

**JULY 2019**  
**2019 MARKETS AND RISK  
OUTLOOK**



**Risk and Trend  
Mapping**

AUTORITÉ  
DES MARCHÉS FINANCIERS



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## SUMMARY

**Over the past year, the financial markets landscape has deteriorated, with the slowdown in world GDP, growing uncertainties and geopolitical tensions**

Since our last risk outlook, economic activity has deteriorated worldwide, with the notable exception of the United States, while levels of uncertainty have remained high, fuelled by the international trade conflicts, the novel US policy mix, the ups and downs of Brexit, signs that the European project is unravelling, the fragility of certain Eurozone governments, and the “Yellow Vests” movement in France. Weakening growth (and even a recession in Italy in H2 2018) has come at a time when authorities’ options appear limited should stimulus be necessary. Room for monetary manoeuvre has only been partially restored in the US as far as interest rates are concerned, and in the Eurozone has not been restored at all; the state of public finances would render fiscal stimulus difficult in most countries; as for macroprudential tools, such as the countercyclical capital buffer, these were developed only very recently and for the moment, stand at low levels. Finally, although the European banking system now appears to be better capitalised and more resistant, as non-performing loans are slowly absorbed, profits still seem low when measured against investors’ yield requirements: for banks, stock market capitalisation remains well below net assets (price-to-book ratio < 1). The bank business model is weakened by the protracted extremely low interest-rate environment (hitting interest margins) and by difficulties boosting income via increased fees due to the level of competition.

**In this respect, valuations of financial assets nevertheless remain very high; the (admittedly temporary) fall in equity markets at the end of 2018 illustrates the factors that could potentially trigger a correction: an upward revision of the risk premium or new expectations of monetary policy standardisation**

Re-pricing of financial assets was the main risk highlighted in our previous risk outlook. Since then, valuations have remained very high, particularly on US equity markets which have reached an absolute all-time high (S&P500 at 2964 points on June 20 2019). As the environment deteriorates and corporate profit prospects fall, this risk of a correction therefore remains acute. There was indeed a marked fall in equity markets in the US, Europe and France at the end of 2018 (in Q4 2018, the S&P 500 lost 12.1 %, the Eurostoxx 50 14.3 % and the CAC 40 14.1 %) before a sharp rebound from Q1 2019 onwards. At the same time, volatility, which had increased, returned to the same level as at the beginning of 2018. This episode pinpoints two factors that could trigger a future potential correction. The slide in the equity markets at the end of 2018 was accompanied by an upward revision in the risk premium. Such a revision constitutes the first factor that might trigger a market correction. In future, this revision of the risk premium could be driven by expectations of lower growth in the US, where the exceptionally long expansion phase will one day inevitably come to an end, and where the inversion of the yield curve may already be an indicator that a downturn is on the way. The rise in the risk premium could also be driven by greater uncertainty of any changes in monetary policy (the rise in oil prices makes it more complicated) or by market actors focusing greater attention on geopolitical hazards (Brexit fatigue does not mean Brexit risks are behind us). As for the rebound in equity markets at the beginning of 2019, it matches the announcement of more accommodative monetary policy with declarations from both the Fed and the ECB with markedly negative interest rates in the Eurozone (the French government bond yield is now in negative territory out to 10 years). Disappointment among market actors over the extent to which this policy is accommodating could constitute the second factor that

might trigger a correction. Ultimately, both valuations and market volatility would appear to depend on central bank policies above all else.

**Against a backdrop of favourable monetary policies, debt is not being reined in and remains the second source of vulnerability, with a progression of certain forms (leveraged finance) that are based on lower-quality underlying assets and expose investors to higher risks**

Debt dynamics remain the second identified risk. Overall debt levels are showing no signs of falling back (rise in terms of nominal amount, or slight fall when measured as a percentage of GDP) and borrowers' capacity to repay could be threatened by a more marked slowdown in activity or by an unexpected upswing in interest rates. These debt dynamics are the result of monetary policies that are offering advantageous terms even to higher-risk borrowers and encouraging lenders to take more risk in return for yield. Preventive macroprudential policies are therefore seen as useful in order to contain such developments and such policies have been rolled out in France, for example, in response to the marked upward swing in the debt of non-financial corporations and households versus the rest of the Eurozone. At a global level, the past year has highlighted new risks arising from the strong growth of certain markets for high-risk debt grouped together under the term "leveraged finance", a concept lacking a commonly-accepted definition, the outstanding of which is thought to have reached \$3,000 billion if we include high-yield bonds, leveraged loans (granted to companies that already have high levels of debt or which are held by private equity funds), and, finally, Collateralized Loan Obligations (CLOs), the securitisation of some of the aforementioned loans. These products expose investors to considerable losses in the event of borrower default, given the low levels of collateral provided (development of covenant-lite loans which increased from 35 to 80% between 2007 and 2017 in the US). The process of identifying the final holders of such products is not straightforward, thus a parallel may be drawn with sub-prime securitisation and the 2008 crisis. French funds would not appear to be exposed directly to leveraged finance, which represents less than 2% of their assets. More generally, their allocation in debt instruments has not seen any deformation towards riskier or less liquid products so far.

**The changes underway in financial markets are bringing new risks with them: under achievement of the transparency objective of MiFID 2, a concentration of transactions in the closing auction on Euronext, and also a boom in private equity funds. The risks linked to derivatives markets, meanwhile, seem to be easing and knowledge of alternative investment funds continues to improve (AIFM reporting)**

Eighteen months after the entry into force of MiFID 2, the impact of the reform is becoming more visible and the positive effects of the new tick-size regime are being confirmed, including in times of market tension, as was the case in February 2018. For the moment, the new rules for funding research on listed companies would not appear to have had a sizeable effect on the coverage of these companies according to Bloomberg's figures, although the actors' perception is very different. This gap between the overall data and actors' perceptions requires further analysis: lowering of the price of research and of budgets, development of sponsored research, increase in the number of issuers followed by each analyst, etc. Meanwhile, other undesirable developments have been confirmed beyond any doubt, such as the significant rise in the market share of systematic internalisers (18% in Q1 2019 versus 2% pre-MiFID 2). This form of trading limits participation in price formation and pre-trade transparency, which is contrary to the aim of MiFID 2 which sought to shift OTC trade volumes onto lit platforms. The second notable change concerns the weight of closing auction transaction volume when measured against overall transaction volume: currently standing at 40% in the case of Euronext Paris. This

could be an involuntary consequence of MiFID 2 (execution at the closing auction simplifies required reporting), but this might also be the side effect of the development of passive management, accompanied by a self-amplifying effect (as liquidity shifts to the closing auction stage of the trading day, it attracts and further concentrates trade volume). The associated risks are a deterioration in price formation and liquidity during trading sessions, not to mention the operational vulnerabilities at the end of the day given the volumes concentrated in the closing auction. On bond markets, where the increase in transparency is very gradual, our indicators suggest a continuing, albeit slight, decline in liquidity.

In asset management, French funds' size fell in 2018, not only on account of a drop in valuations (a price effect that is general and has driven a worldwide fall on a scale not seen since 2008) but also due to outflows (specific to France and at its highest since 2008, for both equity and bond funds). Relocation to Luxembourg of funds originally registered in France and still managed by French companies serves as a reminder of the need for European convergence in supervision, in an industry where activities are often divided between several jurisdictions. In addition, thanks to the specific reporting requirements of Alternative Investment Funds (AIFs), we have detailed data on the liquidity and leverage of AIFs, in principle the riskiest funds including hedge funds. AIFs marketed or managed in France represent half of the assets under management in French collective management (7,400 funds, €750 billion) and would appear moderately risky. Worldwide, private equity funds continue to raise large sums, are struggling to invest, and are doing so with their targets valued at record multiples. When viewed as a whole, these signs may point to a potential building up of a bubble. Real estate funds also continue to raise large sums of money. On the other hand, an analysis of derivatives markets shows a continuing decline in the associated risks, thanks to EMIR: a rise in clearing, a fall in exposure and larger margins.

**Risks weighing on financial markets would ultimately come, at least in the short term, less from their structure than from their environment, compelling retail investors to be vigilant and the authorities to develop macroprudential policies. The international context is also a source of vulnerabilities both in the short term, with Brexit, and in the longer term with the risk of a less cooperative environment: market fragmentation, regulatory competition and a race to the bottom. The risk for the financial sector might also come from its inability to adapt to all these changes, to which we can also add the challenge of the energy transition**

With the exception of leveraged finance, the main risks identified for financial markets stem more from the real economy: negative surprises in economic activity, difficulties in emerging countries, no easing in the trade tensions, a geopolitical event, an issuer default or even a ratings downgrade switching large volumes from investment grade to high yield (there are a large number of bonds on the borderline of a BBB rating). Monetary policies should continue to play a key role in this context. The risk of an interest rate snapback seems low since the prospect of monetary normalisation has faded away. On the contrary, it is precisely the risk of interest rates remaining too low and for too long that prevail, along with the related drawbacks: an inability of the markets to price time and risks in order to guide investors, savers torn between zero-yield bank deposits (a new record in France at €61 billion in 2018), bubbles and the search for the sort of unrealistic yields that can only turn out to be scams.

This context of low interest rates is exerting pressure on actors' margins, raising questions over their business models and, by focusing clients' attention on the level of fees, favouring the development of passive management methods. If we add to this the challenges of the digital transition and energy transition, the financial sector finds itself facing multiple upheavals bringing risks of brutal disruptions. In the short term, Brexit is adding one more factors to these transition vulnerabilities, the supervisory authorities themselves included, since our very ability to identify risks correctly could be altered by difficulties encountered with gaining access to regulatory data.

	Description of risks	Level mid-2019	2019-2018	Outlook for 2020
Financial stability	1. Increased risk premia, weakening indebted firms or those with assets whose prices do not reflect their fundamentals and could correct sharply <i>Sustained high valuations, low risk premia and low volatility continue despite a temporary correction (end 2018)</i>		→	→
	2. Lack of international coordination of policies <i>Potential regulatory competition (Brexit, US) Protectionist threats, trade war US and Europe monetary policies out of step Balance between macro-prudential and monetary policy in the euro area (increased risk-taking due to search for yield).</i>		↗	→
	3. Credit risk, unsustainable debt trajectories, non-performing loans <i>No downturn in debt trajectories. Development of leveraged finance Sensitivity of issuers to the economic slowdown or to a possible rise in interest rates (coming from the US)</i>		→	→
Market organisation and functioning	4. Volatility, sharp variations in liquidity conditions, large-scale shifts by investors from one asset class to another <i>Market resistance during the correction at the end of 2018. Very slowly decreasing bond liquidity</i>		→	→
	5. Increase in need of high-quality collateral, with ill-controlled re-use and transformation risk, in the light of a potentially scarce supply of local collateral in a stress scenario		→	→
	6. Functioning of market and post-market infrastructures <i>Difficulties achieving certain objectives of MiFID 2; revision of EMIR Cyber-risks in a tense geopolitical context Brexit: share trading obligation, relocations to EU27, etc.</i>		↗	→
Financing of the economy	7. Profitability of financial institutions in a low interest rate environment and a still-fragile economic environment <i>Macro-economic downturn Very low for long interest rate environment; increased pressure on margins and fees Digital and energy transition</i>		→	↗
	8. Challenges facing companies, particularly SMEs, that wish to access the financial markets		→	→
	9. Lack of protection of retail investors in the event of poor information about the risks associated with certain investments or certain distribution channels <i>Continuation of the waves of scams Difficulties in applying PRIIPs.</i>		→	→

	Very high
	High
	Significant
	Low

IN BLUE: main new information that changes the assessment

↘	Down
→	Stable
↗	Up

## CHAPTER 1: FINANCING ECONOMIC ACTIVITY

The trends observed since summer 2018 have confirmed the deterioration of the macro-financial environment in most countries and geographical regions. This deterioration is reflected in slowing economic activity and many ongoing key uncertainties, particularly those surrounding Brexit and the outcome of the US-China trade war. These increasingly gloomy economic prospects resulted in a market correction at the end of 2018 and, in early 2019, led the central banks of developed countries to reverse moves to normalise their monetary policy, including in the United States where, for the moment, the economic climate remains very positive.<sup>1</sup> These decisions helped stock-market valuations to recover and allowed risk premiums to be kept at low levels during the first few months of 2019.

With key interest rates being kept very low and monetary policy normalisation being postponed on both sides of the Atlantic, the main risk therefore lies in a disconnect between the value of financial assets and their intrinsic value, brought about by investors seeking returns.

This deterioration in the financial environment has impacted on activity on the primary equity and bond markets. Initial public offerings (IPOs) have dwindled in Europe since summer 2018, particularly in Paris, where this market segment has remained sluggish for several years, magnifying the downward trend in the number of listed companies and raising questions over what role equity markets have to play in financing French companies. The volumes of issues on the bond markets have similarly fallen in most geographical regions, irrespective of companies' credit ratings. The green-bond segment, which has proved particularly dynamic in recent years, has also slowed and has not grown sufficiently to deliver the investment needed for the energy transition. However, leveraged loans remain dynamic, particularly in the United States – a phenomenon that should be monitored.

### 1.1. A GLOOMY AND UNCERTAIN MACRO-FINANCIAL ENVIRONMENT

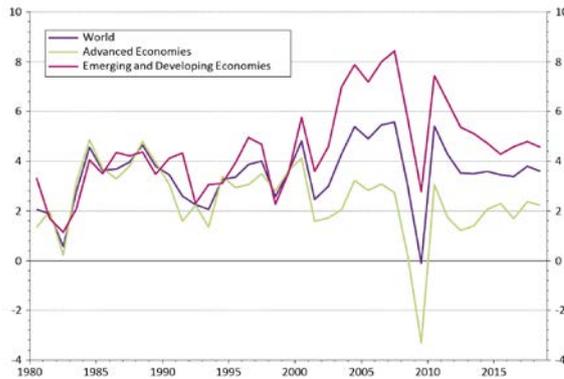
#### 1.1.1. Geopolitical tensions remain extremely high as economic activity slows worldwide

2018 saw a slowdown in economic activity in most geographical regions and worsening economic prospects, particularly in developed countries (Figure 1 and Figure 2).

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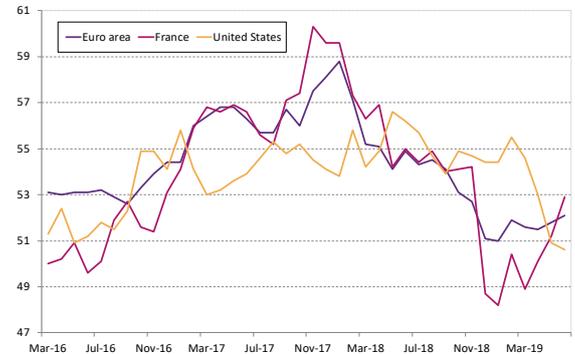
<sup>1</sup> US real GDP has experienced continued year-on year growth since the fourth quarter of 2009.

**Figure 1: Change in GDP volume**  
(%, change compared with the previous year)



Source: International Monetary Fund (IMF)

**Figure 2: Composite Purchasing Managers Indices (PMIs)**



Source: Bloomberg

**The trade war is impacting on global trade and growth**

More specifically, the increase in tariffs, combined with uncertainty over the outcome of the US-China trade war and its potential to spread to other countries, poses a significant risk to growth. These factors could have an even greater impact if the paralysis of the World Trade Organization (WTO), relating to the United States' blocking of appointments to its dispute settlement system appellate body, continues. According to estimates calculated by the IMF,<sup>2</sup> which has envisaged several different scenarios, the trade war could have a permanent impact on growth. The biggest effect could be felt from 2019 in China, where growth could fall sharply by as much as 1.5%, and by 2020 in the United States, where it is estimated to fall by 1%.

