing of lending criteria could lead banks to grant credits to households or companies whose credit quality might deteriorate swiftly in a downside scenario. The run-up in household debt (cf. 2.3 Risks linked to the real estate sector) and corporate debt (cf. 2.4 Risks linked to the increase in NFC debt) needs to be considered in the light of potential incentives to ease lending criteria and requires monitoring.

b. Risks linked to regulations

Reforms to prudential rules since the 2008 crisis have made the European banking system more resilient. French banks are making satisfactory progress in implementing these new standards, reporting levels that are well above the prudential requirements in some cases. In particular, French banks' solvency and liquidity ratios have improved markedly. However, an excessive step-up in requirements could adversely impact the profitability and business models of banks and interfere with their ability to finance the economy by encouraging them to deleverage or hold higher-earning but riskier assets. These incentives will be strengthened by the forthcoming introduction of the leverage ratio, especially if the final calibration casts doubt over its safety net role.

• Completion of Basel III

The Basel Committee (BCBS) was scheduled to complete its review of the solvency ratio denominator (credit risk and operational risk) by end-2016. The undertaking made by the BCBS and the G20 at the start of 2016 was to complete the standards without a significant increase in capital requirements for the banking sector as a whole. However, the latest impact studies indicate that this goal may not be met. France is working to ensure compliance with the commitment made by the GHOS² and taken up by the G20, i.e. to avoid a significant increase in capital requirements.

The impact of the reforms on different geographic zones requires close examination. As they stand, the proposals do not ensure a level playing field, insofar as the impact is far greater on some jurisdictions, such as Europe and Japan. Because of the central role that they play in financing the economy, European banks could be much more severely affected by the reforms than their competitors in other jurisdictions.

The Basel Committee published its market risk standards in early 2016, which provide for a substantial overhaul of the models used to calculate risk-weighted assets and more generally of the incentives to use models. These standards will have a major impact in the short term, but their effects are expected to wane as models are implemented.

In the case of credit risk, modelling options are to be greatly curtailed under the internal ratings-based approach (IRB). French banks will be particularly affected, because of their extensive use of modelling, but also because the reform gives less recognition to the model of bank-based financing for the economy, even though this is a tried and tested approach. The reform of the standardised approach, whose initial goal was to limit reliance on rating agencies, could not be completed and the arrangements remain comparable to the current approach, although slightly more conservatively calibrated.

Concerning operational risk, the scrapping of advanced measurement approaches (AMAs) and introduction of a new standardised measurement approach (SMA) are likely to trigger an increase in requirements, which would be at odds with the initial goal of reducing variability and avoiding a significant increase in capital requirements.

• IFRS 9

In July 2014, the International Accounting Standards Board (IASB) put the final touches to IFRS 9, the standard prepared to address deficiencies in the accounting of financial instruments that were observed during the crisis. Since the European Parliament voted to adopt IFRS 9, it will enter into effect on 1 January 2018.

² The Group of Governors and Heads of Supervision (GHOS), which consists of central bank governors and heads of banking supervision, oversees the Basel Committee on Banking Supervision (BCBS). The BCBS reports to the GHOS and submits its most important decisions to the GHOS for approval.

In January 2016, the European Banking Authority (EBA) launched an impact study on the transition to IFRS 9 based on data at end-2015 from a sample of 60 or so European institutions, including the five main French banking groups. These results shed light on the preparedness of financial institutions for the new standard, the expected change in provisioning levels and potential impacts on the CET1 ratio. The EBA is planning to conduct a second exercise by the end of 2016 to refine the results of the first impact study. On the basis of this study, the capital impacts from the IFRS 9 transition, although still very preliminary because they were assessed at a time when banks were not yet necessarily far advanced in implementing the new standard, look to be relatively moderate. Furthermore, since IFRS 9 leaves significant room for judgement, European banks might not apply the standard uniformly.

A point that requires particular attention from a financial stability viewpoint is the impact of using "point-in-time" data when calculating expected losses in IFRS 9 and credit risk provisioning. This methodology contrasts with the "through-the-cycle" approach used to estimate expected losses in prudential models. It could engender procyclicality in the level of expected losses that banks use as a benchmark to provision their credit risks.

Note that at the European Parliament's request, the European Systemic Risk Board (ESRB) has undertaken to prepare a report in 2017 on the financial stability implications of the introduction of IFRS9.

• Effects of the reform of US money market funds on short-term dollar financing for non-resident banks

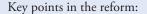
The reform of US money market funds (MMFs), which came into effect on 14 October 2016, has impacted USD financing for US-based French banks (cf. Box 5: USD financing of French banks from US MMFs). The financing profile of French banks is not cause for concern, given the structure of their liabilities, which remains stable, with USD financing contained. However, US MMFs do provide financing worth some USD 100 billion (although this is sharply down on mid-2011, when they provided more than USD 250 billion). The reform has not caused this funding source for French banks to dry up, unlike in the case of Japanese banks, which regularly encounter strain on their USD financing owing to the size of their foreign currency positions. The main French groups have a favourable liquidity position and took steps in advance to diversify their sources of short-term financing. Unlike the situation in 2011, these market funds are not used to finance activities in USD (which French banks had to scale back drastically during the crisis of summer 2011) but rather liquid assets through investments with the Fed. French banks have also exploited a technical opportunity connected with the procedures for calculating the leverage ratio to become extremely active repo counterparties to US MMFs, at the expense of US banks.

Box 5

USD financing for French banks from US money market funds

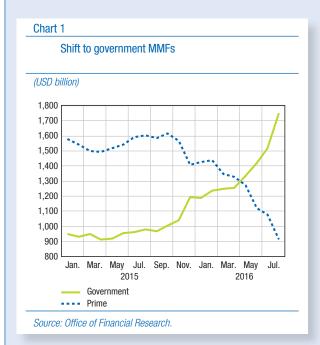
The reform of US money market funds (MMFs), introduced in July 2014, draws a distinction between funds that may hold corporate bond debt (including bank debt), which are referred to as prime MMFs, and those that are invested exclusively in sovereign or equivalent securities, which are known as government MMFs.

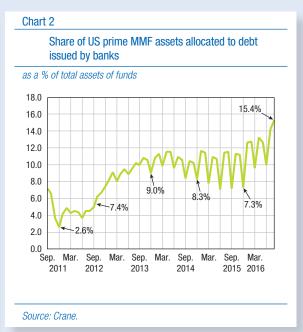
In June 2016, prime MMFs had invested more than 15% of their assets in short-term debt vehicles issued by French banks. By way of a comparison, this share fell to 2.6% in December 2011 after MMFs lost confidence in the wake of the euro area sovereign debt crisis, which resulted in a massive USD 240 billion being withdrawn in a matter of months.



- Prime MMFs have replaced the constant net asset value model with a variable net asset value approach.
- In the event of a crisis, funds may charge liquidity fees and set up redemption gates.
- Government MMFs, which are deemed to be more stable by the US regulator, keep the same accrued interest valuation method, but may now also charge penalty fees and set up gates.

The reform triggered a huge outflow of money (USD 750 billion) from US prime funds and into government funds (whose outstandings swelled by USD 824 billion¹) between January 2015 and August 2016. Despite the huge shift by investors, outstanding debt issued by French banks and held by US MMFs remained steady, as US market investors considered the risk/reward trade-off to be attractive because French banks were felt to have good creditworthiness. As the reform's deadline drew closer (it has been fully applied since 14 October 2016), however, some shortening of the maturities of debt invested with prime MMFs was observed, with a marked preference for financing maturing in less than one month.

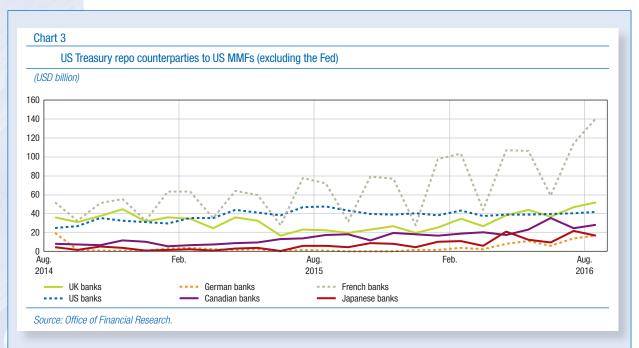




Given these movements, which were widely expected, French banks diversified their financing sources by turning to other counterparties, including asset managers and security lenders, or to deposit-taking for those with retail activities in the USA.

Furthermore, a temporary competitive advantage enabled French banks to step in and fill the gap after US banks withdrew from the repo market:

- while US banks scaled back the portion of their assets assigned to this business because of its regulatory cost, French banks were able to remain active on the US repo market;
- they are taking advantage of the difference in the frequency with which the leverage ratio has to be calculated, since US banks have to calculate a daily average while European banks report quarter-end values. As a result, each quarter-end brings a sharp contraction in French banks' repo activity and a simultaneous increase in use by MMFs of the Fed's reverse repo facility, which acts as a backstop facility for US MMFs holding surplus cash.
- 1 The increase in total assets collected by government MMFs went hand in hand with the greater presence of MMFs on the US Treasuries repo market.



This **opportunistic activity will be temporary however**: by end-2018, non-resident banks with total assets of over USD 50 billion will be subject to the same calculation rules as US banks.

Thus, while recent trends observed on the US market may not be systemically important, foreign exchange liquidity positions remain an area to watch for prudential authorities, which are encouraging banks to make sure that foreign exchange risk and the notion of the "convertibility" of funding are appropriately measured in their liquidity ratios according to the share of foreign currency financing in their liability structure and their business model. Central banks are also paying attention to developments on the repo market, which sits at the crossroads between monetary policy transmission mechanisms and intermediation mechanisms, at a time of declining carry and financing costs.

c. Vulnerabilities of the European banking sector

Since the 2008 crisis, the banking sector has emerged as a source of cyclical and structural vulnerabilities that threaten financial stability and the economic recovery, given the central role played by banks in financing the real economy. On equity markets, financial stocks have fallen relative to other sectors and are sitting at approximately 20% of where they were in early 2008, while the Euro Stoxx 50 index is the lowest it has been since 2008 at approximately 70% of its pre-crisis level (Chart 22).

The sizeable proportion of non-performing loans (NPLs) on the balance sheets of some banks raises the question of their solidity and the health of the real economy in affected countries, such as Italy and Portugal. Moreover, the persistent difficulties experienced by Deutsche Bank pose a risk to the entire European financial system, because of DB's systemic importance as Europe's leading investment bank. Finally, the presence of excess capacity in the European banking sector has been regularly highlighted³ and offers a possible explanation for weaker profitability compared with other advanced economies.

The Banking Stability Index (cf. Box 6⁴), which was extremely volatile in 2016, declined steadily after EBA published the results of its stress tests on 29 July 2016, before turning

³ Source: ESRB (2014) "Is Europe overbanked?" https://www.esrb.europa.eu/pub/pdf/asc/Reports_ASC_4_1406.pdf

⁴ Methodology based on Segoviano and Goodhart (2009), "Banking Stability Measures", IMF working document. Panel: UBS, Deutsche Bank, Commerzbank, Santander, Banco Bilbao Vizcaya Argentaria, Société Générale, BNP Paribas, Crédit Agricole SA, Intesa Sanpaolo, Unicredit, ING Groep, Barclays, HSBC, Royal Bank of Scotland Group, Standard Chartered.

Box 6

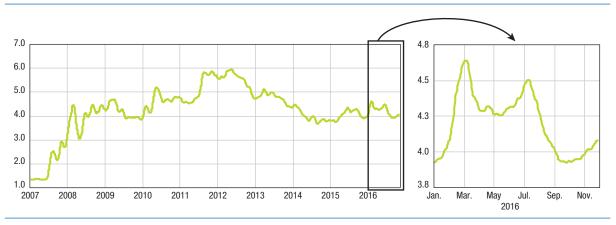
The Banking Stability Index (BSI)

The Banking Stability Index (BSI) measures systemic stress in a panel of 15 major banks from the European Union and Switzerland.

The index shows the average number of banks that would experience difficulties in the event of a default by one of the 15 main European banks. It is calculated based on equity prices and default probabilities for each bank derived from CDS spreads on their senior bank debt.

Chart 21

Banking Stability Index



Source: Bloomberg, Banque de France calculations. Data to 29/11/2016.

around in October 2016 (Chart 21). The perceived risks of interbank contagion signalled by this index remain on the high side: a default by one of these 15 banks would trigger a domino effect causing the failure of four other banks on average. However, this level is below that observed during the sovereign debt crisis between 2011 and 2012.

French banks are healthier than the European average

France is not directly affected by the cyclical troubles impacting some European banks. NPLs in France stood at 4% of outstanding loans at end-March 2016, compared with an EU average of 5.7% and 19% and 17% for Portugal and Italy respectively.

Furthermore, the results of stress tests conducted by EBA and published on 29 July 2016 confirmed the ability of France's banking groups⁵ to withstand a major stress scenario featuring extremely challenging assumptions for economic and market conditions. In the worst-case scenario, their solvency level fell by 286 bps, compared with a decline of 380 bps overall for the 51 European banking groups in the sample.

Several factors explain why France's financial institutions reported relatively better results than the European average:

- French banks have diversified their business activities around retail banking;
- the cost of risk for French banks remains contained because they have higher-quality loan books compared with the average among their European competitors.

⁵ Six French banking groups accounting for over 90% of assets in the French banking system were involved in the 2016 stress tests (BNPP, BPCE, GCA, GCM, LBP, SG).

Risk 1: exposure to struggling European banks

Vulnerabilities affecting European banks could feed into the French banking system through exposures to struggling banks and jurisdictions. **Given their international reach, the major French banks** are significantly exposed to European economies with weakened banking sectors. The risks of contagion could be channelled through:

- Direct exposure to the Italian and Portuguese economies through local subsidiaries that lend to the private sector;
- Direct exposure to banks and holdings of debt securities or derivatives whose counterparty is a struggling bank;
- Indirect exposure through holdings of sovereign debt whose value might be affected by difficulties in the banking sector (through the sovereign-banks relationship).

At 30 June 2016, Italy was the number-two country in terms of the international exposures of the five main French banks, with outstanding loans of EUR 292 billion (10% of total exposures), behind the USA on EUR 686 billion and just ahead of the UK on EUR 231 billion. Exposure to Italy increased by 7% year-on-year and chiefly comprises loans to the Italian private sector (EUR 210 billion), exposing French banks, just like their Italian counterparts, to the risk of non-repayment (EUR 27 billion in defaults had already been recorded by end-2015). Germany is sixth in terms of the international exposures of the five main French banking groups, with outstanding loans of EUR 191.2 billion (6.4% of total international exposures). Outstanding loans by the five main French banking groups to Portugal amounted to EUR 13.6 billion in H1 2016, putting Portugal at 30th in the list of international exposures.

• Risk 2: impact on stock market valuations and ability to raise capital

The difficulties of the European banking sector affect French banks through a lack of investor discrimination rather than because of internal weaknesses, and this impact is chiefly felt through the equity markets. While the CAC 40 index has slightly outperformed the Euro Stoxx 50 since 2008, the stock prices of the three largest French banks have remained at lower levels, albeit beating the Euro Stoxx Banks average. From



early 2016 onwards, market valuations in the French banking sector underwent corrections reflecting investor concerns over sector profitability and the consequences of the UK's Brexit vote. After end-July 2016, though, prices recovered.

The difference between the cost of equity (CoE) and the book return on equity (RoE) offers a way to compare the profitability required by shareholders with banks' actual profitability. If a bank's RoE is low relative to the return required by shareholders, this reflects the bank's difficulty in obtaining low-cost equity financing on financial markets. If a bank's profitability is insufficient relative to the investment risk, the price of its stock will decline as equities are sold until the return required by shareholders is attained. This makes it hard for banks with low profitability to raise capital.

The cost of equity (CoE) of French banks varied considerably over the 2006-2015 period. It was at its

lowest in June 2006 before the crisis, and peaked in 2008 after the Lehman bankruptcy and again in 2012 during the euro area sovereign debt crisis. By the end of 2015, the CoE of euro area banks had normalised relative to the pre-crisis period, reaching between 8.5% and 10% depending on the bank. More recently, in H1 2016, the CoE of French banks started heading up again. A significant share of this increase was due to the outcome of the UK referendum, which disrupted the stock prices of European – including French – banks. This wide gap makes it harder for banks to issue capital. For the time being, French banks are continuing to bolster their solvency by retaining earnings.

d. Adjustments to business models

French banks are already in the process of adjusting their business models to cope with the significant challenges that they face. They are taking a variety of routes in this regard.

Cut costs

French banks are already working on cost-cutting plans based around trimming headcount and closing branches: following a 0.9% reduction in 2014, the headcount of French banks decreased by 0.6% in 2015⁶ to 371,600 jobs. These cost reductions form part of broader changes to the business models of French banks, which are looking to develop multi-channel offerings that combine the traditional physical presence provided by branches with online, mobile and other remote customer relations. This shift has been prompted by declining branch traffic in some banking networks.

Although beneficial in the long run, this process takes time and is costly in the short term: the cost reductions contained in the plans have been overshadowed thus far by the associated expenditures. The cost-cutting process may prompt banks to step up their use of outsourcing or to relocate activities, especially IT-related activities. Banks must not allow this to impair their ability to monitor and manage risks, particularly those relating to cyber security.

Boost earnings

In a setting of low rates and weak growth, the net interest margin generated by retail banking, which is a traditional source of income for French banks, is under pressure. As a result, banks are trying to boost their earnings through fees and commissions and to diversify into businesses other than retail banking.

There are questions over the resilience and growth potential of income from fees and commissions in the current climate: on the one hand, the ability to generate fees and commissions depends partly on net interest margin dynamics, while on the other, banks are exposed to competition from fintechs across a growing number of areas, which limits the room to grow this income source. Moreover, some fees and commissions are regulated, capped or imposed by competitive pressures, limiting their upside potential.

Banks are also looking to diversify into areas outside retail banking, including specialised financial services such as auto leasing and insurance. These businesses may be more profitable than retail banking, but do not have sufficient growth potential to offset possible long-term weakness in retail banking.

• Increase size

European banks can increase their size, notably through mergers and acquisitions, to grow their earnings and lower costs through economies of scale. Concentration would

6 Source: French Banking Federation (FBF). Scope includes AFB member banks and mutual banks.

be a response to overcapacity in the European banking system and would be especially beneficial in countries with fragmented banking sectors. Despite the trend towards concentration in the European banking sector over the last decade, some countries still have room for manoeuvre in this regard. At end-2015, market concentration, as measured by the market share of the five largest banks, revealed that the banking systems of some of the largest countries, including Germany, Italy and, to a lesser extent, Spain, were particularly fragmented, featuring large savings and cooperative banking sectors.

France's banking sector is already highly concentrated: on a consolidated basis, the French banking sector is concentrated around six major groups that account for 83% of the sector's total assets. Furthermore, the regulatory requirements for systemically important institutions are a disincentive for the emergence and development of too-bigto-fail banks. In addition, current market sentiment is not supportive of mergers and acquisitions.

Conversely, French banks are continuing to sell off non-strategic businesses, which is enabling them to improve profitability and solvency in the short run. They are refocusing on core activities to rationalise their costs and regulatory requirements. Concerns in relation to some sector risks (oil and gas for example) are also encouraging them to scale back exposure to these risks in favour of other exposures (to SMEs or residential real estate for example) that they deem less risky.