In Asia, the increase in tariffs has already had a significant impact on exports from countries such as China and South Korea, which have also been affected by slowing global demand and fluctuations in the electronics cycle. Despite this, the United States' trade deficit with China has continued to grow.<sup>3</sup>

**Figure 3: Change in exports**  
(variation over one year as a %)



Source: Thomson Reuters Datastream

**Figure 4: Trade between China and the United States**  
(6-month moving averages, variation over one year as a %)

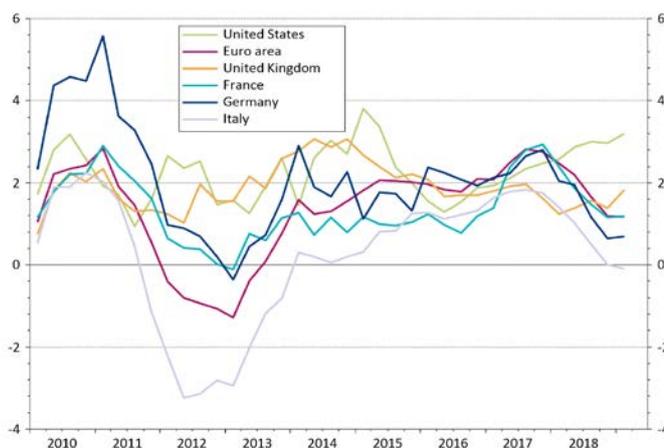


<sup>2</sup> IMF, *Challenges to Steady Growth, World Economic Outlook Report*, October 2018.

<sup>3</sup> It should nonetheless be noted that US GDP was held up by foreign trade in the first quarter of 2019.

Against this backdrop, the most resilient economies are those with strong domestic demand. This is particularly the case in the United States, where growth remains strong (Figure 5),<sup>4</sup> unlike in most other developed countries. Buoyed by continuing wage rises, household consumption is also on the rise, thanks to a combination of greater wealth and tax reforms introduced in 2018, which have also resulted in increased investment expenditure. However, these reforms will have repercussions for public finances.<sup>5</sup>

**Figure 5: Changes in GDP volume for some developed countries**  
(%, year-on-year)



Final point: Q1 2019.

Sources: BEA, U.S. Department of Commerce; Eurostat; Office for National Statistics (ONS); French National Institute of Statistics and Economic Studies (INSEE); Federal Statistical Office (Germany); Italian National Institute of Statistics (Istat); Thomson Reuters Datastream

In Europe, the situation remains less positive overall, despite a slight recovery in the first quarter of 2019, and certain countries are facing specific risks. Brexit and the uncertainties surrounding it continue to impact on investment by companies in the United Kingdom. According to IMF estimates,<sup>6</sup> if the United Kingdom were to leave the European Union without an agreement, but without there being any major constraints on trade or significant deterioration in financing conditions, production in the United Kingdom could fall by 3.5% by 2021, compared with the level it could achieve in the event of free trade agreement.

In the euro area, growth has slowed in Italy, where the economy even suffered a period of technical recession<sup>7</sup> in late 2018. Approving the country's 2019 budget proved difficult. In May 2018, the European Union – for the first time in its history – rejected the Italian government's draft budget. Unlike its European neighbours (France, Germany and Spain), wariness about Italy grew, forcing Italian banks to step in as foreign investors walked away from Italian sovereign debt (Figure 6). These moves to “re-domestication” of Italian sovereign debt, highlighting as they do the interconnections between the Italian State and domestic banks, pose certain risks to financial stability, given Italy's level of debt.

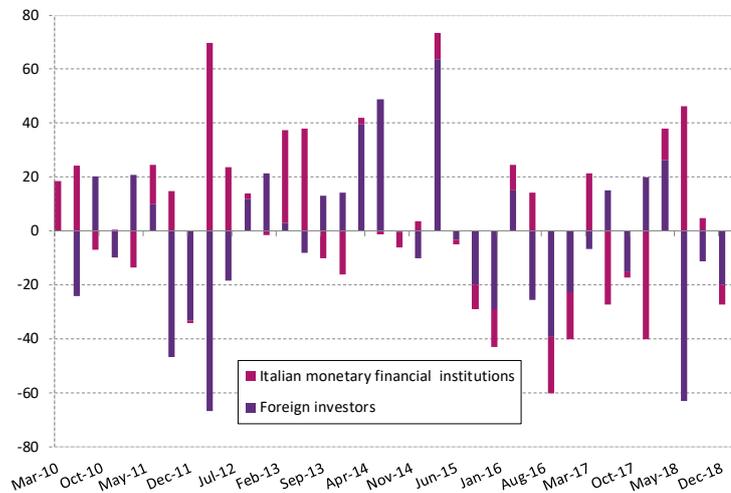
<sup>4</sup> Growth in the United States came out at 3.9% in 2018 (source: Bureau of Economic Analysis (BEA), U.S. Department of Commerce).

<sup>5</sup> Public debt rose to 106% of GDP in 2018 and could reach 110% by 2024, according to IMF estimates.

<sup>6</sup> IMF, *Growth Slowdown, Precarious Recovery, World Economic Outlook Report*, April 2019.

<sup>7</sup> The term “technical recession” is used to describe a situation in which a fall in a country's GDP is recorded over a period of at least two quarters.

**Figure 6: Changes in the holding of Italian sovereign debt**  
(billion euros)



Source: European Central Bank (ECB)

### 1.1.2. The fall in growth could result in monetary policy normalisation being postponed in developed countries

Despite monetary conditions remaining highly accommodative, inflation in the euro area has missed its target since November 2018, after rising to 2.3% in October 2018 (Figure 7). Since then, 5-year forward inflation expectations in 5 years time, which are used to assess medium-term inflation rates, have continued to fall, ending up at 0.6% at the end of June 2019, reaching a historic low. Underlying inflation<sup>8</sup> remains stable at around 1%. Against this backdrop, and given the ongoing economic slowdown, in June 2019 the ECB announced that it would leave its key interest rates unchanged at least through the first half of 2020, contrary to initial forecasts, and would launch a third series of targeted longer-term refinancing operations (TLTRO-III)<sup>9</sup> in September 2019.

In the United States, both inflation and underlying inflation have remained stable overall at nearly 2%,<sup>10</sup> while 5-year forward inflation expectations in 5 years time have fluctuated between 2.2% and 2.9% since the beginning of 2019. Despite that, after raising its key interest rates in December 2018, the Federal Reserve has since advocated a more patient approach to making further rate changes in the face of increasingly gloomy global economic prospects,<sup>11</sup> half of its members coming out in favour of leaving rates unchanged in 2019, whereas the others are in favour of an interest rate decrease. In addition to this, the Federal Reserve has indicated that its balance sheet reduction, which started in October 2017, will end by the close of 2019.

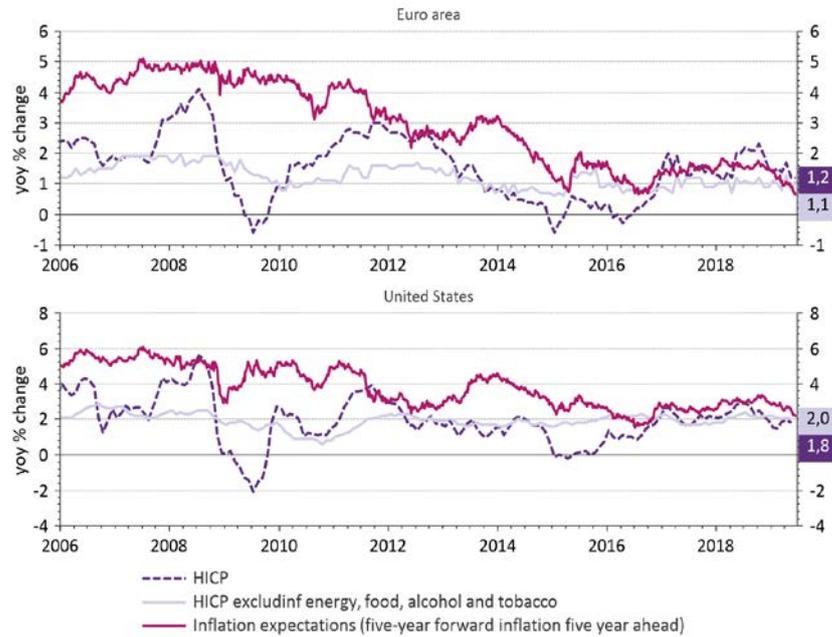
<sup>8</sup> The underlying inflation used here is inflation excluding energy, food products, alcoholic drinks and tobacco.

<sup>9</sup> The TLTRO III, which also aims to maintain banks' profitability, differs from the preceding series in that the loans will have a maturity of 2 years, rather than 4, and the rates offered to banks will be indexed on the main refinancing rate, rather than the marginal deposit rate (depending on the volume of lending to the economy).

<sup>10</sup> The Federal Reserve is aiming to achieve inflation of nearly 2%.

<sup>11</sup> "In light of global economic and financial developments and muted inflation pressures, the Committee will be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate to support these outcomes", Federal Reserve press release, 30 January 2019.

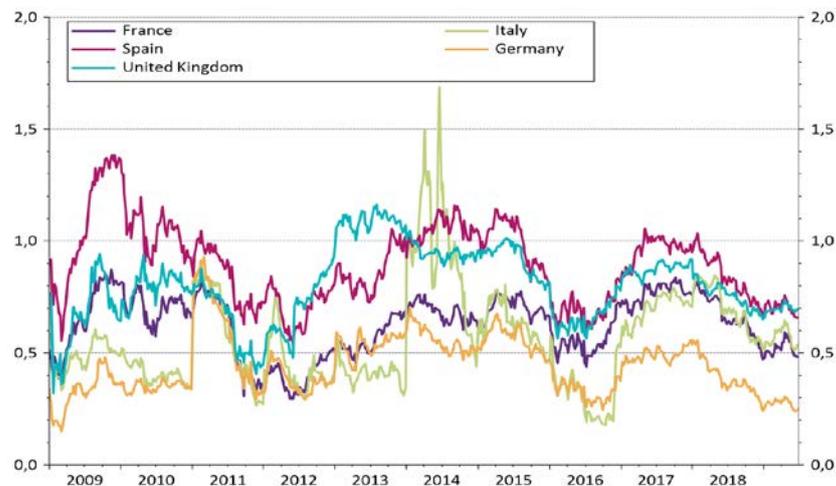
**Figure 7: Changes in consumer prices**  
(yoy % change)



Sources: Eurostat; Bureau of Labor Statistics, U.S. Department of Labor; Thomson Reuters Datastream

While this slowdown in monetary policy normalisation on both sides of the Atlantic has no doubt avoided sudden re-pricing on the markets in the short term, it nonetheless raises the question of whether it will be possible to move away from accommodative monetary policies over the longer term and, in the case of Europe, how effective such policies really are. Maintaining highly accommodative monetary conditions also increases the pressure on bank profitability, as banks wrestle with squeezed interest margins and competition from new stakeholders. Concerns in the banking sector are reflected in the price-to-book ratios of bank share indices in key European countries, all of which are below 1.

**Figure 8: Price-to-book ratios of bank indices in key European countries**



Last observation: 06/26/2019

Source: Thomson Reuters Datastream

### 1.1.3. Making monetary policies more accommodative had a decisive impact on stock-market valuations in early 2019

*Bond yields eased in the first few months of 2019*

In 2018, while ongoing efforts to normalise monetary policy saw sovereign bond yields rise in the United States, the prospect of the ECB's asset-purchase programme stopping at the end of the year did not have a similar effect in Europe. Indeed, most European bonds benefited from a flight to quality triggered by the crisis of confidence affecting Italian bonds, whose 10-year rate soared by more than 200 basis points between May and December 2018.

Figure 9: 10-year sovereign bond yield rates (as %)



Last observation: 06/26/2019  
Source: Thomson Reuters Datastream

The change in direction of the forward guidance published by the Federal Reserve (in January 2019) and the ECB (in March 2019) has been reflected in an immediate easing in sovereign bond yields in the first few months of 2019. There was almost no yield spread between 10-year and 1-year US sovereign bonds in the spring. Historically, periods when yield curves have flattened or reversed have signalled the end of an economic cycle.

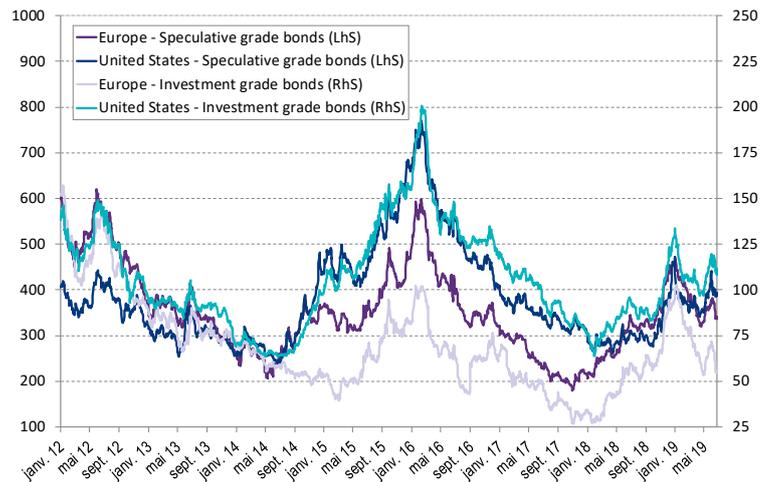
Figure 10: Yield spread (10-year / 1-year) on US sovereign bonds (basis points)



Last observation: 06/26/2019  
Source: Thomson Reuters Datastream  
**Note:** The shaded bands represent recession periods.

The same changes were recorded with regard to corporate bonds. However, despite the easing seen in Europe and the United States in the first few months of 2019, spreads<sup>12</sup> in both the investment and high-yield categories at the beginning of summer 2019 were largely above those that prevailed in early 2018, reflecting the relative deterioration in financing conditions.

**Figure 11: Corporate spreads in Europe and the United States by rating category**



Source: Bloomberg

**Market indices with dividends reinvested (S&P 500 and CAC 40) hit historic new records in the first half of 2019**

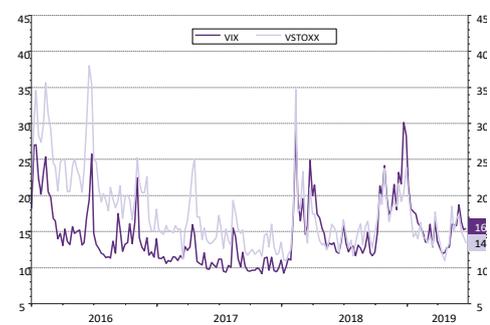
The deteriorating economic climate, with monetary policy normalisation in Europe (the impending halt to the ECB’s net asset purchases) and the United States (the rise in key interest rates) was reflected in a sudden correction and new peaks in volatility on the equity markets in the fourth quarter of 2018. During this period, the CAC 40 (dividends reinvested) lost nearly 17% of its value. In early 2019, the change in tone from the ECB and the Federal Reserve, with the prospect of a possible relaxing of monetary policy on both sides of the Atlantic, alone allowed most market indices to recover, some of which even hit record new highs at the end of the first half. Volatility also decreased, returning to levels similar to those that prevailed in summer 2018.

**Figure 12: Changes in market indices, dividends reinvested**  
(in local currencies, base 100 on 01/01/2007)



Source: Thomson Reuters Datastream. Last observation: 06/26/2019

**Figure 13: Implied volatility indices (as %)**



<sup>12</sup> The corporate spreads used are option-adjusted spreads (OAS), which take into account the options attached to the bond and calculate the spread relative to euro-denominated interest rate swaps for European spreads and relative to dollar-denominated interest rate swaps for US spreads.

The recovery in the equity markets since the start of the year has led to an overall increase in historic price-earnings ratios (PERs). PERs in the United States and France remain above their long-term average, although, unlike French PERs, US PERs fell between July 2018 and July 2019.