Invest in digital

In their strategic planning, French banks have identified digital technology as a central focus of development (cf. Part 3.3). This strategic priority is driven by the need to adapt to competition from firms offering digital financial services (fintechs), as well as by efforts to improve efficiency and better meet customer needs. Banks are taking three approaches to investing in these new technologies: (i) setting up in-house research facilities to develop their own technologies, (ii) acquiring fintechs and (iii) establishing partnerships with fintechs.

However, the development of new technologies, such as blockchain⁷, may generate new risks, especially from an operational perspective. These are recent technologies and have yet to prove their ability to withstand cyber attacks.

The effects of these business-model adjustments are not yet visible, especially on costto-income ratios, insofar as these earnings remain curtailed by unfavourable market conditions. Even so, these adjustments are vital if banks are to meet the challenges facing them and ensure their long-term viability.

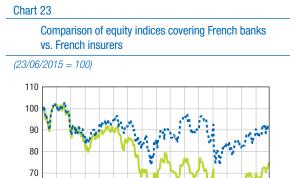
RISKS FOR INSURANCE COMPANIES

Comparison of market indicators for banks and insurance companies

French banks and insurers alike face the same structural challenges of low interest rates, stiffer competition from fintechs and mounting regulatory constraints. However, a comparative reading of equity indices covering banks and insurers suggests that investors are more concerned about the banking sector than about insurers. What is more, a RoE analysis appears to show that life insurers are bearing up better in terms of profitability in the current environment than the banking sector. Yet comparisons have to be treated with care because sector indices ignore ownership ties between the two sectors. Also, a reading of market valuations and RoEs of insurance companies suggests that, in the eyes of market analysts, the new regulatory restrictions do not weigh as heavily on the

⁷ Blockchain is a technology used to store and transmit information without a central control system.

balance sheets of insurers compared with what has been seen in banking. That said, the banking sector's significant push to strengthen equity since 2008 offers assurance of improved resilience for banks.



60 50 40 Aug. Aug. Oct. Feb. Jun. Jun. Apr. Equity index, French banks Equity index, French insurers

Source: Bloomberg.

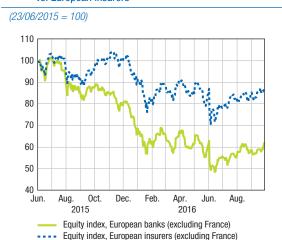
French banks: equally weighted index comprising Natixis, Crédit Agricole, BNPP, Société Générale (KN FP Equity, ACA FP Equity, BNP FP Equity, GLE FP Equity); French Insurers: equally weighted index comprising AXA and CNP (CS FP Equity, CNP FP Equity).

While life insurers are standing up to this environment for now, they do face a medium-term challenge in the shape of the asset/liability equilibrium, which is extremely sensitive to the level and slope of the yield

To better equip the regulator to deal with the systemic risks posed by insurance companies, France's Parliament adopted the Sapin II Bill on Transparency, Anti-Corruption and Economic Modernisation on 8 November 2016. Among the main provisions contained in the bill is the possibility for the HCSF, acting on a proposal by the Governor of the Banque de France, to limit or temporarily block redemptions of life insurance policies. The HCSF may also regulate the returns on non-unit linked funds paid by insurers by forcing insurers to set aside some of the interest earned over the year. These powers, which should be exercised only "in grave and exceptional circumstances threatening financial stability" are needed because persistently low interest rates in Europe could threaten the soundness of insurers, particularly life insurance companies.



Comparison of equity indices covering European banks vs. European insurers



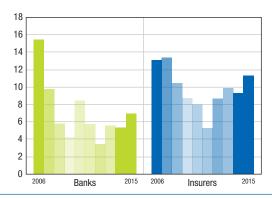
Source: Bloomberg.

European insurers not including France: equally weighted index comprising Generali, Aviva, Allianz, AlG, Prudential (G IM Equity, AV/ LN Equity, ALV GR EQUITY, AIG US Equity, PRU LN Equity).

Chart 25

RoE of French banks and French insurers

EUR billions and % of monthly output



Source: SNL, ACPR.

Note: In the case of banks, RoE measures the firm's ability to generate profits from its equity alone. It is based on the relationship between net profit and equity. The RoE of insurers is calculated by dividing the year's net earnings by equity. The sample is made up of the 12 main life insurers (Allianz Vie. Assurance du Crédit Mutuel Vie SA. Aviva Vie. AXA France Vie. Cardif Assurance Vie, CNP Assurances, Generali Vie, Groupama Gan Vie, La Mondiale, Natixis Assurances, Prédica and Sogecap).

b. Insurers' vulnerabilities and adjustments

Portfolio developments on the liability side

Since 2007, insurers have steadily reduced the rates paid to holders of non-unit linked funds as ten-year bond yields and inflation have fallen. However, this decline has been outpaced by that recorded by ten-year French government bonds. The relatively smaller size of the reduction in rates paid out may be attributable to heavy competitive pressure from insurers selling guaranteed rate policies, but also to the nature of the policies held in insurers' portfolios: older policies may have high technical rates or specific contractual clauses entitling policyholders to a share of profits that exceeds the regulatory minimum.

To protect themselves, French life insurers have tried to adjust by renegotiating policies where possible and encouraging customers to take out unit-linked policies, which do not offer capital protection. Strong growth in inflows to these types of policies in 2015, when they captured 52% of net inflows (a 91% increase) contrasts with the 23% downturn in inflows to non-unit linked policies. This trend continued throughout 2016. Policyholders seem ready to accept more risk to obtain a superior return on their savings. It should be noted in this regard that insurers, in seeking to grow this type of product, may not neglect their duty to provide proper advice. To support the growth of products that transfer risk to policyholders, insurers are reviewing their pricing and fee policies (putting up management fees for non-unit linked policies, even going so far as to offer guaranteed rates of zero on capital after fees).

To further enhance their resilience, insurers have increased their profit-sharing reserves since 2012, which allows them to distribute profits over an eight-year period, and since 2015, gross provisions have exceeded withdrawals. Moreover, there has been a slight decline in technical interest, which may also be the result of efforts by insurers to renegotiate older contracts with higher technical interest rates.

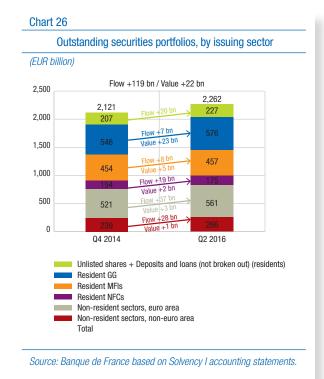
Portfolio developments on the asset side

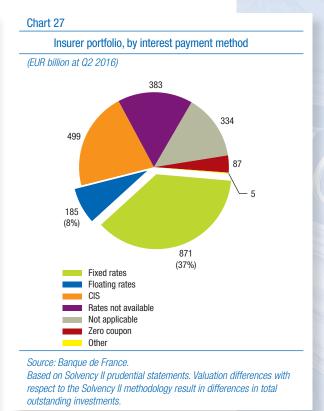
The make-up of the asset portfolio of life insurers is playing a part in how these firms are bearing up in the low rate environment. Between end-2014 and mid-2015, the total outstanding investments of insurance companies increased by 7% thanks to a net inflow of EUR 119 billion (85% of the increase in outstandings) and a valuation effect of EUR 22 billion (the remaining 15% of the increase) that was mainly attributable to resident general government (GG) securities held in the portfolio (Chart 26).

Substantial investment flows were recorded for securities issued by non-residents (EUR 65 billion, or 54% of the overall increase in flows) and resident NFCs (EUR 19 billion, or 16% of total flows). The breakdown of investments reflects insurer strategies geared around reallocating portfolios to riskier assets.

Finally, the return on assets has held steady over the last four years at around 3.4%, but since 2013 a growing share has been attributable to realised capital gains whereas investment income has fallen slightly over the same period.

A return by inflation to the euro area would lead to a decline in the valuation of fixed rate securities held by insurers, which amounted to EUR 871 billion in Q2 2016 (37% of their portfolio). Conversely, floating rate bonds (making up 8% of insurers' assets, or EUR 185 billion), whose coupons replicate market variations, would be unaffected (Chart 27).





The 21% in CIS securities held by insurers (EUR 499 billion), which are partly invested in fixed rate bonds, would also be impacted by an increase in the general price level.

In this regard, it is instructive to consider the experience of life insurers in Japan, which have been coping with low interest rates for longer than their counterparts in France. The strategy pursed by Japanese insurers in their hunt for yield has seen them diversify heavily into foreign currencies, particularly dollars, which resulted in the emergence of new risks (Box 7: The Japanese experience).

3.3 Risks linked to the digital revolution

As the pace quickens in the digital transformation of the corporate world and in technological innovations in the finance sector⁸, financial institutions need to take account of the impact of the digital revolution on their income, business models and strategies. Fintechs are challenging some or all of the value chains of established players.

Banks and insurers, which often rely on an integrated model (from customer relations to product design and risk management), are facing (i) swift changes in how people consume financial services⁹, (ii) the arrival of new players known as fintechs that are selling innovative or at least more competitive products and services, resulting sometimes in value destruction (falling prices), and (iii) stiff competition among established French firms – but also foreign firms, thanks to European passporting arrangements – as they seek to capture a customer base that is unquestionably less loyal and potentially more demanding, especially in terms of responsiveness.

In France, competition from fintechs is taking shape with the establishment of new players in France but also through the arrival of European firms doing business

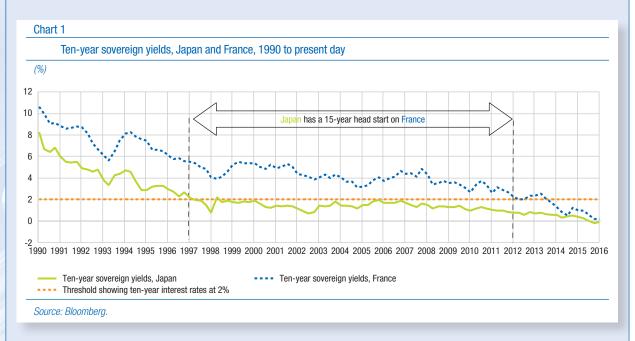
⁸ Including new means of payment, such as mobile payments, distributed ledger technologies, increasingly sophisticated algorithms. etc.

⁹ Dwindling traffic in bank branches, growing use of mobile phones.

Box 7

The Japanese experience

Life insurers in Japan have been coping with low interest rates for longer than their counterparts in France. In 2012, ten-year sovereign yields in France reached the level observed for Japanese ten-year sovereign yields in 1997¹. Japan's insurers therefore provide a leading indicator, as firms that have been contending with low rates for a prolonged period (Chart 1).



A comparative analysis of Japanese and French insurers' asset allocations highlights the risks that these institutions face.

An initial finding is that Japanese insurers have a riskier profile on average than French insurers, since the share of equities in their portfolios and the share of direct loans to financial and non-financial entities are significantly higher in Japan, at the expense of bonds, especially Japanese domestic sovereign bonds².

A second finding relates to issuance jurisdiction. Japanese insurers strongly prefer non-Japanese sovereign debt and equities in foreign currencies for the most part. Consequently, they have to protect themselves against currency risk

- 1 For more information, see "Défaillances dans le secteur de l'assurance vie au Japon dans les décennies 1990 et 2000", ACPR, Analyses et Synthèses, May 2014 (in French).
- 2 The share of "Other assets" in the assets of French life and mixed insurers at end-June 2016 is markedly higher than the share of such assets among Japanese life insurers. Under Solvency II reporting arrangements, these assets are partly made up of CIS units to which the look-through approach could not be applied based on the data submitted by life and mixed insurers. However, we do not feel that full application of the look-through approach would be likely to change the original assessment. If we compare with the data at end-2014, the asset composition of the average portfolio of French life and mixed insurers is as follows: 72.9% debt securities, 11.6% equities, 6.9% CIS before application of the look-through approach, 8.6% other assets (cf. Banque de France Quarterly Selection of Articles Autumn 2015, Insurance undertakings in France: investments in 2014).

under European passports. The emergence of these new players was made possible by new regulations, including the First Payment Services Directive (2007), the Second Electronic Money Directive (2009) and France's Executive Order on Crowdfunding (2014). The digital revolution has also spurred greater competition between established firms in a setting where banking mobility is being accentuated by the increased ability of consumers to compare financial providers (through online brokers or comparison services) and by legislative and regulatory initiatives. All financial businesses, from payments and financing to savings, insurance and asset management, are affected by these developments, although the payments sector is seeing the most pronounced changes. For now, fintechs still occupy a marginal place in the financial ecosystem, but they are growing fast in emerging economies, where use of banking services is traditionally

Table 1			
Composition of the assets of Japanese life insurers (July 2016)			
In EUR billion ⁽¹⁾	Assets		
Cash and cash equivalents	60	2.0%	
Short-term money market investments	65	2.2%	
Japanese sovereign debt securities	118	3.9%	
Other sovereign debt securities	1,271	42.5%	
Corporate debt securities	224	7.5%	
Loans to financial entities	276	9.2%	
Other loans	26	0.9%	
Japanese equities	103	3.4%	
Foreign equities	670	22.4%	
Other equities	126	4.2%	
Other assets	54	1.8%	
TOTAL	2,993	100%	

Source: Japan Life Association.

Note: EUR/JPY exchange rate = 114.536 at 31 July 2016.

Table 2		
Composition of the assets of French life and mixed insurers (June 2016)		
In EUR billion	Assets	
Cash and cash equivalents	48	2.1%
Short-term money market investments	87	3.9%
French sovereign debt securities	418	18.7%
Euro area sovereign debt securities (excl. France)	192	8.6%
Japanese sovereign debt securities	1	0.0%
Other sovereign debt securities	106	4.7%
Corporate debt securities	736	33.0%
Loans to financial entities	11	0.5%
Other loans	14	0.6%
French equities	141	6.3%
Euro area equities (excl. France)	49	2.2%
Japanese equities	6	0.3%
Foreign equities	46	2.0%
Other equities	3	0.1%
Other assets	372	17.0%
TOTAL	2,230	100%

Source: ACPR - Solvency II prudential data - Q2 2016.

by establishing appropriate hedging strategies, with partial hedges for capital in the case of sovereign fixed income securities, full hedges for capital and interest in the case of corporate debt securities (through cross currency swap instruments), and full hedging of currency risk for equities in foreign currencies where the aim is to capture the performance of the underlying equities without contamination from currency risk fluctuations.

Table 2

Conversely, French insurers have been characterised in recent years by a heavy domestic emphasis in terms of their investments in sovereign bonds. Solvency II supports this bias at European level, since a zero charge is applied to sovereign securities from the European Union when determining capital requirements under the standard formula. This favourable treatment is further enhanced by the lack of currency risk.

It is similarly interesting to note the difference in allocations of corporate debt securities. Since last year, French insurers have upped their investments in corporate bonds, while Japanese insurers steer a small portion of their investments to this type of product (just 7% compared with 33% in France).

Ultimately, the low rate environment has encouraged Japanese insurers to modify their asset allocation to remain resilient. Differences with French insurers cannot be explained solely by a lag in the low rate environment: the nature of the liabilities to be hedged (which also changes in a low rate environment), market practices and regulations are all among the factors that may influence insurers' decisions.

less widespread. Further out, tech firms with substantial financial resources, such as telecom companies and internet giants like Google, Apple, Facebook and Amazon, may increase the competition in financial services and further accelerate the sector's digital transformation.

- The digital revolution presents opportunities:
- for the stability of the financial sector, owing to the enhanced resilience that could result from the processes introduced as information systems are overhauled, the possibilities for more effective use of data, particularly big data, in risk management systems, and the implementation of new RegTech solutions that enable improved compliance with regulatory requirements, for example in the prevention of fraud, money laundering and terrorist financing;
- for consumers, through the overall increase in the quality of financial goods and services and lower prices;
- for financial institutions insofar as the digital transformation could ultimately lead to reduced operating costs. However, this will require major investments to be made first.
- The digital revolution raises new regulatory challenges and generates new risks in terms of financial stability

These new risks affect institutions individually as well as the financial sector as a whole. Institutions without an overall long-run strategy to keep step with the digital revolution could see the sustainability of their business model come under threat.

In the case of established financial players, these innovations are putting an additional squeeze on the profitability of firms that are already struggling in the persistent low rate environment. The digital revolution has put severe pressure on profitability in several businesses areas, including French and international retail banking, private banking, asset management and insurance. This new competition could exert downward pressure on prices and particularly on fees and commissions, i.e. income sources that could otherwise act as alternative growth drivers in the low rate setting.

The digital transformation of business models also poses strategic, operational and workforce-related risks. Financial firms everywhere are integrating digitisation into their medium-term strategic plans and most are proposing to develop multi-channel (branch, internet, mobile phone) distribution networks while recentring their strategies around customer relations. However, these changes are being accompanied by huge organisational upheaval within companies (affecting HR processes, for example, or the approaches used to collaborate with external partners) and by major financial investments, particularly in IT systems.

This is because financial firms making the digital transformation are impaired by high fixed costs linked to a legacy of less agile information systems and, in the case of retail banking activities, by the fact that their branch networks are inadequately equipped to go digital. These organisational disruptions may generate operational risks. Digitisation is forcing institutions to strike a balance between the security and resilience of their information systems in an environment of increased cyber-risk, on the one hand, and the need for more flexible and adaptive structures, on the other¹⁰.

With the digital transformation, firms also need to consider their strategic positioning in the financial ecosystem (customer relations, product design, risk management, and so forth). These developments have implications for financial stability, because despite the efficiency gains and improved accessibility of financial products and services, the digital revolution could lead to increased concentration risk should a new entrant obtain a dominant position in a particular sub-sector or area of activity. In addition, while the changes taking place in the financial sector are noteworthy for the speed with which they

10 Use of cloud computing.

Risks for financial institutions

are spreading, the dematerialisation that they bring and their international mobility, the digital transformation of the financial sector is also promoting the emergence of new entities that might operate outside or on the fringes of supervision.

Accordingly, financial institutions, regulators and supervisors alike need to adapt to the digital revolution that is accompanying the emergence of fintechs, and get to grips with certain issues that are becoming more prominent with the arrival of these new players, such as the automation of financial processes and services and increasing use of calculation algorithms. A regulatory and supervisory framework needs to be established that will enable every participant to conduct its own digital transformation and continue to innovate, while simultaneously maintaining a high level of security, consumer protection and financial stability.

4 Risks for financial markets

While global financial markets have demonstrated real resilience, displaying only limited systemic pressures, the risks of a correction on international capital markets appear to be mounting, in the light of growing policy uncertainty and developments in the monetary policies of the main central banks.

Financial markets in advanced countries took just a few weeks to absorb the shock generated by the outcome of the June referendum on the UK's exit from the European Union and were soon back to normal relative to their medium-term trend. The results of the US elections had a minor impact on equity and corporate markets, which are now waiting for the first measures from the new administration to gauge the future direction of the US economy.

In the shorter term, the markets are expecting US policy rates to be hiked in December, consistent with signals from members of the FOMC during the final weeks of November. This is in contrast with most of the other central banks of advanced economies, which are maintaining accommodative policies.

Equity markets are generally flat in the euro area, steady at record highs in the US and exhibiting a slight recovery in Japan. This market segment continues to be supported by an upturn on the credit market on the back of higher commodity prices, firmer than expected economic data overall, low interest rates, and brighter growth prospects compared with the start of the year (particularly in the USA).