**Figure 14: Price-Earnings Ratios**



Last observation: 06/27/2019

Source: Thomson Reuters Datastream

Despite the weakened environment, dividend distribution hit record levels in the first quarter of 2019. According to Janus Henderson, global dividends rose by 7.8% between Q1 2018 and Q1 2019 to 263.3 billion dollars. Growth in underlying dividends<sup>13</sup> was up 7.5% in the same period. North America saw the most significant growth in underlying dividends (9.8%), followed by Japan (8.7%) and Europe, excluding the United Kingdom (5.3%).

## 1.2. THE DETERIORATION OF THE MACRO-FINANCIAL ENVIRONMENT HAS IMPACTED ON PRIMARY ACTIVITY

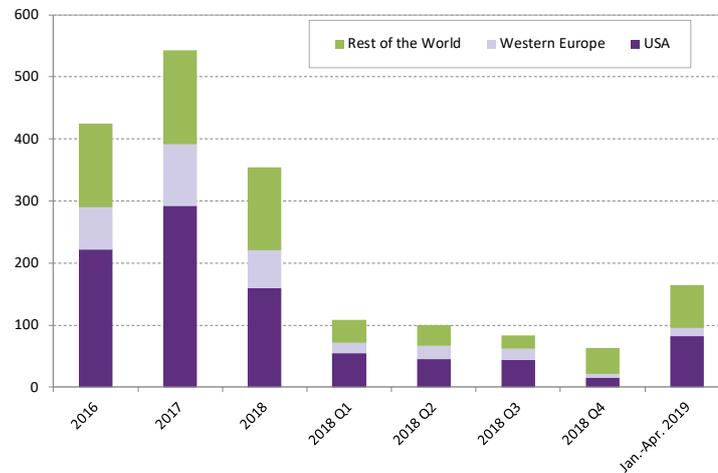
In 2018, the deterioration in the macro-financial environment impacted on activity on the primary equity and bond markets.

### 1.2.1. The fall in bond issues has hit the high-yield segment particularly hard

The slowdown in growth, relative deterioration in financing conditions and episodes of financial instability seen during 2018 all had a significant impact on the primary bond market across all geographical regions. Worldwide, corporate bond issues totalled nearly 1,800 billion euros in 2018, down 15% compared with the previous year. This trend has been particularly noticeable in the high-yield bond segment, where gross issues fell by 35%. This downward trend was mitigated somewhat in the first few months of 2019 with improvements in the macro-financial environment.

<sup>13</sup> Underlying dividends are total dividends adjusted for special dividends, currency effects, payment dates and index changes.

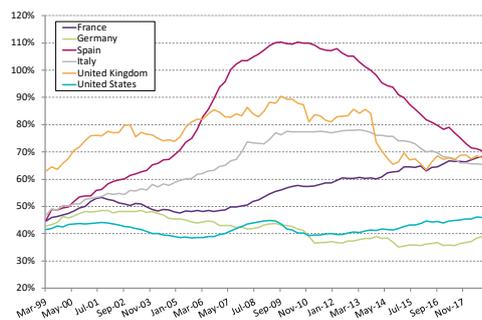
**Figure 15: Gross issues of high-yield bonds by non-financial companies, by issuer nationality (billion euros)**



Source: Bloomberg

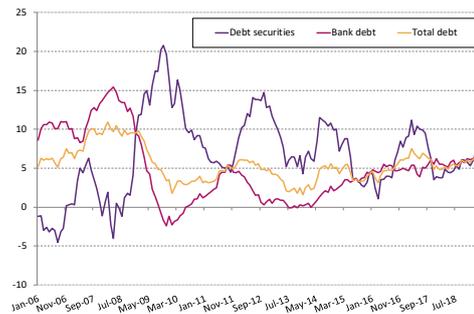
Despite a sharp fall in bond issues, French companies' debt continues to grow, setting France apart from most other developed countries, particularly those in Europe (Figure 16). Aside from France, only the gross debt of US non-financial companies comes out higher than that recorded before the subprime mortgage crisis. The indebtedness of French non-financial companies stems from both bank debt (which had an annual growth rate of 6.6% in April 2019) and market-based debt (which had an annual growth rate of 4.2% in April 2019 - Figure 17).

**Figure 16: Gross debt ratio of non-financial companies (as a % of GDP)**



Source: Banque de France; Federal Reserve; AMF calculations

**Figure 17: Indebtedness of non-financial companies in France (annual growth rates, as a %)**



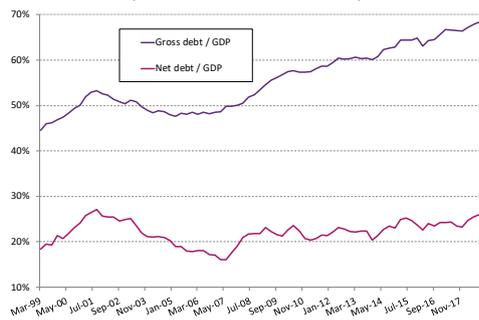
Source: Banque de France

To make the financial system more resilient, in March 2019 the High Council for Financial Stability (*Haut Conseil de Stabilité Financière*, HCSF) decided to increase the counter-cyclical buffer rate for banks from 0.25 to 0.5 percentage points of risk-weighted assets on French exposures.<sup>14</sup>

<sup>14</sup> This increase will take effect from 2 April 2020.

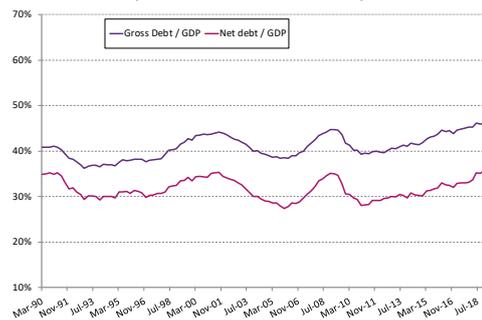
However, this growth in indebtedness should be put into perspective. It in fact reflects efforts to invest and greater holding of liquid assets.<sup>15</sup> The ratio of the net debt<sup>16</sup> of French non-financial companies to GDP appears to have increased very slightly in the past 10 years, coming out at 26% at the end of December 2018, compared with 22% 10 years earlier (Figure 18). However, when we calculate the same ratio for the debt of US non-financial companies, the result is more worrying (Figure 19).

**Figure 18: Consolidated gross<sup>17</sup> and net<sup>18</sup> debt of French non-financial companies (as a % of nominal GDP)**



Source: Banque de France; AMF calculations

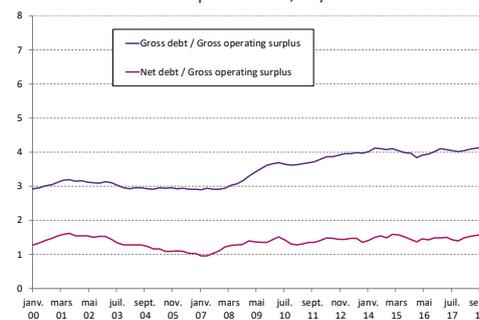
**Figure 19: Consolidated gross and net debt of US non-financial companies (as a % of nominal GDP)**



Source: Federal Reserve; AMF calculations

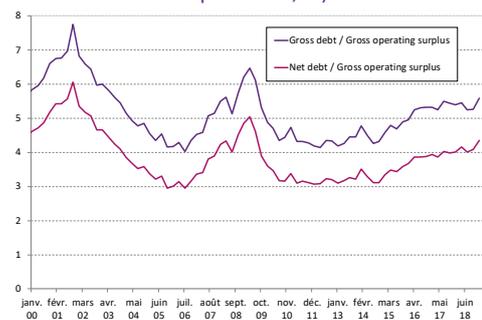
The gross and net debt of US non-financial companies are following similar trends, with the increase in debt not being offset by companies holding more liquid assets. At the same time, the capacity of French non-financial companies to repay their debts (net debt-to-gross operating surplus ratio) has remained stable (Figure 20), while that of US non-financial companies has weakened since 2014 (Figure 21).

**Figure 20: Repayment capacity of French non-financial companies (consolidated debt-to-gross operating surplus ratio, %)**



Source: Banque de France; INSEE; AMF calculations

**Figure 21: Repayment capacity of US non-financial companies (consolidated debt-to-gross operating surplus ratio, %)**



Source: Federal Reserve; BEA, U.S. Department of Commerce; AMF calculations

<sup>15</sup> See in particular M-B. Khder and C. Rousset: "Is the increase in French firms' indebtedness a cause for concern?" INSEE, *Conjoncture in France*, December 2017, and "Diagnosis on the debt situation of non-financial private agents", HCSF, 2017.

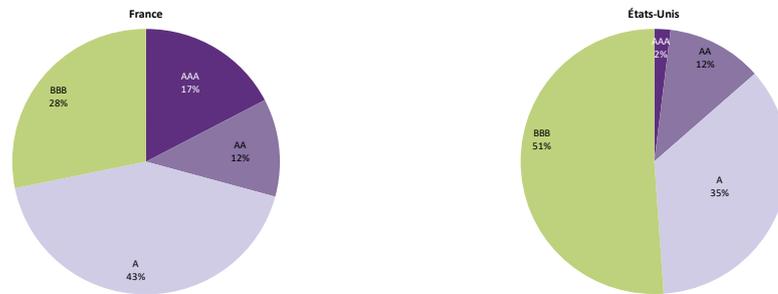
<sup>16</sup> Here, net debt is calculated as gross debt less cash, deposits, debt securities and fund units recorded on the asset side of non-financial companies' balance sheets. It is then expressed as a percentage of nominal GDP.

<sup>17</sup> The consolidated gross debt of French non-financial companies is obtained from data published by Banque de France, which calculates consolidated debt for both domestic and non-domestic intra-group loans. As the data available for US non-financial companies are less granular, the loans recorded on the asset side of the balance sheets of non-financial companies are deducted from the total debt shown on the liabilities side to obtain a rough estimate for consolidated debt.

<sup>18</sup> Net debt is calculated by deducting liquid assets (currencies and deposits, debt securities and fund units recorded on the asset side of non-financial companies' balance sheets) from the gross debt.

In the investment-grade debt category, the proportion of the lowest ratings is significantly greater in the United States than in France.

**Figure 22: Breakdown of the investment-grade debt of US and French companies by rating<sup>19</sup>**  
(at the end of 2018, in billion euros)

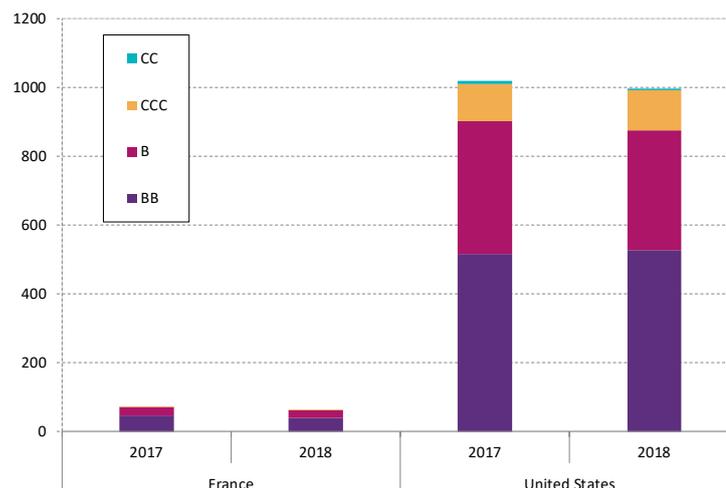


Source: Bloomberg

In the event of a prolonged slowdown in economic activity, there would be a real risk of some companies having their rating downgraded, with those at the bottom end of the investment-grade category moving into the high-yield category. This shift would result in many investors, particularly institutional investors, reallocating their investments, meaning that such companies would find it much more difficult to find financing options.

At the same time, there has been a sharp rise in leveraged finance, particularly in the United States.<sup>20</sup> In France, outstanding high-yield bonds remain at a comparatively low level (Figure 23). According to the Financial Stability Board, outstanding leveraged loans totalled 1,400 billion dollars worldwide in October 2018, with the United States alone accounting for just over 1,000 billion dollars.<sup>21</sup>

**Figure 23: Outstanding high-yield corporate bonds in the United States and France, by rating**  
(billion euros)<sup>22</sup>



Source: Bloomberg

<sup>19</sup> Based on the most recent Standard & Poor's rating.

<sup>20</sup> See Chapter 3 for an analysis of the risks associated with leveraged finance.

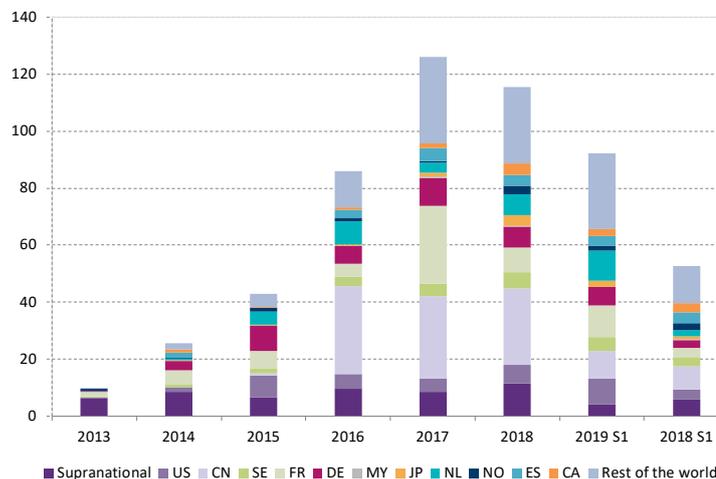
<sup>21</sup> Financial Stability Board, *Global Monitoring Report on Non-Bank Financial Intermediation 2018*, 04/02/2019.

<sup>22</sup> Based on the most recent Standard & Poor's rating.

- Better informed investors: a key factor in the long-term growth of sustainable finance

After a marked slowdown in 2018,<sup>23</sup> issues of green bonds worldwide recovered in the first few months of 2019. According to Bloomberg, the total volume of such issues rose by 75% in the first half of the year, compared with the same period the previous year, to more than 90 billion euros (a cumulative total of 150 billion euros over one year).<sup>24</sup> At the end of June 2019, and again according to Bloomberg, outstanding green bonds worldwide were estimated at 450 billion euros, a level that is nonetheless insufficient in terms of the investment needed in ecological transition. The continuing growth of the green-bond market has gone hand in hand with that of the nascent social-bond<sup>25</sup> market, which, for the moment, remains in its infancy, with issues totalling just 12 billion euros in 2018, according to the Climate Bonds Initiative (CBI).<sup>26</sup>

**Figure 24: Green-bond issues**  
(volume, in billion euros)



Source: Bloomberg

To ensure that this growth in the green- and social-bond markets continues into the future, the information provided to investors both before and after a bond issue must be relevant and of high quality. The focus should therefore now be on defining, at international level, a robust and suitably accurate classification system for assets/projects that have a positive environmental or social impact. In the case of green bonds, this aim is central to the European Union's sustainable finance action plan.<sup>27</sup> However, for the time being, most of the regulations and guidelines in force<sup>28</sup> refer to the existing standards

<sup>23</sup> The drop in sovereign bond issues was alone to blame for this slowdown, which affected not only the green-bond segment, but the whole of the bond market.

<sup>24</sup> These figures are based on bonds where the level of transparency over how the funds raised are used meets international standards (see below).

<sup>25</sup> Bonds designed to finance projects that make a positive social impact.

<sup>26</sup> The global bond market is estimated to total 84,000 billion euros.

<sup>27</sup> In addition to creating an EU taxonomy, the European Commission's action plan also aims to create European labels for green financial products and step up transparency requirements for issuers, asset managers and institutional investors, who will also have to factor sustainability considerations into their investment processes (<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0097&from=EN>).