Sovereign bond markets continue to feature high valuations, with interest rates at low or even negative levels. The outstanding stock of negative-yielding sovereign bonds is however down compared with its peak in summer 2016, across all jurisdictions. In Italy, vulnerabilities within the banking sector and the risk arising from the referendum on 4 December pushed sovereign yields up. The renewed correlation between European and US yield curves may offer another explanation for why interest rates went up in the euro area after the US elections.

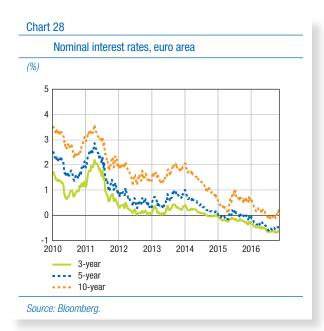
Corporate bond markets in advanced economies benefited throughout 2016 from sustained demand, which was amplified by accommodative monetary policies (particularly in the euro area).

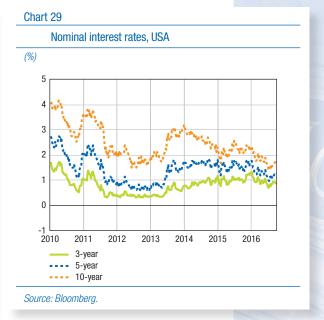
High valuations in most market segments, combined with increased correlation between European and US yield curves, raise questions about the potential risk of overvaluation on financial markets.

4.1 RISKS LINKED TO ASSET VALUATION

- a. Correlation between US and European yield curves
- After the decoupling of the two monetary areas in 2014, US and euro area yields have exhibited similar movements in the more recent period.

Sovereign bond yields in the USA and Europe are able to move in opposite directions (Chart 28 and Chart 29). Between January and December 2014, yields on three-year government bonds rose by approximately 40 basis points (bps) in the USA whereas they fell by approximately 30 bps in the euro area. During the same period, five-year yields were stable in America but declined by around 90 bps in the euro area. The downward and flattening movements seen on euro area yield curves in 2014 were not apparent in the USA, where flattening at the long end (beyond five years) was accompanied by higher yields at the short end.





The 2014 decoupling phenomenon reflected cyclical mismatches and opposite expectations on the future direction of monetary policies. Amid an economic recovery, the announcement of a tapering by the Federal Reserve in December 2013 contributed to higher rates in the USA. Meanwhile, weaker expectations on growth and inflation in the euro area, combined with more accommodative monetary policy with the use of non-standard policy tools (i.e. a liquidity provision programme conditional on supply of bank credit¹ and the first asset purchase programmes²), helped to bring down interest rates in the euro area. The ECB's new policy measures therefore contained the impact of higher interest rates in the USA, which could have led through a knock-on effect to a premature increase in euro area rates, given the positioning in the cycle.

• Over the recent period, the correlation between movements in US and euro area long-term interest rates has increased

Since July 2016, the correlation between long-term interest rates in the USA and the euro area has increased. The coefficient for the three-month correlation between weekly changes in US and German sovereign bonds at the ten- and thirty-year maturities has exceeded 90% over the recent period (Chart 31), compared with a long-run average of closer to 77% (2010-2016, Chart 30). The increased correlation between sovereign yields in the two monetary areas cannot be immediately explained by monetary policy stances, since the FOMC began tightening policy in December 2015 even as the ECB stepped up its accommodative stance, notably by raising monthly asset purchases to EUR 80 billion in April 2016.

Other factors may account for the increased correlation, including increasing investor interest in risk-free assets during spikes of volatility on financial markets, such as the period surrounding the UK's Brexit referendum on 23 June 2016. The correlation between long rates in the USA and the euro area should however decrease if policy divergence is confirmed at the monetary policy meetings held at the end of the year. The depreciation trend on US and euro area bond markets in the wake of the US election suggests that positive and substantial correlations persist, particularly on the long end, which are partly independent of the short-term rates set by central banks. However, the overall increase in yields varied across domestic markets, especially in the aftermath

¹ Targeted Long Term Refinancing Operations (TLTROs).

² Asset Backed Securities Purchase Programme (ABSPP) and Covered Bond Purchase Programme (CBPP).



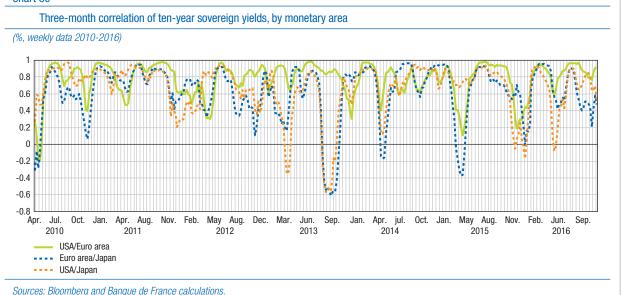
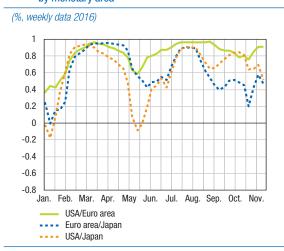


Chart 31

Three-month correlation of ten-year sovereign yields, by monetary area



Source: Bloomberg and Banque de France calculations.

of the US elections, when yields did rise across the board in developed countries, but with significant differences across jurisdictions. In particular, sovereign yields in core euro area jurisdictions rose much more moderately than yields of peripheral countries.

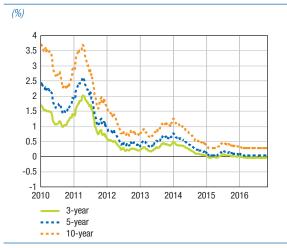
Further insight can be added when decomposing yields into a component reflecting expectations of future short-term interest rates and a term premium component³ (Chart 32 to Chart 35). Three-, five- and ten-year yields went up between July and October 2016 by approximately 20 to 26 bps in the USA and 2 to 27 bps in the euro area. In the USA, 50% to 60% of increased interest rates were attributable to higher inflation and growth expectations. Conversely, in the euro area, at least 80% of the increase was due to a higher term premia⁴. Higher yields from July were therefore due to improved economic fundamentals in the USA and the recognition by financial markets of greater risks based on higher rates in the euro area from July. The euro area higher interest rates environment

since July 2016 is not due so much to a better economic situation as to uncertainty surrounding the future path of monetary policy in the euro area, fuelled by market questions about the future of the Expanded Asset Purchase Programme (EAPP⁵) after March 2017. The Governing Council on 8 December 2016 confirmed that the EAPP would be maintained beyond that date, with a revised target for monthly purchase volumes of €60 billion from April 2017.

- 3 We use the ZARG method (Monfort, Pegoraro, Renne, and Rousselet, (2016), "Staying at zero with affine processes").
- 4 The term premium on fixed rate sovereign bonds is the return required by investors to hold securities exposed to interest rate risk in their portfolios.
- 5 The EAPP comprises the CBPP3, ABSPP, the Public Sector Purchase Programme (PSPP) and the Corporate Sector Purchase Programme (CSPP).



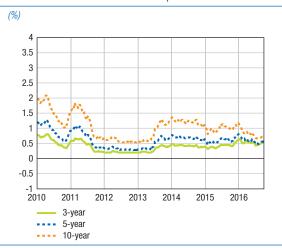
Decomposition of euro area long rates, "expected future short-term interest rates" component



Sources: Bloomberg and Banque de France.

Chart 33

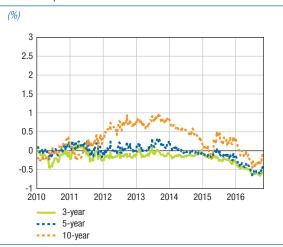
Decomposition of US long rates, "expected future short-term interest rates" component



Sources: Bloomberg and Banque de France.

Chart 34

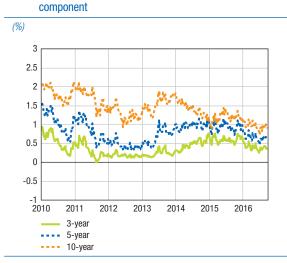
Decomposition of euro area long rates, "term premium" component



Sources: Bloomberg and Banque de France.

Chart 35

Decomposition of US long rates, "term premium"



Sources: Bloomberg and Banque de France.

Box 8

Eurosystem intervention on the credit market

On 10 March 2016, the ECB Governing Council announced that it was extending its purchase programmes to include euro-denominated investment grade corporate bonds issued by non-banks based in the euro area under the Corporate Sector Purchase Programme (CSPP). This programme, which got underway on 8 June 2016, supplements the three other existing purchase programmes (PSPP, CBPP3 and ABSPP). Transactions carried out under the CSPP were covered by the initial quantitative monthly target of EUR 60 billion, which was later raised to EUR 80 billion between April 2016 and April 2017. The programme strengthens the pass-through of conventional monetary policy measures to the real economy by contributing directly to improving the financing conditions of companies based in the euro area. The Banque de France is part of a group of six national central banks (BE, DE, ES, FI, FR and IT) in charge of carrying out this programme and purchases the securities of eligible French corporate issuers.

To be eligible, securities must have a remaining maturity of between six months and 30 years, and be issued by non-banking sector companies (although insurers are eligible) with an investment grade rating. Securities must be eligible as collateral for monetary policy and have a higher return than that on the deposit facility (i.e. -0.40%, although this requirement was lifted by the Governing Council on 8 December 2016). The maximum issue share limit for securities issued by private companies is set at 70% (in general it stands at 33% for securities issued by public undertakings, consistent with the framework established for the PSPP).