<sup>28</sup> In 2015, China's central bank drew up an initial green-bond taxonomy and, since 2017, has been working with the European Investment Bank to harmonise definitions for green finance for the Chinese and European markets.

defined by market stakeholders.<sup>29</sup> The fact that there is a wide variety of such standards and, consequently, of the certifications and labels that come with them, have served to fragment the market, hindering its growth.

Having said this, the publication of standards and creation of labels for products have both helped improve the quality of the information being published. According to the CBI (2019),<sup>30</sup> the proportion of green bonds that are not subject to any reporting requirements has significantly decreased since the publication of the Green Bond Principles in 2014. However, the level and quality of the information provided vary depending on the size of issues, the frequency with which issuers use the market and the sector. Another element worth noting is the fact that issuers are more likely to publish information if they are subject to an independent valuation.

These observations again make the case for drawing up international standards based on harmonised but proportionate rules that make it easier for investors to compare products and thus make informed investment decisions, without making the cost of issuing bonds overly expensive and thereby compromising the growth of the market.

### **1.2.2. Primary equity markets have been hit by the worsening macro-financial environment**

#### **➤ IPOs have dwindled in Europe since summer 2018**

Notwithstanding the less favourable conditions, IPOs remained dynamic for most of 2018 in the majority of geographical regions, before dipping in the first few months of 2019, despite the fall in market volatility. Having reached nearly 200 billion euros in 2018, the amounts raised between January and April 2019 came to no more than 35 billion euros, a fall of nearly 40% in comparison with the same period the previous year.

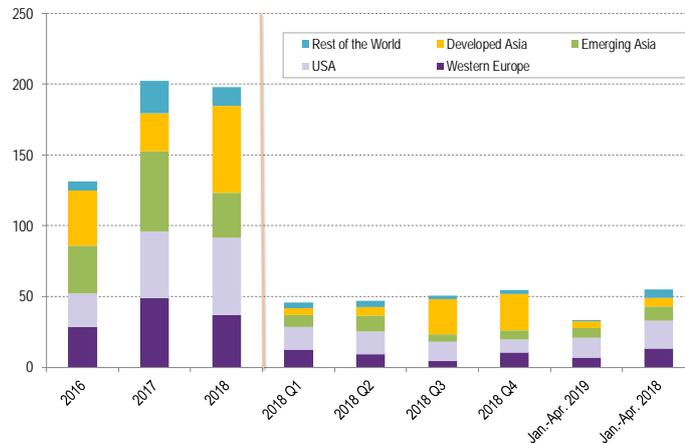
However, beneath this big picture lie some significant geographical disparities. IPOs remained buoyant in the United States, where the economic climate was more favourable, while the economic slowdown and uncertainties had a negative impact on those in Europe. Having fallen by 20% to 36 billion euros in 2018, the amounts raised in Europe halved over the first four months of 2019 in comparison with the same period the previous year, bringing the number of issues down to a similar level to that seen following the eruption of the subprime mortgage crisis ten years earlier.

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<sup>29</sup> For example, in the case of green bonds, we can point to the Green Bond Principles and the Climate Bonds Standard scheme introduced by the International Capital Market Association (ICMA) and the Climate Bonds Initiative (CBI) respectively. It should be noted that the increase in social-bond issues was recently boosted by the introduction of classification standards that are not confined to the environmental aspects of the projects being financed, but also incorporate other ESG criteria.

<sup>30</sup> "Post-issuance reporting in the green bond market", CBI, March 2019.

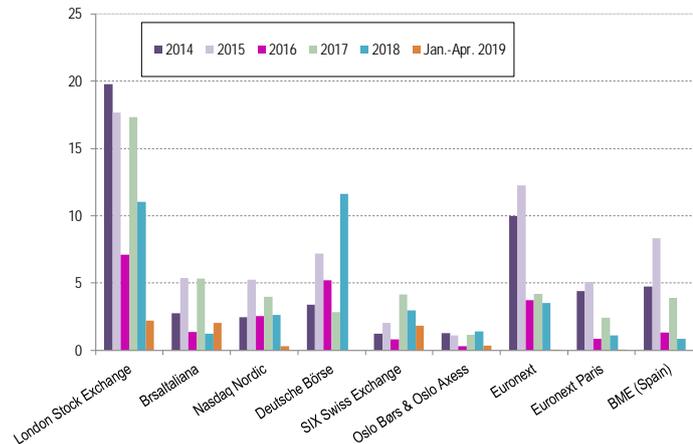
**Figure 25: Capital raised from IPOs**  
(billion euros)



Source: Bloomberg

This sluggishness on the market was particularly noticeable in Paris. Although the number of IPOs remained relatively stable in 2018, the amount of capital raised fell by half and offerings dwindled in the first few months of 2019. Conversely, other financial centres came out relatively unscathed, including London and Frankfurt, which together accounted for two-thirds of the capital raised in 2018. Germany saw several major IPOs, with the flotations of Siemens Healthineers and Knorr-Bremse alone totalling 8 billion euros in capital raised – a quarter of that raised by EU issues as a whole.

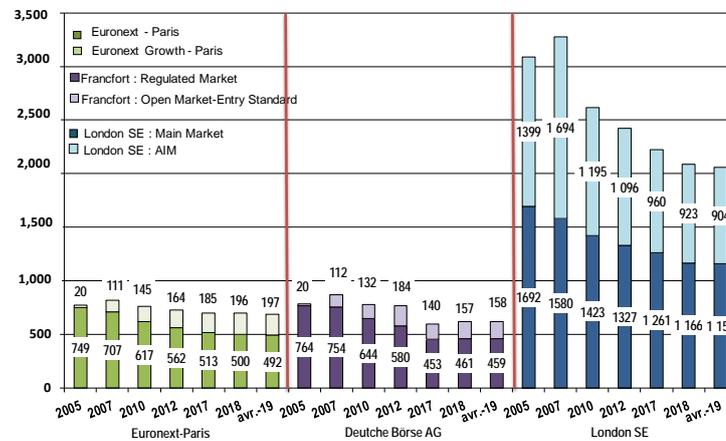
**Figure 26: Capital raised from IPOs in Europe, by listing market**  
(billion euros)



Source: Bloomberg

The recovery of IPOs in Germany slowed, but did not really curb, the downward slide in the number of listed companies experienced by Europe’s main financial centres in the past dozen years.

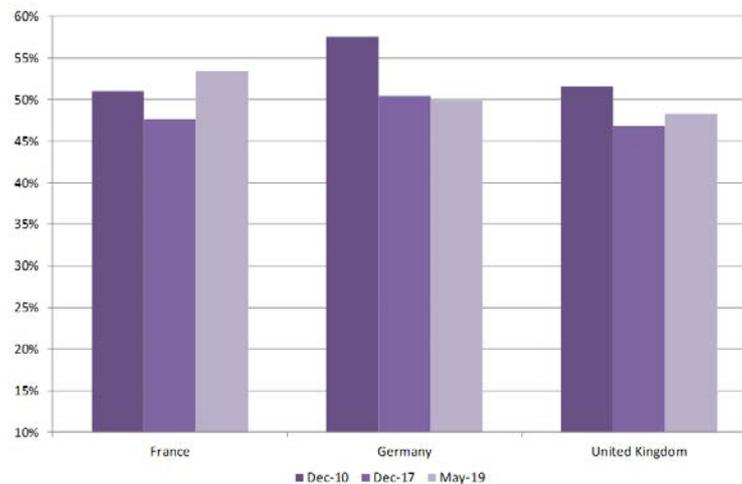
**Figure 27: Variation in the number of listed companies**  
(year-end data)



Sources: Euronext; DBAG; LSE

In France, as in the United Kingdom, this downward trend could be seen in listings becoming increasingly concentrated around the biggest large-cap companies. In France, the proportion of the biggest large caps in May 2019 was even greater than that recorded at the beginning of the decade (Figure 28).

**Figure 28: Market concentration: proportion of the 15 biggest large caps**  
(month-end data)



Sources: Bloomberg; AMF calculations

➤ Previously listed companies made less use of the markets in 2018

Companies that were already listed also made less use of the equity markets in 2018. Worldwide, gross equity-security issues fell by more than 25%, with Asia and, above all, Europe hit the hardest. The return to a calmer atmosphere on the markets helped steady activity in the first few months of 2019 across all geographical regions.

➤ Recovery in share buy-backs in the United States

Tax reforms helped boost share buy-backs in the United States, which hit a record high in 2018, topping 800 billion dollars on the S&P 500 index – a rise of nearly 60% compared with 2017. Consequently, net equity issues in the United States fell to a historic low. In France, share buy-backs totalled nearly 21 billion euros for CAC 40 companies, compared with 17 billion in 2017.<sup>31</sup> Unlike in the previous year, the net balance of equity issues was therefore negative in France in 2018.

The sluggish activity on the primary equity markets stands in stark contrast to the dynamism seen in the private-equity segment, where the amounts being invested have returned to the levels seen before the financial crisis. Significantly, the amounts of capital raised and dry powder hit a historic high, with the latter estimated at close to 2,000 billion dollars worldwide at the end of 2018, with the leveraged buyout (LBO) segment alone accounting for nearly 700 billion.<sup>32</sup>

➤ For now, the new rules imposed by MiFID II on funding research do not appear to have resulted in listed companies having less analyst coverage.

Since the beginning of 2018, financial intermediaries have had to pay for research themselves or bill for research separately from transaction fees under MiFID II. With the implementation of this regulation came fears that a reduction in research budgets would result in fewer companies, and in particular SMEs, being subject to analyst coverage.

On the contrary, it appears that the proportion of companies domiciled in the European Union and listed in Paris (on Euronext or Euronext Growth) that are covered by at least one analyst has increased significantly since MiFID II came into force (Figure 29).<sup>33</sup> This outcome, which could be linked to an increase in research being funded by firms themselves, can be seen elsewhere for most market capitalisation categories. However, one category that should be monitored is that of companies with a market capitalisation of between 150 and 500 million euros, where there appears to have been a slight decrease in the level of analyst coverage. Indeed, for this category, although the proportion of companies with the least analyst coverage (those monitored by no analysts or just one) is slightly down, the proportion of companies with the most analyst coverage (those monitored by at least 5 analysts) has also fallen. Conversely, we have seen an increase in the relative number of major intermediate-sized enterprises (companies with a market capitalisation of between 500 million and 1 billion euros) being monitored by at least two analysts (67% of companies in March 2019, compared with 65% at the end of 2017). However, this initial analysis will have to be continued and refined if we are to understand the overall and longer-term impact of these changes to the regulations that govern how listed companies conduct their research.

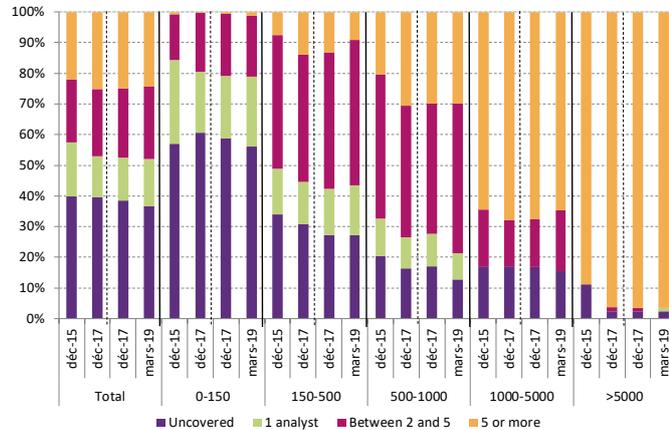
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<sup>31</sup> Source: AMF.

<sup>32</sup> Source: Bain & Company (*Global Private Equity Report 2019*)

<sup>33</sup> Here, a company is deemed to have analyst coverage if a recommendation has been made in the 12 preceding months.

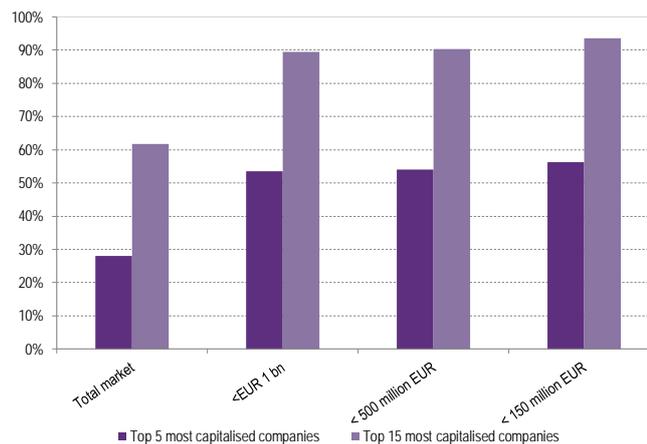
**Figure 29: Analyst coverage of European companies listed in Paris, by number of analysts, broken down by size<sup>34</sup>**  
(as a % of the number of companies)



Source: Bloomberg; AMF calculations

The number of research firms actively monitoring European companies listed in Paris also increased from 142 at the end of 2017 to 148 in spring 2019.<sup>35</sup> However, this coverage seems to have become slightly more concentrated since the end of 2017. The cumulative market share of the top 15 research service providers was around 62% in March 2019, compared with 59% at the end of 2017. Furthermore, this level of concentration is much higher for midcap companies, which is a potential weak spot: the top 5 research firms accounted for just over a quarter of the market in March 2018 (28%), compared with more than half for companies with a market capitalisation of less than 500 million euros (and 56% for companies with a market capitalisation of less than 150 million euros).

**Figure 30: Market share of research firms (%) by company market capitalisation**



Source: Bloomberg; AMF calculations

<sup>34</sup> To reduce statistical bias, two balanced panels were used to create this graph: one made up of companies present between December 2015 and December 2017, and the second covering companies present between December 2017 and March 2019. The market capitalisation used for both samples was the one from December 2017.

<sup>35</sup> 9 research firms stopped monitoring European companies listed in Paris between the end of 2017 and March 2019. Their cumulative market share at the end of 2017 was not significant (around 0.5%).

The number of recommendations produced by analysts has dipped slightly since the end of 2017 (down 4%). This change largely reflects Natixis analysts being transferred to Oddo BHF, a move that did not benefit European companies listed in Paris.

## CHAPTER 2: MARKET ORGANISATION AND INTERMEDIATION

The entry into force of MiFID II has led to major changes for equity markets in 2018 with a significant increase in the activity of systematic internalisers (SIs). Although these changes are not necessarily risky on their own, they demonstrate how difficult it is to achieve MiFID II's initial objectives: repatriating volumes negotiated over-the-counter to transparent platforms. At the same time, the increasing concentration of volumes traded at fixing on the regulated French market means that intraday regulated market activity is moving towards other trading venues. This concentration also presents a risk in terms of the deterioration of the price formation process and an increase in intraday volatility or flash crash events.

On the bond markets, liquidity conditions seem to be continuing their slow decline as observed since the beginning of 2015 for the corporate segment, without significantly worsening in 2018.

OTC derivative market vulnerabilities are continuing to decrease as post-crisis measures end. New risks have been identified, however:

- (i) for the application of regulations, with anticipated difficulties regarding the initial margins for the least exposed counterparties;
- (ii) regarding the supervision of clearing houses, which are struggling to fulfil their intended purpose of real European supervision. This could risk distorting competition and arbitrages in favour of the lowest bidding jurisdictions with significant consequences for financial stability.

The European benchmark regulation is being progressively implemented, as the methodological uncertainty on critical indices has been resolved with the specification of alternative risk-free rates. Its vulnerabilities are therefore associated with the transition phase, when the new references are made available for use, creating primarily legal risks for the least standardised markets, such as cash and syndicated loans.