By 15 November 2016, the Eurosystem had acquired around EUR 30 billion in corporate bonds, more than market participants had expected, raising questions about the sustainability of the trend towards narrower credit spreads and the relative valuation of the credit universe.

b. Impact and effectiveness of the CSPP

Risk premia are down in the credit universe, and particularly, although not exclusively, among eligible securities. The Iboxx Corporate Index, which tracks corporate bonds, went from 140 bps in early March 2016 to 80 bps in August (Chart 36) and has remained around that level since. Within the credit universe, the decline in yields is more pronounced for eligible securities, reflecting the effect of Eurosystem purchases. Accordingly, the CDS Itraxx Main Index, which comprises CDS of investment grade companies, is now persistently lower than the Senior Financials Index (CDS on the senior debt of financial companies), whereas the two indices were on a par with each other before March 2016 (Chart 37).

That being said, spreads for the Itraxx Senior Financials Index and for high-yield securities (which are both ineligible) have fallen as well since March 2016, thus benefiting indirectly from the CSPP. This decrease could signal the start of a portfolio recomposition or rotation effect.

Since April 2016, the basis, i.e. the difference between CDS and bond spreads, has widened, meaning that the increase in corporate bond asset swap spreads exceeded the narrowing of CDS, in a movement that may be attributed to the announcement of the CSPP programme, with purchases taking place on the bond market, not the CDS market. Since April, CDS and credit spreads alike have continued to fall, with the basis fluctuating between 15 and 35 bps.

The CSPP effect is visible not just on prices but also on issuance volumes: between the beginning of 2016 and the start of November, issuance of European investment grade debt totalled EUR 252 billion and could exceed EUR 280 billion by the end of 2016, beating the record set in 2009 (EUR 253 billion). Despite this, companies did not struggle to find investors, because average bid-to-cover ratios for each issue rose from 2.8 to 3.7 between March and October, with issue premia down.

• Is the credit universe overvalued?

Price movements in corporate bonds could point at first glance to overvaluation of securities qualifying for the CSPP. An initial sign of pressure is **the presence of negative-yielding corporate securities**, which account for a significant share of the eligible universe (approximately 10% in the euro area at 09/11/2016). Moreover, an analysis of Sharpe ratios⁶ shows that investment grade bonds largely outperformed shares in 2016 (Chart 38). This outperformance may be partly seen as a catch-up following the strong performance by equities in 2015.

⁶ Comparison of risk-adjusted returns for different asset classes. A negative Sharpe ratio, such as that seen for equities in 2016, indicates that the class is underperforming a risk-free investment, while a ratio of more than one, such as that exhibited for corporate bonds in 2016, shows that the class outperformed a risk-free investment.





Chart 38 Total return, volatility and Sharpe ratio, by asset class 2014 2015 2016 30.00 25.00 20.00 15.00 10.00 5.00 0.00 -5.00 -10.00 -15.00 Annualised Volatility Volatility Sharpe ratio Annualised Sharpe ratio Annualised Volatility Sharpe ratio total return (rolling total return (rolling total return (rolling 50-day over 50-day over 50-day over 12 months) 12 months) 12 months) Financials credit Sovereigns Non-financials, credit Financials, equities **Equities** Source: Bloomberg.

In 2017, the euro area credit market is likely to be extensively shaped by the conduct of Eurosystem monetary policy. Issuers expecting the Eurosystem to phase out its quantitative easing policy might decide to bring their financing programmes forward to take advantage of financing conditions, which remain attractive for now. Similarly, "reverse Yankee" issues will depend heavily on discussions about the future path of euro area monetary policy.

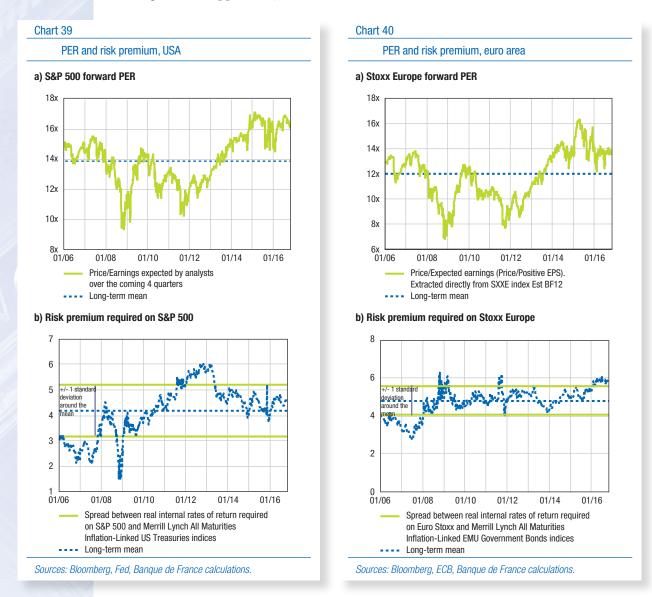
Stretched valuations c.

After a few bouts of volatility linked to the UK referendum and the outcome of the US elections, equity markets reverted to trend: high valuations in the USA, flatter performances in Europe and a mild recovery in Japan.

End investors remain divided on the valuation of US equity markets (Chart 39). PERs are still high, possibly indicating overvaluation, but risk premia suggest that the US

⁷ Financing in EUR by US issuers.

market is balanced while the European equity market might be undervalued (Chart 40). There is consensus about potential growth on equity markets provided that earnings growth is supported by favourable macroeconomic conditions.



Private bond markets are at high levels in value terms, supported by yields, which have been automatically reduced by the low interest rate and credit spread environment, reduced default rates across all sectors and, in Europe, the latest measures contained in the ECB's private sector bond purchase programmes (Box 8). Accordingly, these markets look to be overinvested, against the backdrop of a hunt for yield, in a trend spanning the entire corporate curve, creating duration risks for unhedged portfolios.

Several factors could trigger a market reversal, including unexpected monetary policy developments, a turnaround in economic conditions, which could make companies less able to repay their debts, or a change in behaviour among the final holders of corporate debt, who might engage in herd behaviour and offload these assets in an illiquid and structurally directional market. However, purchasing pressure on NFC debt securities is unlikely to ease in the short term amid a hunt for yield in which corporate bonds are a rare stable source of income (except in the event of a default) for market participants. While a severe market reversal does not look to be the central scenario in the

short run, it does represent a risk that needs to be monitored.

On a related note, there is also evidence of "volatility in the volatility" of equity markets as illustrated by the VIX index, which has exhibited erratic and violent swings over short spurts during recent events (Brexit, US election). Even if average market volatility remains at historically low levels, these spikes point to nervousness among participants and could be accompanied by a shortage of liquidity in banking and trading books in connection with daily marking-to-market of derivative products and variation margin calls.

Chart 41 Volatility of US equity markets (VIX) 25 20 15 10 5 2012 2013 2014 2015 2016 — Indice VIX Source: Bloomberg.

4.2 RISKS LINKED TO ASSET MANAGEMENT ACTIVITIES

a. A sector that has been evolving since the crisis

Against a backdrop of increased diversification in financing sources, the asset management sector has experienced vigorous growth in assets under management (AUM) over the past decade, with total global AUM climbing from USD 50 trillion in 2004 to around USD 76 trillion in 2014⁸. Within the sector, assets in collective investment schemes have virtually doubled, rising from USD 20 trillion in 2006 to around USD 38 trillion at end-2015.

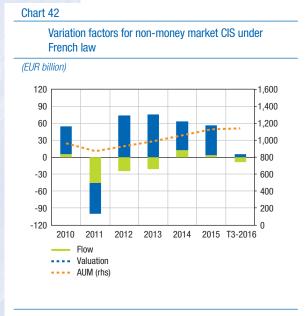
In France, AUM have increased sharply since 2009, swelling from EUR 2.816 trillion to EUR 3.472 trillion over the period, a 23% increase. This growth chiefly reflects valuation effects, since net investment flows were weak or even negative (Chart 42). A decomposition of the French industry, which accounts for 14% of euro area AUM, reveals that collective investment accounts for 55% of AUM (EUR 1.896 trillion) and discretionary management for 45% (EUR 1.562 trillion).

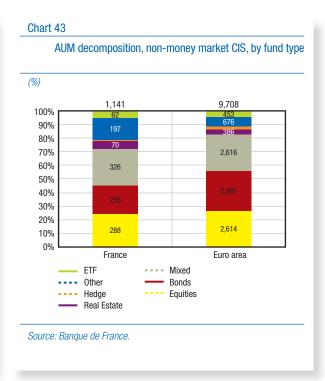
Several structural trends have emerged in asset management in recent years:

- The rise of passive investment, embodied particularly in strong growth for exchange-traded funds (ETFs)⁹, which saw AUM increase fivefold between 2008 and 2015 to stand at around EUR 2.520 trillion at end-2015, or 7% of global AUM in collective investment. ETFs domiciled in France accounted for 4% of AUM in collective investment, with EUR 64.3 billion in assets at end-2015.
- The hunt for yield in a persistently low rate environment. Illustrating this point, the credit quality of bonds held by European bond funds has fallen slightly since 2011. Holdings of bonds rated above A declined from 62% in mid-2011 to 44% at end-2015, while holdings of bonds rated below BBB increased from 39% to 55% over the same period.

⁸ Source: IMI

⁹ ETFs replicate a benchmark through a process of creating/destroying units, which may be performed at any time on the secondary market by authorised participants, who make sure that the ETF units do not stray too far from the value of the underlying assets.





Source: Banque de France.

Data for French non-money market CIS under French law, excluding mandates and CIS under foreign law.

b. The main vulnerabilities are liquidity and leverage risks

To appropriately analyse the risks involved in asset management, it is important to draw a distinction between risks that merely reflect investor behaviour, for which funds are simply a transmission channel, and those that result from asset management itself¹⁰. The question of whether the risks linked to investment funds have the capacity to trigger or amplify systemic risk remains a subject of debate.

Acting as agents for their clients without bearing the investment risk on their balance sheet, featuring wide variety in their characteristics and strategies and representing a weak source of systemic risk based on historical data¹¹, these participants do not seem, on the face of it, to require specific attention from a financial stability perspective. Yet this brief analysis does not fully tackle the question. For one thing, recent developments in the industry and economic environment could well have the effect of increasing the contribution of these funds to systemic risk. For another, several theoretical channels – three to be exact – can be identified through which funds may transmit and amplify risk¹²:

- 1. **Exposures/counterparties:** this pertains to the counterparty risk connected with the default of a fund or management company, which could affect other market participants through their exposures.
- 2. **Critical functions** (non-substitutability): this risk concerns a specific role that a participant may not be able to perform or may no longer wish to perform on a market.

¹⁰ Elliott, D., "Systemic Risk and the Asset Management Industry", The Brookings Institution, 2014.

¹¹ With the exception of hedge funds and money market funds. A famous case is that of the LTCM hedge fund, whose virtual collapse in 1998 posed a major risk to the international banking system and threw financial markets into turmoil (initial shareholders lost 90% of the value of their assets and the fund was recapitalised under the supervision of the NY Fed). This was a fund employing major leverage (in 1998, LTCM's leverage was over 25).

¹² FSB-IOSCO, 2nd consultative document — Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions, March 2015.

3. **Market** (liquidation of assets): this channel reflects the fact that a participant might have to liquidate its assets suddenly, exerting a negative impact on prices that could disrupt trading on certain markets¹³.

In this setting, the Financial Stability Board (FSB), an international regulatory body, has identified structural vulnerabilities from asset management activities, identifying liquidity and leverage risks as the two main concerns¹⁴.

Aside from risks linked to funds themselves, discussions are also looking at the risks linked to sector concentration and interconnectedness. According to Lipper data at Q3 2015, 10% of management companies are thought to account for around 85% of AUM in the euro area. This high level of concentration in the euro area is combined with an ownership structure in which banks make up 50% and insurers 10%. These ownership ties could potentially entail risks, whether in terms of contractual relations (credit lines, derivatives involving the parent company, etc.) or step-in risk¹⁵.

• Liquidity risk

A key vulnerability of asset management involves possible liquidity mismatches between assets and liabilities in open-ended funds, i.e. the difference between the ease and speed with which investors may redeem their units and the ease and speed with which portfolio assets can be sold. This mismatch creates a risk of runs linked to the presence of a first-mover advantage, which may affect price dynamics and cause spillover effects via financial markets or collateral.

Several indicators may be used to measure this liquidity risk. One covers maturity transformation by funds, which may be proxied by the ratio of long-term assets to total assets. This ratio is particularly high in the EU for bond funds (74% at end-2015, or more than twice the average ratio for investment funds, even if it has been falling steadily since 2008). The weighted average maturity of the assets of European bond funds tended to increase from end-2013, reaching 8.6 years at end-2015 (Chart 44).

Liquidity transformation is another potential indicator and may be estimated as the share of non-liquid assets in total assets. This metric reveals that real estate funds engage in the greatest liquidity transformation (71%), followed by bond funds (38%). This latter ratio is more than twice the average for investment funds, reflecting the low share of cash and short-term assets held by bond funds (Chart 45).

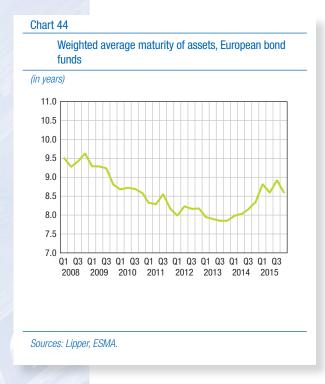
In Europe, liquidity risk management arrangements are governed chiefly by the UCITS and AIFM Directives. These directives include, among other things, a general obligation for managers to ensure that they are able to honour redemptions at all times. The UCITS Directive also requires funds to comply with certain investment ratios (diversification, concentration, issue share limit) and restrict investments in illiquid assets to 10% of the fund's net assets (referred to as the "trash" ratio). AIFMD's stipulations are less restrictive, but alternative funds whose assets exceed a given threshold must report on the fund's liquidity profile.

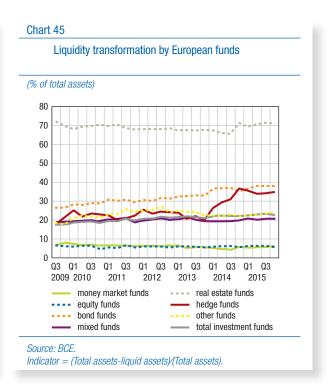
There are also several ex post liquidity management tools. These include cost-based tools that seek to internalise the liquidity cost of redemptions (swing pricing, redemption fees, etc.) with exiting investors and tools that restrict the quantity or quality of redemptions, such as gates and in-kind redemptions. The AMF has the power to order funds to gate redemptions.

¹³ Manconi et al (2012) find that during the 2007 financial crisis, investment funds sustaining losses on illiquid securitised assets sold corporate bonds, suggesting that these funds played a role in spreading the crisis from securitised bonds to corporate bonds.

¹⁴ FSB Consultative Document, Proposed Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities, 22 June 2016.

¹⁵ This notion stems from the practice of certain banks during the 2007-2008 financial crisis, when they "stepped in" to support financial sector entities despite being under no legal obligation to do so, in order to protect their reputation.





In practice, there are few actual case studies on the effectiveness of these tools in the event of large-scale redemptions. The fact that the presence and implementation of these tools is not harmonised across countries¹⁶, including within the EU, adds to the questions surrounding their effectiveness. There is also the issue of possible unforeseen and unwanted effects, such as preemptive runs¹⁷. These queries are a reminder of the importance of using such tools in conjunction with ex ante liquidity management tools and raise the question of combining macroprudential application of these tools with macro stress tests to refine the assessment of contagion scenarios.

Leverage risk

By using leverage, investment funds can increase their exposure to the market or generate additional returns. Leverage has the potential to amplify risk, since leveraged funds have greater exposure to risk and reduced capacity to absorb losses. Funds may obtain leverage either through debt, which is known as financial leverage, or by using derivatives or securities lending, when it is referred to as synthetic leverage.

Most European funds are subject to leverage restrictions under the UCITS and AIFM Directives: in terms of financial leverage, for example, UCITS may not borrow more than 10% of their assets, and then only on a temporary basis, and these sums may not be used for investment. Alternative investment funds (AIFs) are not subject to a cap on leverage as such, but additional transparency obligations kick in if their leverage exceeds 300% of net portfolio value¹⁸. International discussions led by the FSB are being conducted to obtain a consistent and uniform measure of leverage and risk indicators.

Because the magnifying role of leverage is closely linked to liquidity risk, it is useful to compare the level of financial leverage with the liquidity mismatch on fund balance sheets. This measure, which was performed in a recent AMF Risk and Trend Mapping (Chart 46), reveals that the level of financial leverage is relatively low among most funds. Special attention needs to be paid to bond funds, which are seeing increased leverage¹⁹

¹⁶ Liquidity Management Tools in Collective Investment Schemes: Results from an IOSCO Committee 5 survey to members, IOSCO 2015.

¹⁸ In the event of a risk to the stability and integrity of the financial system, the national supervisory authority may also limit the level of leverage that a manager may employ (Article 25, AIFMD).

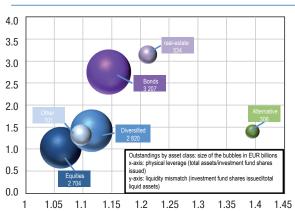
¹⁹ ESMA (2016), "Report on Trends, Risks and Vulnerabilities", No. 1.

coupled with a relatively large liquidity mismatch. In the case of funds domiciled in France, financial leverage is higher than that of the euro area average for diversified funds (1.25 compared with an average of 1.11 in the euro area), equity funds (1.18 compared with 1.06) and, to a less pronounced extent, bond funds (1.18 compared with 1.13). It is well below the euro area average in the case of real estate funds (1.01 compared with 1.20) (Chart 47).

In terms of synthetic leverage, use of derivatives by alternative funds in France amounted to EUR 126 billion in Q3 2015, or 20% of AIFs' AUM, according to the initial analyses of AIFMD data²⁰. These preliminary analyses of AIF portfolios also show that use of leverage by French funds appears to be highly concentrated with a handful of funds pursuing specific strategies.

Other risks: operational risk and risks linked to securities lending transactions

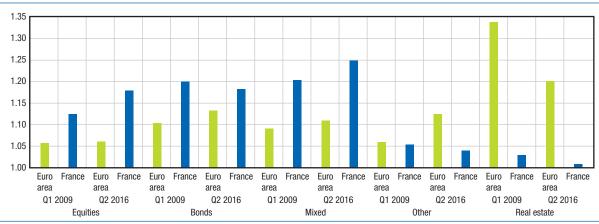




Source: AMF. Interpretation: the use of leverage by euro area bond funds is 1.14 and their liquidity mismatch is estimated at 2.76, for total assets under management of EUR 3,207 billion.

Among the other risks identified by the FSB are operational risk and risks linked to securities lending activities. Operational risk covers a variety of aspects, including potential difficulties in transferring client accounts and legal risk. Risks linked to securities lending activities, especially in situations where asset managers make indemnification commitments to their clients, are a departure from the traditional management paradigm as management companies take risk onto their own balance sheets.





Source: ECB.

Note: financial leverage is measured by dividing AUM by total assets (ESRB method).