Finally, the risks and uncertainties provoked by Brexit are greater than ever, even though the industry is now prepared. The many delays and uncertainties that weigh on the application of Brexit have led to a waiting game. Several risk-carrying uncertainties remain: the future supervision of entities that had to move their activities to different jurisdictions, the difficulties in implementing the trading obligation, and the need to quickly adopt a European resolution for clearing houses.

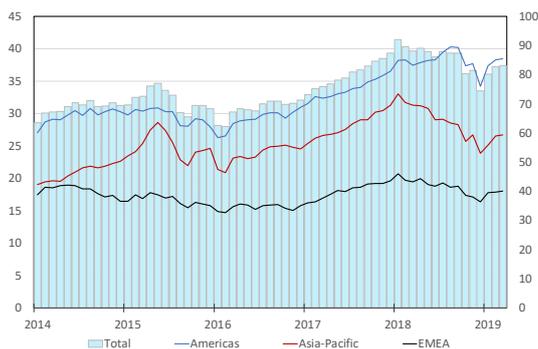
## 2.1. EQUITY MARKETS

### 2.1.1. Market capitalisations in decline, trading volumes on the rise in 2018

Global capitalisation of equity markets fell 14.9% to 74.525 trillion dollars in 2018 (Figure 31). This decline was primarily concentrated in the last quarter (-13.6% q-o-q). According to statistics from the World Federation of Exchanges, it affected American markets less than the rest of the world (-6.3% to 34.206 trillion dollars). With the Asian market cap falling 17.6% to 23.895 trillion dollars, the primacy of American markets, under threat since 2015, has been re-established. The European market cap<sup>36</sup> declined 16.5% to 16.366 trillion dollars.<sup>37</sup>

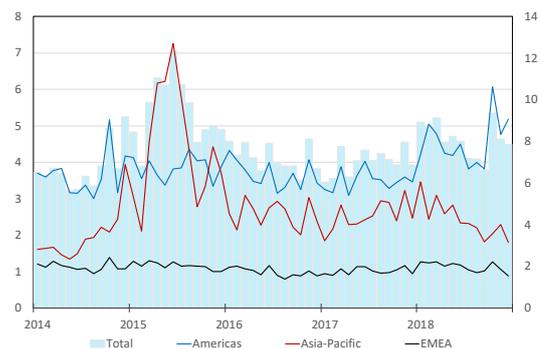
On a global scale, transaction volumes completed in 2018 in the order books<sup>38</sup> (Figure 32) demonstrated strong growth (+15.4%) compared with 2017. This growth primarily came from the American markets (+30.4%), as well as the Europe-Middle East-Africa (EMEA) region (+11.1%), whereas the Asia-Pacific (APAC) region was down 3.6% on the year. American trading volumes clearly benefited from market volatility during Q4 2018, but this was not the case in Asia, even though volatility was high.

**Figure 31: Market capitalisations**  
(in trillions of dollars)



Source: WFE, AMF

**Figure 32: Stock trade volumes**  
(in trillions of dollars)



Source: WFE, AMF

On the Euronext equity markets,<sup>39</sup> the 11.4% drop in market capitalisation to 3.333 trillion euros was in line with the performance of the market indices (-11.6% for the Euronext 100, -11.0% for the CAC 40). The market operator, however, registered +13.4% in annual growth for trading volumes of shares traded on electronic order books. This renewed activity led to a 10.9% increase in revenue to 210.9 million from cash trading, greater than that from IPOs (26.4% annual growth to 106.5 million euros, with the integration of the Dublin Stock Exchange). Revenue from stock trading was up 15.5% on the year, to 34.3% of the 615.0 million euro turnover.<sup>40</sup> It has a strong influence on unit incomes for equity trading venues because of its relative variability.

Competition for traditional share trading services and the variability of transaction revenue have led Euronext, as well as other market operators, to seek consolidation and diversification. Euronext's search for diversification can be seen primarily in its

<sup>36</sup> 82% of the EMEA aggregate comes from European markets.

<sup>37</sup> Note: the +4.7% appreciation of the euro against the US dollar exacerbates the European market cap's decline (in dollars). Euronext's decrease in capitalisation was therefore 11.1% in euros, according to the same source.

<sup>38</sup> Trading volumes from matched trades on the electronic stock exchange order books.

<sup>39</sup> Covering the Amsterdam, Brussels, Dublin, Lisbon, and Paris markets.

<sup>40</sup> With the addition of the 65.6 billion in revenue from trading on the derivatives and foreign exchange markets, trading revenue accounts for 45.0% of turnover.

development of trading in new asset classes (such as the purchase of the ECN FastMatch in 2017 on the foreign exchange and commodities markets and their interest in the Oslo Børs derivatives market), as well as post-trade services (see Euronext's August 2018 offer<sup>41</sup> for Markitserv, an OTC trading confirmation service provider). Euronext now also provides technology services (January 2018 purchase of InsiderLog, which automatically generates insider lists), as well as data and index services.<sup>42,43</sup> Additionally, the economies of scale that may be achieved on trading services justify the continued consolidation process that has been implemented internationally for two decades. The 2019 acquisition of the Oslo Stock Exchange by Euronext, despite a competing offer by Nasdaq OMX, as well as the finalised acquisition of the Irish Stock Exchange in March 2018, fulfil the goals of both consolidation and diversification.

### 2.1.2. Ongoing change in market structure following the entry into force of MiFID II

*SI volumes up, lit  
market volumes  
down*

Since MiFID II came into force, particularly the trading obligation that requires to trade shares on platforms or via the intermediary of a systematic internaliser (SI)<sup>44</sup>—a venue hardly used until now—there have been significant changes in equity market structure with a sharp rise in SI market share, which spiked from under 1% in 2017 to 15.8% in March 2019, bringing the OTC market share down to 39% (from 48% in 2017)<sup>45</sup> and the platform market share from 51% to 45%. The market share of volumes executed on transparent platforms decreased the most (from 47% to 43%). Periodic auctions have increased since MiFID II came into effect, and their trading protocol theoretically provides pre-trade transparency. But in reality, they are less transparent than lit markets, which highlights the risks associated with the growth of periodic auctions. Their market share increased from 0.24% of all volumes in January 2018 to 0.85% in March 2019 (or 2% of volumes traded on platforms).

<sup>41</sup> The parent company, IHS, and the potential buyers were unable to agree on a price, so the sale did not take place.

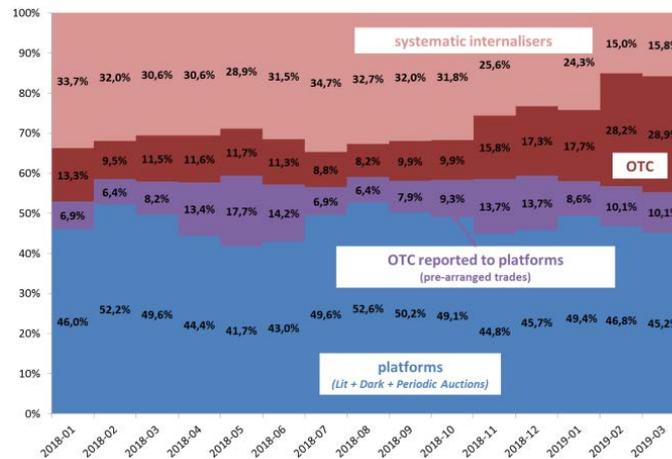
<sup>42</sup> Euronext's Advanced Data Services revenue (previously called Market Data & Indices), grew 13.0% in 2018 to 118.3 million euros (19.2% of turnover). The 2018 yearly results, published on 15 February 2019, indicate: "Euronext has strong ambitions for the growth of its broad data management and index segment which has become central to the exchange industry both from an economic and regulatory standpoint".

<sup>43</sup> In the United States, payment of tape providers, in particular CTPs (consolidated tape providers), was controversial and led to an [SEC decision](#).

<sup>44</sup> MiFID 2 defines systematic internalisers (SIs) as investment firms which on an organised, frequent and systematic basis, execute client orders as a counterparty on their own account.

<sup>45</sup> Total of OTC volumes and pre-arranged orders (also called off book on venue or negotiated trades), i.e. trades reported to platforms and therefore deemed to be executed on a platform despite their bilateral negotiation.

**Figure 33: Changes in the French equity market structure**  
(Market share in traded amounts)



Source: Refinitiv (ex Thomson-Reuters)

It is of note that although the SI market share had been fluctuating between 30 and 35% since January 2018, it has been continuously falling since November 2018, likely due to an improved understanding of the trading obligation. Actually, MiFID II includes multiple exemptions to this requirement, particularly for transactions between eligible counterparties and/or professionals that do not contribute to price formation. Lack of understanding of these exemptions when MiFID II first came into force led to a high number of transactions being declared as made through an SI, while they should have been declared as OTC.

**Many SI transactions do not contribute to price formation**

MiFID II's original goal was to encourage the emergence of SIs, as well as trading platforms, because as a counterparty acting on own account, "the trading activity of an SI is characterised by risk-facing transactions that impact the Profit and Loss account of the firm and (...) are a valuable source of liquidity to market participants".<sup>46</sup> Therefore, in the definition of an SI, the directive indicates that "limits for the purposes of what constitutes frequent systematic and substantial over the counter (OTC) trading (...) should be set at an appropriate level to ensure that OTC trading of such a size that it had a material effect on price formation is within scope while at the same time excluding OTC trading of such a small size that it would be disproportionate to require the obligation to comply with the requirements applicable to systematic internalisers".<sup>47</sup>

Data analysis shows, however, that SI contribution to price formation is limited. Price forming SI volumes **make up only 10% of all volumes exchanged on the equity markets**. Also, whether these transactions actually contribute to price formation is doubtful because:

- 30% of them are executed after fixing;
- a large portion of this activity is related to block transactions wherein the SI functions much more as a pure intermediary rather than taking a real risk (see above).

<sup>46</sup> ESMA Q&A 26, Market Structures, 28 March 2018.

<sup>47</sup> Point 18, COMMISSION DELEGATED REGULATION (EU) NO. 2017/565 of 25 December 2016.

The pronounced, rapid development of the market share of systematic internalisers with the new trading obligation raises a question about how markets function: is there really an improvement in the pricing mechanism when traded volumes move from pure OTC to systematic internalisers?

This question is all the more important since the second measure to have come into force, which also aims to improve market transparency and the process of price discovery by limiting activity on dark platforms, does not seem to favour lit markets either.

**Figure 34: SI market share in total volumes by transaction type**



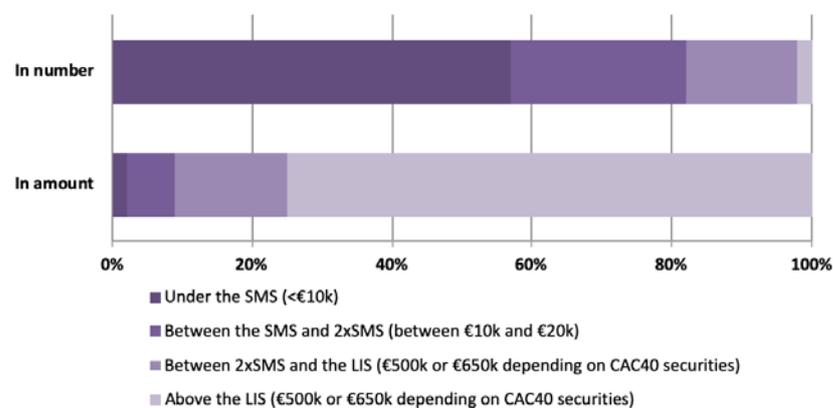
Source: Refinitiv (ex Thomson-Reuters)

*They provide limited pre-trade transparency*

Upon assessment, SI contribution to market transparency is not remarkable, either. The goal of MiFID II was to increase market transparency by requiring SIs, with their new trading requirement, to provide pre-trade transparency.<sup>48</sup>

Thus, SIs are required to continuously list bid and offer prices for all liquid shares.<sup>49</sup> The texts also set the minimum order size for SIs at 10% of the Standard Market Size (SMS), or, with an SMS set at 10,000 euros after rounding for all French shares, a minimum order of 1,000 euros.

**Figure 35: SI transactions broken down by size**



Source: Regulatory reporting

<sup>48</sup> Provided that certain size conditions are met.

<sup>49</sup> There are currently 143 French liquid shares (including SBF 120 securities).

Although 82% of price forming transactions<sup>50</sup> in number add up to less than €20k, **they account for less than 8% of the cumulative amount traded via SIs**. Since SI price forming transactions are estimated at 10% of total market volume, **the “transparent” share amounts to only 0.8% of total market volume**. Therefore, **the benefits of pre-trade SI transparency appear to be very limited**.

The graph below shows how much SI volumes rely on block transactions (above the Large In Scale, or LIS, limit) and much less on small-scale trades, even though they are more frequent. These block transactions thus appear to be essential for SIs.

*Confirmation of the positive effects of the new tick size regime, even during market stress*

An initial analysis of the impact of the new tick size regime the month following its entry into force revealed its benefits for market quality. To make sure that these improvements were not only temporary and continued, including during market stress, the AMF conducted an additional, longer analysis over 10 months from August 2017 to May 2018, covering 5 months before and 5 months after the new regime came into effect.<sup>51</sup> With this extension, the study was able to take volatility into account.

The study confirms the positive impact of tick size on the depth available at the best limits despite the deterioration of this indicator due to significant market stress like that observed in February 2018,<sup>52</sup> which can be explained more by volatility than by the implementation of the new regime.

The study also confirms improvement in microstructure indicators. The reduction in the number of messages shows that order books are more stable (frequency of changes in best prices, order lifetime, OTR) and consequently, the price formation process is clearer. Finally, for SMEs, the implementation of an adapted tick size, although it was previously constant and equal to €0.01, boosted activity on securities and significantly increased volumes traded (by 20% between the two periods).

### 2.1.3. A significant increase in the share of transactions executed at fixing

The significant upward trend in volumes executed at fixing, already observed last year, spiked in 2018 and early 2019. The share of volumes traded at fixing for CAC 40 securities on Euronext Paris was 37.5% in Q1 2019, including 40.3% for March 2019.

The increasing concentration of share volumes traded at the end of the day has also been observed on all major European equity markets (see Figure 36)<sup>53</sup> and, to a lesser extent, on the American markets.<sup>54</sup>

<sup>50</sup> Only price forming transactions that are important for market participants were used for this portion of the analysis.

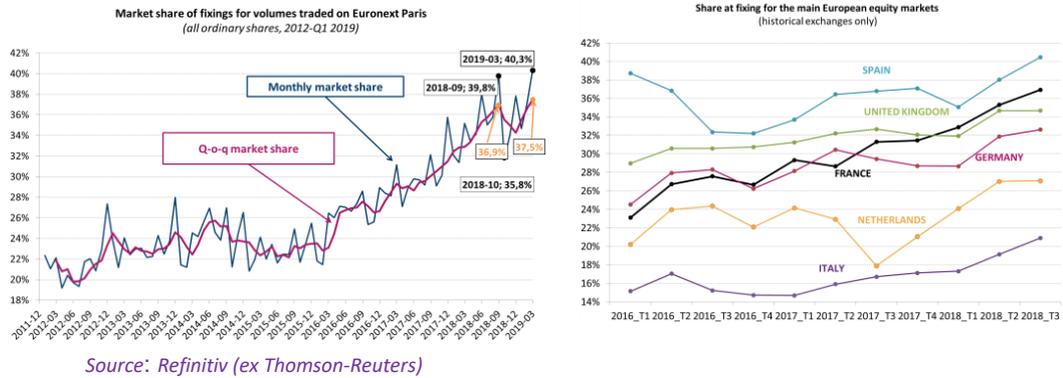
<sup>51</sup> See *MIFID II: Impact of the new tick size regime after several months of implementation*, AMF, March 2018.

<sup>52</sup> For a detailed analysis of the volatility observed on 6 February 2018, see the study: *Heightened volatility in early February 2018: the impact of VIX products*, April 2018.

<sup>53</sup> The differences observed between European countries may be due to the weight of domestic markets in the major indices, particularly Eurostoxx50.

<sup>54</sup> Rosenblatt estimates that this represents 8% of US markets.

**Figure 36: Changes in market share of volumes traded at fixing in France and on the major European markets**  
(Market share in traded amounts)



**Development facilitated by the rise of passive management and the entry into force of MiFID II**

This trend may be due to:

- the rise of passive management, both in France and abroad, in which creation/destruction of shares is generally done at net asset value at the end of the day, therefore increasing volumes at fixing in the underlying basket for their hedging transactions.
- The entry into force of MiFID II, which strengthens best execution requirements for fund managers and reporting requirements on trade and cost analysis in order for clients to assess execution quality. In placing their orders at fixing, they reduce the cost of these constraints.
- To a lesser extent, the amplifying effect of execution algorithms that adapt their volumes according to the market: the increase in liquidity at fixing, prompted by the aforementioned factors, attracts even more volumes through these algorithms (because liquidity attracts liquidity).

**Potential consequences for orderly financial markets**

The increasing share of volumes traded at fixing is a source of risk that could have significant effects on orderly financial markets.

An analysis of all volumes traded shows that the share executed at fixing increases at the expense of volumes traded continuously throughout the day: volumes traded before fixing were down 20% between Q1 2016 and Q3 2018, from 75% to 60% of volumes traded.<sup>55</sup> The concentration of volumes at the end of the day could weaken the price formation process throughout the day due to a lack of sufficient liquidity. It could also lead to an increase in intraday volatility by causing more flash crash events like that observed for the LVMH share, whose price dropped 8% last 29 March right after opening due to a lack of participants just after the opening price was set. In addition, it appears that the share of non-price forming market orders is as high as 40% during fixing,<sup>56</sup> which does not tend to make the price formation process very efficient.

Additionally, such a high concentration of volumes over such a short period of time increases market exposure to potential operational incidents or infrastructure malfunction.

<sup>55</sup> The sharpest drop takes place between 14.30 and 15.00 (-33%), before the EU and US markets converge preceding the US opening, multiplying trades between 15.00 and 15.30.

<sup>56</sup> Data analysis for September 2018 of market buy and sell orders that match and therefore do not contribute to price formation. Only the balances from these orders and limit orders contribute to price formation.

## 2.2. BOND MARKETS

Volumes traded on the French secondary bond market dropped 15% in 2018 to 4.7 trillion euros, including 800 billion on the corporate segment. This trend was also observed on the primary markets, where issuance dropped significantly under the influence of slower growth, financial instability, and the deterioration of financing conditions.

The marked downward trend observed for spreads since 2016 with risk premia being squeezed by an accommodative monetary policy ceased in 2018 as markets anticipated normalisation. Corporate spreads also spiked to their 2016 level. Although spreads widened again in early 2019, they remained greater than those that dominated early 2018, demonstrating a relative deterioration of financing conditions (See Chapter 1).

### 2.2.1. A year characterised by the end of the securities purchase programme of the European Central Bank (ECB)

The ECB's quantitative easing (QE) programme, which was announced on 22 January 2015, began in March 2015 with the acquisition of sovereign debt (Public Sector Purchase Programme, or PSPP). The QE programme was extended in December 2015 and expanded on 11 March 2016 to include corporate bonds in the form of the corporate sector purchase programme (CSPP). The CSPP,<sup>57</sup> which began on 8 June 2016, had a total monthly purchasing objective (of sovereign and corporate bonds) of 80 billion euros.

The ECB began gradually reducing the programme starting in April 2017 (60 billion in monthly purchases) to 30 billion euros in January 2018, 15 billion euros in September 2018, and a complete end to bond purchasing as of 31 December 2018.

The ECB is still continuing to fully reinvest the principal payments from maturing bonds acquired during the purchase programme.<sup>58</sup> 64 billion euros were reinvested between January and April 2019 (including 2 billion for the CSPP), and the ECB estimates 190 billion euros of reinvestment (including 12 billion for the CSPP) from now until the end of April 2020.

2018 was marked by a significant deceleration of ECB purchases. The amounts invested in sovereign bonds had increased by 50% between the end of 2016 and the end of 2017, and corporate bonds had increased 150%. However, between the end of 2017 and the end of 2018, purchases only increased 11% and 35%, respectively.

As of 24 May 2019, the total amount purchased by the ECB amounted to 2.1 trillion euros of sovereign bonds and 178 billion euros of corporate bonds (nearly 17.5% of corporate bond purchases were carried out on the primary market).<sup>59</sup>

All in all, the ECB's balance sheet grew from 2.156 trillion euros in March 2015 to 4.7 trillion euros as of the end of May 2019.

<sup>57</sup> The securities involved in central bank purchases are euro bonds of non-bank firms incorporated in the euro area, with a remaining maturity of between 6 months and 31 years at the time of purchase and a rating higher than BBB- or equivalent (investment grade). There is no minimum issue floor criterion, in order to ensure purchases for the smallest firms, but there is a cap for the purchase of available volumes, limited to 70% per ISIN.

<sup>58</sup> The ECB will reinvest payments "for an extended period of time past the date when it starts raising the key ECB interest rates, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation." ECB press release, 13 December 2018

<sup>59</sup> Running parallel to these purchases are two asset purchasing schemes launched in September 2014 involving secured bonds (262 billion euros of covered bonds purchased in total in May 2019) and the asset-backed securities programme (26 billion euros).

**Table 1: Breakdown of purchases**  
(in billions of euros, as of 24 May 2019)

Programme	Détention	%
Public sector purchase programme	2 098,68	82%
Covered bond purchase programme	262,29	10%
Corporate sector purchase programme	177,69	7%
Asset-backed securities purchase programme	26,12	1%
<b>Total Purchases</b>	<b>2 564,78</b>	<b>100%</b>

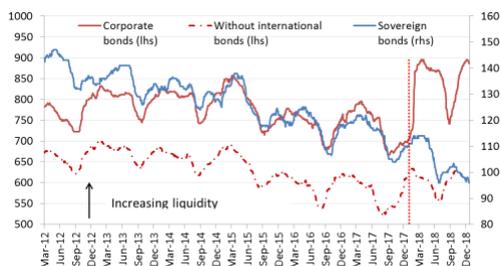
Source: ECB

### 2.2.2. Secondary corporate market liquidity continues its slow decline

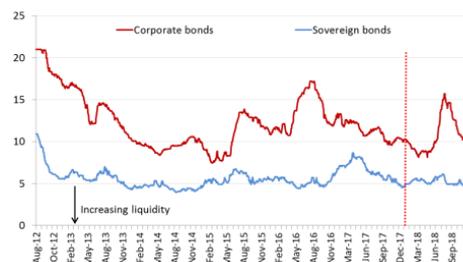
After slightly improving in 2017, the drop in volumes as well as spreads led to a new decline in liquidity in 2018, which must be assessed considering the shock in the available data created by MiFID II. This change was seen in the stagnation/decline of two French bond market liquidity indicators, in particular on the corporate segment.

**Figure 37: Change in French bond market liquidity indicators**

**Number of different bonds traded throughout the day**  
(moving median – 50 days)



**Transaction price interquartile median of the 100 most-traded bonds over the last 100 days**  
(in basis points – moving median 50 days)



Source: AMF, MiFID II reporting data

Changes in liquidity are assessed by analysing two indicators: (i) the number of different bonds traded throughout the day; (ii) the interquartile range of transaction prices observed for the most liquid securities (see Box 1).

Although the indicator for number of bonds traded seems to show significant growth since January 2018, this must be interpreted with caution. Since MiFID II and MiFIR came into effect, introducing reporting requirements for all financial instruments in Europe, the AMF has observed that international bonds (i.e. bonds issued outside France by issuers whose head offices are located in France) are much better declared than before. This increase in representation creates an artificial spike in the number of corporate bonds. Indeed, if the bonds that were poorly reported in the past are not taken into account, the daily number of traded bonds shows relative stagnation in 2018, at about 600 securities versus 660 in 2014.

On the sovereign segment, the indicator continues to slowly decline as it has since the beginning of 2015, sliding from 130 securities in 2014 to 105 in 2018.

The second indicator, which measures the cost of liquidity consumption, declined significantly in the beginning of 2018 for corporate bonds, with the median daily price difference increasing from 10 basis points (bps) in January 2018 to 16 bps in September 2018 after dropping to its lowest level in March 2018, to 8 bps. It tightened, however, during the last quarter, nearly returning to its end of 2017 level at 11 bps.

On the sovereign segment, it remained relatively stable at 6 bps in 2018. Liquidity conditions seem to be continuing their slow decline as observed since the beginning of 2015 for the corporate segment, without significantly worsening in 2018. With the continued high risk of re-pricing and significant ECB support, it is nevertheless important to remain vigilant (see Chapter 1).

**Box 1: Measuring French bond market liquidity<sup>60</sup>**

After the AMF published a first study in November 2015,<sup>61</sup> additional research was conducted through an academic partnership to clarify the different types of liquidity measures for corporate bonds.

The study investigates how exclusive data received by the market regulator can be used to construct bond market liquidity indicators for non-financial companies.

It recommends two indicators that can measure two different aspects of liquidity:

- a price dispersion index calculated for the most liquid securities (the width component of liquidity that represents the cost of liquidity consumption), measured by the interquartile range of transaction prices during a day;
- the daily number of ISINs traded, which reflects the breadth component of liquidity, i.e. the number of liquid securities.

The analysis of 2012–2016 data reveals that the combination of these two measurements, both the width and breadth components, sends a concerning signal, but not necessarily alarming, about changes in bond market liquidity since mid-2015.

This confirms the analyses conducted since November 2015 using the composite indicator initially proposed by the AMF.

**2.2.3. A changing bond market microstructure marked by SI development and increasing electrification**

The data received from new regulatory reporting formats established by MiFID II provides a more precise vision of trading venues. Before MiFID II, any trade made on a platform that was not registered as a multilateral trading facility (MTF) was reported as an OTC trade. Since January 2018, trades on the bond market may be made OTC, on an MTF, via an SI, or on new OTF platforms (organised trading facilities<sup>62</sup>). In practice, for bond markets, activity on centralised order books remains very limited. When automated, trades are primarily executed through RFQ (request for quotes) systems, which are platforms that allow clients to send the same request to several dealers at once, putting them immediately in competition with one another.<sup>63</sup> In practice, these systems are approved by national regulators and registered with ESMA as MTF or OTF.

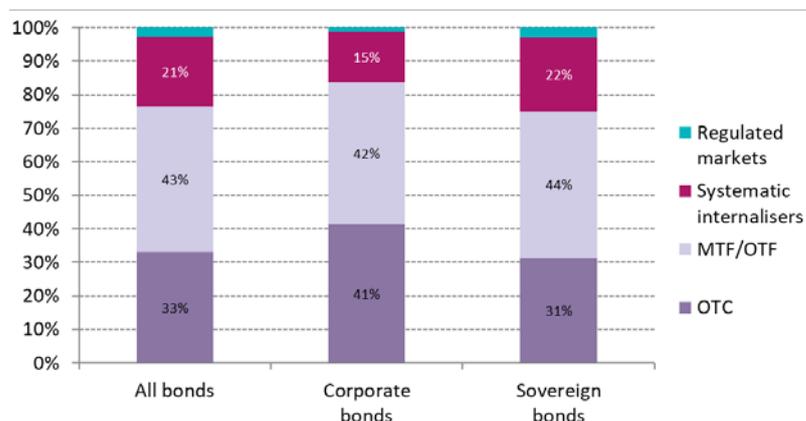
<sup>60</sup> O. Guéant, March 2019, *Measuring Liquidity on the Corporate Bond Market*, AMF.

<sup>61</sup> AMF, November 2015, *Study of liquidity in French bond markets*.

<sup>62</sup> OTFs are characterised in particular by: i) the interaction of at least three clients (not members), hence, in particular, the application of best execution rules; ii) discretionary execution policies that allow the OTF operator to place, withdraw, or not match a specific client order with other orders available in the systems at any given time; iii) the matching authorisation with interposition of the own account, if the client consents to this (matched principal trading); iv) the authorisation to trade on own account on sovereign illiquid bonds.

<sup>63</sup> The best known include Bloomberg, Tradeweb, and Market Access.

**Figure 38: Breakdown of volumes traded in 2018 by trading venue**  
(in % of total amounts traded in 2018)



Source: AMF, trade activity reporting

It appears that most activity (54%) continued to take place OTC in 2018. However, like with equity markets, a large portion of this OTC activity is now conducted via systematic internalisers. SIs therefore totalled 21% of the market in 2018. It is also of note that this market share is lower for corporate bonds (15%), which favour OTC transactions.

Although the discrepancy between sovereign and corporate bonds traded on electronic platforms (MTF or OTF) has been falling for two years (sovereign markets were more automated than corporate), they are now at the same level, with a market share of 44% and 42%, respectively.

The progressive tightening of criteria set by the MiFID II, which establishes pre- and post-trade transparency rules for non-equity instruments for the first time, should promote electronification.

In order for a bond to be considered liquid, it must meet three criteria evaluated each quarter on the basis of data reported to the ESMA: the average daily amount traded, the number of days the security was traded, and the average daily number of transactions. This last criterion, which was set at 15 in January 2018, will be progressively decreased to 2.<sup>64</sup>

Thus, the number of liquid bonds subject to instantaneous transparency requirements<sup>65</sup> increased from 227 securities for the entire European Union in the beginning of 2018 to 987 securities in May 2019.

This implies, however, that market participants will have wider and easier access to data produced for pre- and post-trade transparency requirements, reinforcing the need for a European consolidated tape.

The main fear regarding the electronification of trades on bond markets is the associated risk of developing high-frequency trading (HFT) activities with potentially negative consequences, such as an increase in the number of flash events, just like the one observed on US treasury bills on 15 October 2014. This activity and all the changes brought about by the new regulation should therefore be monitored in order to evaluate their impact on the quality of the market.

<sup>64</sup> The limits for the two other criteria remain the same: an average daily executed amount of at least 100,000 euros, and at least 80% trading days.

<sup>65</sup> For these securities, publication must occur within 15 minutes after the trade. Other securities are also subject to post-trade publication requirements, but with longer deadlines that can go up to two days for corporate bonds and four weeks for sovereign bonds (see *Markets and Risk Outlook 2018* for a detailed description of transparency regimes).

#### 2.2.4. A normalising repo market that remains very active

After a significant increase in activity, the European repo market's amounts outstanding<sup>66</sup> grew 4.9% in 2018, reaching 7.739 trillion euros at the end of 2018.

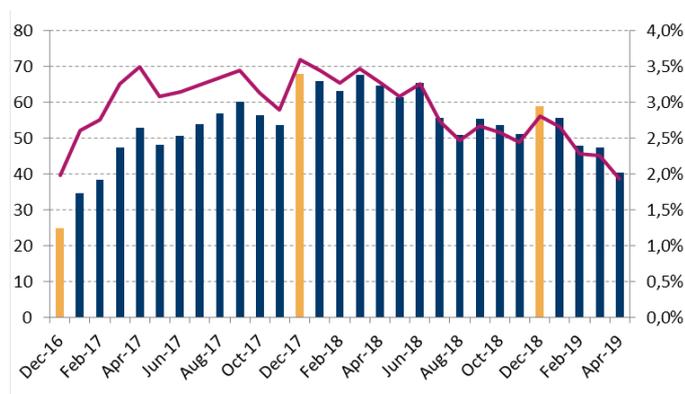
**Figure 39: The repo market in Europe**  
(in billions of euros)



Source: ICMA

Although the market's liquidity continued to decrease at the end of the year, mainly due to prudential requirements for European banks that encourage them to reduce their exposure to the repo market in order to limit the size of their balance sheet at account closing, thus reducing the offer of securities on the market, it was never stuck. Therefore, lending rates declined much less at the end of 2018: on the general collateral (GC) segment,<sup>67</sup> lending rates on German bonds averaged -1.07% on 28 December 2018 versus -4.18% at the end of 2017 (and -0.39/-0.55% for the rest of the year), and lending rates on French bonds averaged -1.5% versus -3.35% the previous year (and -0.45/-0.55% for the rest of the year).<sup>68</sup>

**Figure 40: Securities lending by Eurosystem banks**  
(in billions of euros, in % of amounts purchased for the PSPP)



Source: ECB

<sup>66</sup> Source: ICMA. The repo market permits short-term (anything from overnight to one year) borrowing of cash in exchange for securities, particularly the safest government debt, which act as collateral.