4.3 Risks linked to financial market regulation

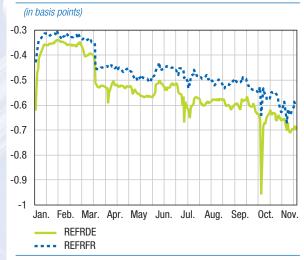
a. Impacts of regulatory reforms on the financial system

Recent trends on the collateral market

Post-crisis reforms have forced market participants to make significant use of high-quality collateral. Demand for highly liquid assets has intensified in recent years, as participants have sought either to establish margin with central counterparties (CCPs) or comply with Basel capital adequacy ratios. While a decline in the supply of collateral, i.e. a decrease in the volume of "risk-free" assets, is not clearly apparent today, attention is being paid to the velocity of collateral, i.e. the number of times it may be reused in a given period. In Europe, risks relating to the interconnectedness, leverage and procyclicality of reuse of securities are governed by sector-specific regulations²¹. The Securities Financing Transactions Regulation (SFTR), which came into force in November 2015, sets out the conditions for reuse and introduced a requirement from 2018 to report transactions to trade repositories (TRs).

Chart 48

French and German RepoFunds rates



Source: Bloomberg.

Price indices based on trades executed as part of securities lending activities on Brokertec and MTS, two electronic platforms. All eligible securities are centrally cleared. The REFRDE index comprises German sovereign securities exclusively, while the REFRFR index is made up exclusively of French sovereign securities.

Increased demand for highly liquid assets has pushed up the price of collateral in the euro area, with a portion of the core countries trading at well below or close to the deposit facility rate (between -0.50% and -0.70%) and peripheral countries trading at the deposit facility rate (-0.40%), especially at the quarter-end (Chart 48). An increasing share of securities is trading at extremely high prices, especially "special" securities in Germany. In France, Agence France Trésor tap issues are preventing a shortage of securities on the repo market. These trading levels are encouraging short-term sovereign yields, particularly in Germany, to become disconnected from the deposit facility.

At the same time, since April 2015, sovereign securities gathered under the ECB's PSPP and CSPP programmes have been eligible for decentralised securities lending by Eurosystem national central banks (NCBs). These securities are mostly provided to market participants with market making operations, and lending transactions may be bilateral or conducted on existing centralised infrastructures. As a result, the high level of surplus liquidity lessens the appeal of the repo instrument as a natural way to raise funds on

the markets, making it harder to determine the correctness of the equilibrium level of Eonia/general collateral²² spread as a function of the excess level of liquidity.

• Regulating the risks posed by CCPs

Central counterparties (CCPs) have well weathered recent crises. Their fundamental role in managing financial risk was promoted by the G20 in 2009 with the introduction of the obligation to clear derivatives and measures to increase transparency in these markets. CCPs have become critical, systemically-important entities, because they manage counterparty risk whether transactions are negotiated on regulated markets or directly between participants.

²¹ Collateral Directive, MiFID 2 for investment firms, AIFM and UCITS for collective investment schemes, EMIR for CCPs.

²² Unlike "special" securities identified by their ISIN, general collateral (GC) securities refer on the repo market to a bulk basket of securities corresponding to a given asset class.

The principles issued in 2012 by the Committee on Payments and Market Infrastructures and the International Organization of Securities Commissions (CPMI-IOSCO) were transposed for CCPs and TRs in Europe via EMIR. Internationally, regulators have begun work to make CCPs even more robust and resilient. On 16 August 2016, two consultation papers were published by CPMI-IOSCO and the FSB respectively²³. The purpose of these papers was to explain at a more granular level the requirements of the principles for financial market infrastructures (PFMI) in terms of managing the financial risks of CCPs (establishment and management of default funds, characteristics of stress tests linked to credit risk and liquidity risk, management of margins, skin-in-the-game to cover default-related losses and establishment of appropriate recovery plans). Their other goal was to clarify implementation principles and conditions of resolution regimes for CCPs, which have grown to become "too big to fail". In addition to this work, and given the concentration trend in the clearing sector, additional requirements are needed for "super-systemic" CCPs that cannot be substituted, that are closely tied to other infrastructures and that could exert extremely procyclical effects in stressed situations.

In Europe, a draft regulatory framework for CCP recovery and resolution is expected to be finalised by the end of the year. The new framework is intended to preserve significant flexibility in the use of resolution tools, in order to reduce moral hazard. This flexibility will encourage participants to avoid CCP resolution situations: the major costs associated with a limited predictability on the use of resolution tools are designed to act as a deterrent. This flexibility also leaves enough room for manoeuvre to allow the authorities to define priority actions with regard to financial stability. Regarding the tools, it is vital to avoid initial margin haircutting, which creates a contagion effect, mutualize the resources which are dedicated to cover the individual losses of each participant, and reduces the incentives for central clearing.

Finally, regulation of the risks associated with securities financing transactions and CCPs is based on the transparency of trade data reported to TRs and the possibility of aggregation for the monitoring of systemic risk. In this regard, international work by CPMI-IOSCO on harmonising the data on OTC derivatives through unique transaction identifiers and unique product identifiers, which is expected to be completed in 2017, is crucial to removing obstacles linked to data quality and fragmentation.

b. Brexit: what is at stake in negotiations over access to the internal market

• Access to the single collective investment market

The process of the UK's exit from the EU is creating uncertainty about the access of UK firms to the single market, the procedures of which will depend on the agreement to be negotiated. In the event of an ad hoc free trade agreement, the UK could ask to be covered by the equivalence regime provided for by most European financial regulations. The challenge for the UK will then be to obtain access to financial services that is as close as possible to the arrangements that it currently enjoys. With European passports, UK service providers, or those from third countries with UK subsidiaries, can offer financial services directly in EU Member States without being bound by establishment requirements.

However, third country regimes are not standardised across different sets of regulations and do not offer the same level of reciprocity and protection for EU firms. According to a PricewaterhouseCoopers study²⁴ at end-2015, around 81,000 funds were distributed in a European country other than the one in which the fund was domiciled. The UK

²³ These documents were intended to provide additional guidance on the Principles for Financial Market Infrastructures (April 2012), the CPMI-IOSCO report on the recovery of financial market infrastructures (October 2014) and the annex to the Key Attributes of Effective Resolution Regimes for Financial Institutions (also October 2014).

²⁴ https://www.pwc.lu/en/fund-distribution/docs/pwc-publ-gfd-march-2016-printer-friendly.pdf

is a major target market, attracting more than 6,000 European funds, 338 of which are domiciled in France. Of the 1,688 UK funds distributed in Europe, France is the number-one destination, with around 184 funds. UK AIF managers could benefit from an extension of the passport to third countries, which is provided for in the AIFM directive. On 12 September 2016, ESMA issued its advice on extending the passport to 12 countries²⁵ but the system will not become operational until the Commission adopts a delegated act. No reciprocity principle is provided for, which puts European participants wishing to market in the UK at a disadvantage. Moreover, there is no equivalence regime for funds subject to the UCITS directive, which rules out authorisations for third country funds. Foreign funds authorised as UCITS in the UK will therefore no longer be entitled to receive a European passport. Note that ELTIF authorisation for European long-term investment funds will no longer be available to UK managers. MMFs, which are currently being reformed, will be subject to the AIFM or UCITS directives depending on their status.

Access to financial market infrastructures and location of euro-denominated transactions clearing

The criteria for access to financial market infrastructures processing eurodenominated transactions are largely linked to the establishment of participants in the European Economic Area (EEA). Direct participation in TARGET2 is open to credit institutions based in the EEA, including approved branches of institutions headquartered outside the EEA, NCBs of EU Member States and the ECB. Each NCB may also admit public entities of EU Member States, investment firms established in the EEA, as well as entities established in the EEA and managing exogenous systems that comply with oversight requirements relating to the location of financial market infrastructures offering services in euro. In France, direct participation in CCPs and central securities depositories (CSDs) was expanded by an executive order of December 2015 in order to ensure alignment with other CCPs, especially Eurex Clearing in Germany. In addition to credit institutions and investment firms headquartered in the EEA or another State subject to AMF agreement, central banks have been added, as have international financial organisations and other types of entities designated on an individual basis or by class by an order from the Minister for the Economy. If participants are not located in the EEA, access to financial market infrastructures in euro is based on arrangements covering authorisation applications, agreements between competent authorities or recognition of the equivalence of third country legislation governing their activity. These arrangements are necessarily more cumbersome to manage and may differ across infrastructures.

The UK CCPs, which include LCH Ltd, ICE, CME and LME, are among the leaders in Europe in terms of derivatives clearing volumes, especially in OTC activities: LCH Ltd accounts for around 95% of the clearing of OTC interest rate derivatives, while ICE Clear Europe clears more than 80% of the credit derivatives market. Transactions in euro also account for a large share of volumes cleared in the UK. Euro-denominated products make up more than 30% of LCH Ltd's SwapClear business and around 80% of repos cleared at LCH Ltd. CDS (excluding sovereigns) cleared by ICE Clear Europe are all denominated in euro.

If the UK adopts the third country regime, British CCPs would have to be recognised by ESMA, subject to recognition by the European Commission of the UK regulatory framework's equivalence. Since the UK already applies EMIR, recognition should not pose any problem, but the timing could prove crucial. Pending recognition, banks located in the euro area would be subject to punitive capital requirements to participate in UK CCPs that are non-qualifying CCPs, and British CCPs would no longer be able to clear trades subject to the clearing obligation.

25 Australia, Bermuda, Canada, Guernsey, Hong Kong, Cayman Islands, Isle of Man, Japan, Jersey, Singapore, Switzerland and United States.

The CCP location policy²⁶ may also be revived in light of the risks to the financial stability of the euro area. A financial market infrastructure processing euro-denominated transactions but not principally supervised by one or more euro area supervisors might have measures imposed on it by its own supervisors that go against the interests of the euro area. To avoid the risk of financial destabilisation in the euro area, the clearing activity must be relocated in the euro area or at least in the EU in order to align the interests of (i) financial market infrastructures, (ii) economic and market participants and (iii) the authorities responsible for financial stability in the euro area. Otherwise, euro area market participants would be exposed to risks outside the control of any European authority, which could threaten the financing of the economy.

²⁶ This point echoes comments made by François Hollande on 28/06/2016 at a summit meeting in Brussels, when he said that the City could no longer handle clearing transactions for the euro area.