<sup>67</sup> GC (General Collateral) is guaranteed by an indefinite bond belonging to a predefined basket, and SC (Specific Collateral) is guaranteed by a predetermined individual bond. In principle, the former is a liquidity market, whereas the latter is "collateral-driven" because it is usually the market on which market participants borrow specific bonds and therefore, in a sense, determine the price of the scarcity of bonds.

<sup>68</sup> Source: ICMA survey.

Beyond better anticipation by market participants, who are now beginning to work on their end-of-year prudential requirements by the end of October/beginning of November, the measures implemented to facilitate lending of securities acquired by national central banks continue to be successfully employed. Thus, in December 2018, nearly 58 billion euros in bonds (2.8% of the amounts held for the PSPP) were lent by national central banks.

### 2.3. BENCHMARK REGULATION: GRADUAL ENTRY INTO FORCE

The Benchmark Regulation (BMR) establishes a European framework for risk management and supervision of financial indices. It specifies the status of the parties involved in the production of benchmark indices (data contributor, benchmark administrator, users, etc.) and distinguishes between indices according to their importance: critical (including, in particular, the EONIA and EURIBOR interest rates), significant, or insignificant.<sup>69</sup> The supervision system will be set up gradually, in line with a schedule staggered up to 2020, by which date the suppliers of critical indices must be in compliance with the requirements of the regulation.<sup>70</sup>

The entry into force of this regulation highlights two risks:

*The methodologies for alternative risk-free rates are undergoing finalisation*

**1) Firstly, the transition from the critical benchmark indices – termed Risk-Free Rates (RFRs) – to alternative benchmarks complying with BMR requirements. It is progressing, but operational risks may be feared.** The authorities and the banking industry are currently finalising the development of alternative RFRs. The uncertainties therefore increasingly relate to the conditions and materiality of adoption of the alternative RFRs by financial contracts.

**The EONIA**, the benchmark rate for unsecured overnight lending transactions denominated in euros – serving as a reference<sup>71</sup> for numerous swap contracts, repos and securities loans, and often used for valuation purposes<sup>72</sup> – will no longer be used from 2020<sup>73</sup> because it does not comply with BMR requirements.<sup>74</sup>

An alternative RFR, the Euro Short-Term Rate (€STR), is therefore being introduced. The ECB already calculates it, but this calculation will be officially valid only from 2 October 2019. Like the EONIA, the €STR describes unsecured overnight lending transactions denominated in euros. However, they are different in three respects: €STR is a borrower rate, EONIA a lender rate; the calculation of EONIA is based on the interest rates posted by 28 banks, €STR on transaction data of 52 European banks;<sup>75</sup> finally, EONIA is administered by the private sector (EMMI<sup>76</sup>), while €STR is administered by the ECB. An "€STR plus spread" calculation recommended for EONIA<sup>77</sup> would enable it to coexist in parallel with

<sup>69</sup> For a description of the framework created by the BMR, see the AMF's 2017 Risk Outlook.

<sup>70</sup> NB: A [European political agreement of 25 February 2019](#) proposes extending by two years until the end of 2021 the transitional arrangements for benchmark indices of critical importance and the benchmark indices of third countries.

<sup>71</sup> See estimate of amounts referenced to EONIA and IBOR in the [AMF's 2018 Outlook](#) (Box 8).

<sup>72</sup> For example, Overnight Index Swaps, for which the variable leg is indexed to EONIA, are used for some clearing house operations.

<sup>73</sup> On the proposal of the European Council the date could be pushed back.

<sup>74</sup> See [FSB \(2017\)](#) which establishes this conclusion for the EONIA, EURIBOR and LIBOR indices.

<sup>75</sup> MMSR (ECB Regulation 1333/2014) money market statistical reporting (transactions of the previous day).

<sup>76</sup> The members of EMMI (European Money Markets Institute), an organisation supervised by the Belgian FSMA, are the banking associations of the EU Member States. On 1 April 2019, the European Commission [proposed](#) that ESMA be "assigned responsibility for authorising and supervising the administrators of benchmark indices considered of critical importance at the EU level (such as the EURIBOR and EONIA), and for recognising the third-country administrators administering benchmark indices used in the EU".

<sup>77</sup> See consultation: "[WG on euro RFRs seeks feedback on EONIA to €STR legal action plan](#)" of 15/05/19.

€STR after the transition phase.<sup>78</sup> However, it still raises legal questions regarding the extent to which its adoption could result in a novation for contracts indexed to EONIA.

*Remaining  
uncertainties  
regarding the method  
for calculating  
interest rates beyond  
overnight maturity*

To bring the **EURIBOR** – which it also administers – into line with the BMR requirements, moreover, on 6 May 2019 EMMI proposed a method extending the reference market, beyond interbank deposits, to unsecured wholesale lending. It thus also covers the transactions exceeding 20 million euros of reporting banks with public institutions, pension funds and insurance companies,<sup>79</sup> including on fixed-rate short-term securities (commercial paper, certificates of deposit). Moreover, this "hybrid" method considers above all effective transactions, quotes being no longer relied upon except if there is no effective transaction. A distinction is made between three levels here: wholesale transactions published for the wanted times and maturities (level 1); failing that, transactions for other maturities and/or prior trading days (level 2); failing that, rates on a closely linked market segment, or offered rates, adjusted by a spread (level 3). Levels 2 or 3 should be seldom used for 3-month interest rates or shorter maturities (over half of the market volumes), and used more frequently for longer maturities (especially exceeding 12 months).<sup>80</sup> The (negative) impact of use of the method in terms of the spread between the new and old EURIBOR should be slight (about 3bp for 3-month interest rates, at most 5bp for longer maturities).<sup>81</sup> However, the method leaves some possible remaining uncertainty regarding legal liability in the event of the use of interest-rate contributions based on estimates.

In the United States, the Federal Reserve already publishes a Secured Overnight Financing Rate (SOFR),<sup>82</sup> a RFR for the US dollar, and the US Alternative Reference Rates Committee<sup>83</sup> is developing long-term reference rates for the US dollar. In the United Kingdom, the Sterling Overnight Index (SONIA<sup>84</sup>) will be the RFR for the pound sterling, and the special-purpose working group is developing longer-term reference rates. The other currency areas covered by an FSB progress report of November 2018 on progress in reforming the methodologies for the main benchmark interest rates<sup>85</sup> generally follow a multiple-rate approach, in which IBORs could coexist with the newly introduced alternative RFRs.

*Risks for effective  
transition to  
alternative RFRs*

Once the methods for calculating the RFRs have been finalised, there is the problem of adoption and the **operational transition programme**, i.e. the effective inclusion of alternative RFRs in contracts (new and legacy contracts) having IBORs as underlyings. On the global level, OTC and on-exchange derivatives represent substantial amounts: 300 trillion dollars in assets (80% of products) reference dollar-denominated IBORs.<sup>86</sup> Management of the transition will be facilitated by using standardised documentation, especially in the framework contracts and standardised riders of the ISDA. Conversely, on relatively non-standardised markets such as those for cash loans and syndicated loans, the transition will require operational resources and bilateral treatment (raising clients' awareness). Several authorities have therefore asked the major financial institutions how

<sup>78</sup> According to the ECB, the spread between STR and EONIA is 8.5 basis points, a spread that EMMI will use to calculate EONIA from 2/10/19.

<sup>79</sup> No non-financial companies or central banks.

<sup>80</sup> Since 1 October 2018 the number of maturities for which the rate is calculated has been reduced from 8 to 5 (one week and one, three, six and twelve months).

<sup>81</sup> See Goldman Sachs, European Daily, EURIBOR is Dead. Long Live EURIBOR! of 20/05/19.

<sup>82</sup> As its name – Secured Overnight Financing Rate – indicates, this rate differs from European RFRs in that it concerns secured transactions.

<sup>83</sup> Alternative Reference Rates Committee (ARRC).

<sup>84</sup> See [SONIA Key features and policies](#) by the Bank of England.

<sup>85</sup> FSB; "[Reforming major interest rate benchmarks](#)"; Progress report; 14/11/18.

<sup>86</sup> See EY, [\(L\)IBOR Transition –What is the impact on my organization?](#), of 26/11/18.

they were preparing for the adoption of alternative RFRs.<sup>87</sup> The specification in contracts of fallback provisions – stipulating the use of an alternative rate in the event of discontinuity of the reference rate for the contract in question – is crucial in this respect. In the United States, the ARRC has proposed some terminology regarding this, actively promoted with the finance industry.<sup>88</sup> Regarding futures contracts, ISDA is conducting consultations on the nature of the necessary adjustments.<sup>89</sup>

*The BMR regime, which has no equivalent, also raises questions about reciprocity with regard to third countries*

**2) Secondly, the BMR applies to a highly international market for financial indices, which raises issues of application to third-country indices (administered outside the EU) and issues of potential reciprocity of the provisions adopted.** Some suppliers of global indices – marketed within and outside the EU – are located outside the EU, e.g. the MSCI Intl and S&P Dow Jones in the United States, or the FTSE Russell in the United Kingdom. Others, often linked to national stock markets (STOXX Ltd, Bolsa de Madrid) or regional markets (Euronext, Nasdaq OMX), and sometimes independent (e.g. the German Solactive), are located in the EU.

For the former, the BMR provides for three alternative procedures for a benchmark index administered in a third country to be able to be used in the EU:<sup>90</sup>

- equivalence (Art. 30), based on cooperation agreements between competent national authorities and an equivalence decision of the European Commission for the country of the benchmark administrator; this procedure implies that the benchmark administrator, and the benchmark indices themselves, be recorded in the register kept by ESMA;
- recognition (Art. 32) of the administrator's reference Member State<sup>91</sup> by the competent EU authority, provided that the administrator has a legal representative in the jurisdiction of said competent authority;<sup>92</sup>
- endorsement (Art. 33) of a benchmark index can be given by an EU benchmark administrator, provided that the latter has the expertise and the effective means to supervise provision of the index by the third-country administrator in question. In that case the European administrator gives its endorsement to its competent national authority.

According to the ESMA online register,<sup>93</sup> so far only one actor has used the endorsement procedure, and another the recognition procedure. Since the BMR remains specific to Europe, it will remain to be seen to what extent reciprocity will apply to European benchmark administrators in third countries. A case in point can be seen in the United Kingdom, where rules similar to the BMR ("Statutory Instrument BMR") have been passed within the framework of the British law on the UK's exit from the EU (EU Withdrawal Act of 2018).

<sup>87</sup> See, for example, [Attached letter from the Dutch Authority for the Financial Markets \(AFM\) and Central Bank \(DNB\) of 25/04/19](#) and [Letter from the Australian Securities and Investments Commission \(ASIC\) of 9/05/98](#) to the CEOs of the major financial institutions in their respective jurisdictions.

<sup>88</sup> See, for example, Jones Day "[ARRC Publishes Final LIBOR Transition Recommendations for Floating Rate Notes and Syndicated Business Loans](#)", May 2019.

<sup>89</sup> The [ISDA consultations of 16/05/19](#), in particular, propose options concerning RFRs when the fallbacks are triggered for LIBOR derivatives in USD, the Hong Kong HIBOR, Canadian CDOR and Singapore SOR (which uses the LIBOR as input), and address pre-cessation issues, i.e. how derivatives contracts should deal with the announcement that the LIBOR and certain other critical IBORs will no longer be representative of an underlying market.

<sup>90</sup> The date of application of the rules, 01/01/20, is subject to a two-year extension (see footnote 36).

<sup>91</sup> The criteria for specifying the reference Member State are set out in Article 30(4) of the BMR.

<sup>92</sup> As at 20 May 2019, according to the [ESMA online register](#), only the provisions of Article 33 have actually been applied.

<sup>93</sup> As at 20 May 2019.

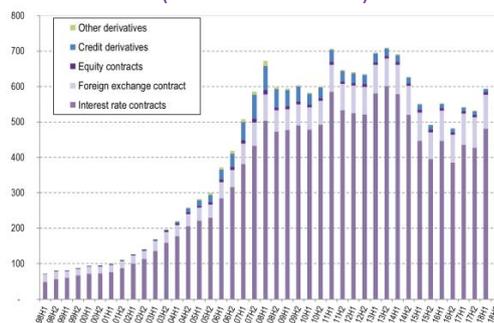
## 2.4. DERIVATIVES MARKETS

### 2.4.1. A reduction in risks related to activities on OTC derivatives

*Slightly higher  
notional amounts  
in 2018*

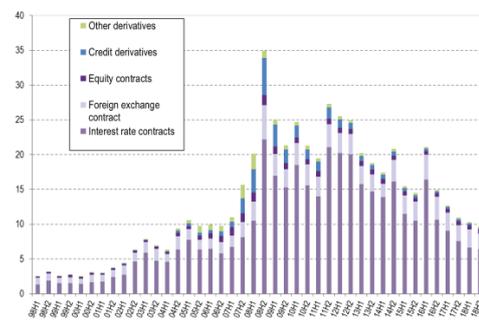
According to the Bank for International Settlements (BIS), the total global gross notional amounts<sup>94</sup> of OTC derivatives increased again slightly in 2018, reaching 544.833 trillion euros at the end of the year (Figure 41). Interest-rate contracts, which account for 80% of the total notional amounts, boosted this growth, and in particular the growth seen in the first half (+11% in the first half of 2019 as an annualised rate, +2% in the second half).

**Figure 41: OTC derivatives global notional amount**  
(in trillions of dollars)



Source: BIS

**Figure 42: Gross market values**  
(in trillions of dollars)



*But gross market  
values at their  
lowest since 2006*

The gross market values of OTC derivative contracts<sup>95</sup> continued to decline in 2018 to reach the lowest level since 2006 of 9.663 trillion dollars, i.e. a 16% contraction since the end of 2017 (Figure 42). This contraction is mainly accounted for by interest-rate derivatives, especially for the main global currencies: the gross market values of interest-rate derivatives in dollars and euros declined by 17% and 12% respectively year on year. This decline can partly be explained by the price effect observed in the past few years, resulting from the reduction in interest-rate spreads between the date on which the contracts were entered into and their reporting, which significantly affects interest rate derivatives. Moreover, according to the BIS, this decline observed since the financial crisis can also be explained by the growing use of the settled-to-market practice, which consists in recognising the margins of fluctuation on cleared derivatives in the form of a settlement rather than a transfer of collateral. This practice enables the counterparties to use the collateral received, and resets the market value of the derivatives to zero each day, contributing to the decline in gross market values.

*And the risk  
measured by gross  
credit exposure is  
at its lowest level  
since the crisis*

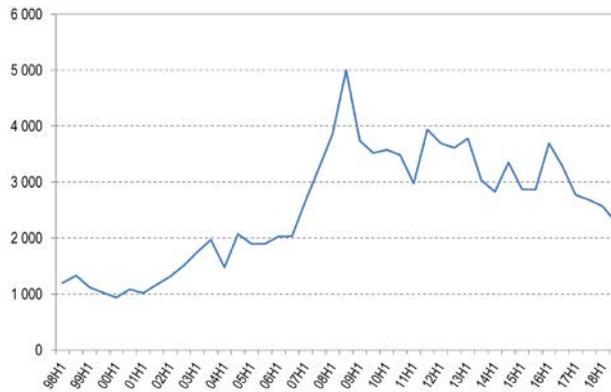
Gross credit exposure,<sup>96</sup> which gives a view of the aggregate counterparty risk before taking into account collateral, likewise continued to decline in 2018, going from 2.683 trillion dollars in December 2017 to 2.273 trillion dollars in December 2018 (-15%, Figure 44). It reached its lowest level since 2006.

<sup>94</sup> The notional amount of a derivative corresponds to the value of the asset underlying the derivative contract.

<sup>95</sup> The gross market value is the sum of the absolute values of all the derivative contracts outstanding for each reporting entity, valued at the market price on the reporting date (which is an approximation of the aggregate net asset value of the derivative contracts). The term "gross" means that contracts having positive and negative replacement values with the same counterparty are not cleared.

<sup>96</sup> The term "gross" means that the collateralised or non-collateralised nature of the exposure is not taken into account.

**Figure 43: Gross credit exposure**  
(in trillions of dollars)

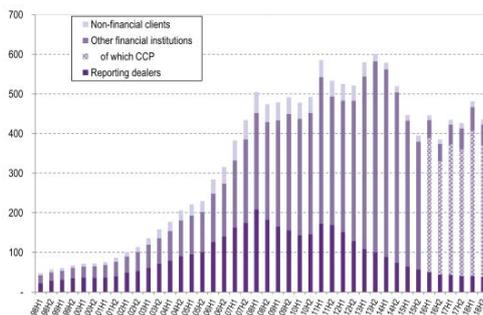


Source: BIS

All in all, in 2018, the slight increase in the gross notional amounts was nevertheless accompanied by a significant drop in gross market values as well as gross market exposures, thus consolidating a reduction in risks related to the OTC derivatives operations of financial institutions.

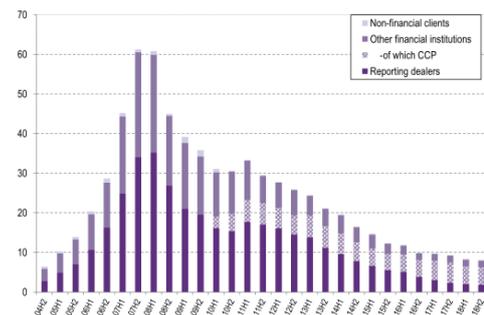
This reduction in risks continued to benefit from the increasing use of clearing as a result of the gradual phasing-in of regulatory obligations, including those imposed by the EMIR regulation<sup>97</sup> on derivatives in Europe. Hence, 332.083 trillion dollars in OTC interest-rate derivatives are now cleared, i.e. 76% of the notional amounts for this category (Figure 44). In the credit default swaps (CDS) segment, which represents 1.5% of the notional amounts of global OTC derivatives, the proportion of cleared assets increased from 44% at end-2016 to 55% at end-2018, reaching 4.445 trillion dollars (Figure 45).

**Figure 44: Global interest-rate derivative outstandings (notional) by type of counterparty**  
(in trillions of dollars)



Source: BIS

**Figure 45: Global credit default swap outstandings (notional) by type of counterparty**  
(in trillions of dollars)



The central clearing obligations for OTC derivatives in clearing houses (CCPs) authorised with respect to EMIR have come into application gradually since 2016. In Europe, the following have successively been declared eligible for central clearing: interest-rate swaps denominated in euros, pounds sterling, yen and US dollars, then those denominated in Polish, Norwegian and Swedish currencies, as well as credit default swaps (CDSs) based on

<sup>97</sup> Regulation 648/2012 on OTC derivatives, central counterparties and trade repositories (EMIR).

certain indices.<sup>98</sup> While these obligations are applicable to financial counterparties whose derivative positions exceed €8 billion, since 2016 and 2017 respectively, these clearing obligations will continue to be staggered over time in 2019 and 2020 for the other counterparties (see 2.1.2. for changes in the Regulation).

*A stress-test exercise which now takes into account concentration risk*

In order to ensure that CCPs are sufficiently resilient in Europe, the EMIR regulation provides for the implementation by ESMA, in cooperation with ESRB, of annual stress tests. The third exercise, launched in April 2019, drew lessons from the default of Norwegian trader Einar Aas, a member of the Nasdaq Clearing OMX AB CCP, which occurred in September 2018 (see Box 2). Accordingly, apart from methodological changes making it possible to better allow for credit and liquidity risks already considered during previous tests, ESMA takes into account concentration risk arising from an excessively large open position of a clearing member in a given asset class. The results are due to be published in the second quarter of 2020.

#### **Box 2: Default of Einar Aas, member of the Nasdaq OMX AB clearing house**

On 12 September 2018, the Swedish clearing house Nasdaq Clearing OMX AB published a news release reporting the default of one of its members which was unable to honour its margin calls.

Einar Aas, a Norwegian proprietary trader on the Nordic energy market, had accumulated a substantial position (approximately €500 million) on derivative contracts exposed to the spread between the prices of electricity produced in Scandinavia and that produced in Germany.

These prices, strongly correlated in the past, began to move apart as of Monday 10 September 2018, causing a significant increase in the spread (i.e. a market movement five times greater than the 99th percentile of the historical fluctuations customarily noted by the clearing house), resulting in heavy losses for the trader, who was unable to meet the CCP's margin calls.

Since the positions taken by the trader were too concentrated and the market was not sufficiently liquid, the clearing house decided to liquidate the positions through an auction sale, and consequently at very low prices. In order to absorb the losses, the CCP had to draw down 65% of its default fund and call on all its members to replenish it.

This episode shows that although the default was able to be managed, questions may be raised about the impact that a single market operator was able to have. This is especially important in that the clearing house had obtained very satisfactory results during ESMA stress tests which were designed to ensure that a CCP is able to withstand the default of its two largest clearing members. It turns out that the trader was actually not one of the largest clearing members of the Nasdaq Clearing OMX AB CCP, but the position it accumulated in a relatively illiquid market segment resulted in this risk concentration on one market operator.

Thus, in order to take this dimension into account, ESMA decided to include the risk of taking too large a position in its third stress test exercise launched last April (see above).

Questions should also be raised about two other risk-generating factors revealed by this episode which have not been dealt with by the European regulations:

- (i) Membership: Which market participants can be authorised to become clearing members? In this case a mere proprietary trader was a member of the clearing house.
- (ii) The liquidation procedure applied, which illustrates the urgent need for European legislation on the resolution of CCPs.

#### **2.4.2. First indicators of the European derivatives market using EMIR data**

Progress in the quality and standardisation of the data resulting from granular collection under the EMIR regulation provides initial information on the European derivatives market. ESMA published an initial report on market sizing in October 2018, which also outlines the statistical challenges encountered and the remaining issues related to data quality.<sup>99</sup>

<sup>98</sup> Refer to the ESMA register for an exhaustive list of contracts subject to the clearing obligation: [https://www.esma.europa.eu/sites/default/files/library/public\\_register\\_for\\_the\\_clearing\\_obligation\\_under\\_emi\\_r.pdf](https://www.esma.europa.eu/sites/default/files/library/public_register_for_the_clearing_obligation_under_emi_r.pdf)

<sup>99</sup> ESMA (2018), "ESMA Annual Statistical Report – EU Derivatives Markets 2018", October.

The data presented in the report are derived from data on positions involving a counterparty in the European Economic Area having performed a transaction on European derivatives, for the four quarters of 2017. ESMA thus identifies 74 million open interest contracts at end-2017,<sup>100</sup> for a total notional amount of 660 trillion euros, including both OTC derivatives and listed derivatives.<sup>101</sup> Listed derivatives remain a minority compared with OTC derivatives, although their share in the total notional amount increased from 13% to 17% in 2017.<sup>102</sup> However, this increase differs depending on the category of underlying assets: while listed equity and commodity derivatives account for 47% and 35% of the notional amounts of this asset class, interest-rate and credit derivatives are still mostly OTC products, with OTC notional amounts of 91% and 97% respectively.

Like on the global level, the report highlights the weight of interest-rate derivatives, which account for 69% of the total notional amount in Europe, the remainder breaking down among currency (12%), equity (5%), commodity (4%) and credit derivatives (2%).<sup>103</sup> European derivatives are mostly denominated in US dollars (33% of the total notional amount), although followed closely by the euro (28%) and then the pound sterling (11%). Regarding the types of contracts, swaps are in the majority (50% of the total notional amount), because they are used extensively in interest-rate contracts, followed by options and forwards.

The second noticeable trend following the gradual entry into force of the EMIR regulation is the increase in central clearing of OTC derivatives: this has increased from 40% to 58% of the notional amounts of interest-rate derivatives and from 25% to 27% of credit derivatives, which are the main instruments concerned by this obligation.<sup>104</sup> Accordingly, these initial European results corroborate the finding of a reduction in risks related to activities on OTC derivatives observed by the BIS on the global level.

Regarding the types of counterparties, 95% of the total European notional amount is coming from investment companies and credit institutions (63% and 32% respectively). However, this result should be put into perspective, because they may in fact correspond to transactions performed on behalf of clients, which cannot be identified via the reporting. These are followed by alternative investment funds (AIFs, 6% of the total notional amount) and undertakings for collective investment in transferable securities (UCITS, 2%). The concentration of the European market, measured by the proportion of the total notional amount for the top five counterparties, is particularly significant for commodity derivatives (67%), equity derivatives (51%) and credit derivatives (41%), but smaller for other asset classes.

<sup>100</sup> Open interest is the total number of derivative contracts outstanding, i.e. all the buy and sell positions held by operators which have not expired and which are waiting to be unwound.

<sup>101</sup> OTC (*over the counter*) derivatives are derivative contracts not listed on a regulated market, as opposed to listed derivatives or ETDs, *exchange traded derivatives*.

<sup>102</sup> However, this does not mean that the risk involved in listed derivatives is lower. For these products it is important to also look at the open interest and trading volumes in order to better assess the risks.

<sup>103</sup> The remaining 8% have been included in the "other" (6%) or unclassified (2%) categories.

<sup>104</sup> The OTC derivatives subject to the central clearing obligation are listed in the ESMA public register and comprise certain categories of interest-rate derivatives (such as basis swaps, fixed/floating rate swaps and futures contracts) and certain classes of credit derivatives (such as index-based CDSs). See ESMA70-708036281-176, "Public register for the clearing obligation under EMIR".

The AMF has also developed several tools for the compilation and cleaning of EMIR data, allowing monitoring of the reporting volumes under EMIR. This reporting represents an essential data source for supervision, market abuse detection, but also for financial stability monitoring purposes. A "SPOT" thematic inspection on governance and control systems set up for reporting transactions to the trade repositories, is also planned in 2019.

Lastly, the European Systemic Risk Board is also working on supervision of the European derivatives market, by creating historical, clean and aggregated databases, , to report on the evolution of trading volume across multiple dimensions. One of the challenges, in particular, is to get a better idea of the implications of Brexit with regard to central clearing. At this stage, these indicators remain non-public, to be used for decision-making by the relevant European authorities, but they complement the use and understanding of the challenges of the European derivatives market.

#### 2.4.3. 47% increase in initial margins since the entry into force of the requirements applicable to non-cleared derivatives

The entry into force of the initial margin requirements<sup>105</sup> has been staggered in five phases, according to the amounts of the positions concerned, over a period ranging from February 2017 for the biggest exposures (over 3 trillion euros) to September 2020 for the smallest exposures (less than 750 billion euros). As a consequence, the total amount of margins collected continued to increase significantly in 2018.<sup>106</sup> In its *Margin survey*, the International Swaps and Derivatives Association (ISDA) estimates that the total amount of margins collected by the 27 biggest market participants,<sup>107</sup> for their transactions on non-cleared derivatives, amounted to 1.016 trillion dollars at the end of 2018.

In particular, initial margins (IMs) received increased significantly, amounting to 157.9 billion dollars at the end of 2018, up 21% from the end of 2017 and up 47% compared with Q1 2017, which marked the start of the effective entry into force of the obligation. Initial margins paid followed the same trend, with a 14% increase from end-2017 and a 47% increase compared with Q1 2017.

Variation margins (VMs), for their part, had a less pronounced, asymmetric trend: variation margins received decreased by 1% between Q1 2017 and Q4 2018 to 858.6 billion dollars, while margins paid decreased by 15% to 583.9 billion dollars over the same period.

The margins (initial or variation) consisted mainly of cash (68%) and sovereign bonds (21%).

**Table 2 : Amounts of margins paid and received**  
(in billions of dollars, all jurisdictions combined)

Margin type	Contribution origin	Direction	T4 2018	T4 2017	T1 2017	2018/2017	2018/ Q1 17
Initial margins	Regulatory obligation	paid	83,2	75,2	47,2	11%	76%
		received	83,8	73,7	46,6	14%	80%
	Discretionary contribution	paid	10,1	6,4	16,3	58%	-38%
		received	74,1	56,9	60,5	30%	22%
Total initial margins	paid	93,3	81,6	63,5	14%	47%	
	received	157,9	130,6	107,1	21%	47%	
Total variation margins	paid	583,9	631,7	685	-8%	-15%	
	received	858,6	893,7	870,4	-4%	-1%	
Total	paid	677,2	713,3	748,5	-5%	-10%	
	received	1016,5	1024,3	977,5	-1%	4%	

Source: ISDA

<sup>105</sup> The initial or variation margins can be received or paid by a counterparty. A counterparty which receives margins does not necessarily post any, and conversely.

<sup>106</sup> See "2018 Markets and Risk Outlook" on the terms of the new requirements.

<sup>107</sup> These market participants are probably banks.

*Difficulties anticipated in phase 5 of the implementation of initial margins for the counterparties most lightly exposed*

If phase 4 of the entry into force of the margin requirements is scheduled for next September, as provided for by the legislation, difficulties have already been identified for the last phase planned for September 2020.

Phase 5 aims to subject to the initial margin (IM) obligations entities having an average annual notional amount of non-cleared OTC derivatives transactions exceeding 8 billion euros. Moreover, entities exceeding this threshold will be forced to exchange IMs only for transactions concluded with counterparties with which the amount of IMs to be exchanged exceeds 50 million euros. According to estimates, about 800 to 1,100 counterparties would be concerned by this phase 5 (compared with about sixty which are covered by phases 1 to 4). Several difficulties which could arise from the implementation of this obligation have been identified: (i) negotiation of "collateral"<sup>108</sup> annexes with the counterparties, but also contracts with the depositories,<sup>109</sup> with likely bottleneck effects given the large number of counterparties involved; (ii) implementation and validation of the internal models for calculation of initial margins, which could prove more complex due to the lack of experience and resources of the counterparties in question.

The Working Group on Margin Requirements (WGMR), set up at the instigation of the Basel Committee and the International Organization of Securities Commissions (IOSCO) published in early March a news release clarifying, among other things, the fact that the entities concerned are not required to conclude contracts with depositories and "collateral" annexes with counterparties as long as the 50 million euros threshold has not been reached. It specifies, moreover, that it will continue to watch for the potential effects until implementation in 2020.

#### **2.4.4. A finalisation of the revision of the EMIR regulation which introduces better proportionality but which struggles to establish real European supervision of clearing houses**

The plan for improvement of the EMIR regulation was published by the European Commission in May 2017 (EMIR REFIT or EMIR 2.1). This planned review aimed to reinforce the proportionality of the requirements and remedy certain shortcomings of the regulation. After legislative discussions finalised at the end of 2018, the text on which the co-legislators reached an agreement chiefly makes changes in the rules relating to the central clearing obligation. This regulation was published in the JOEU on 28 May 2019 and came into effect on 17 June 2019.

These new rules exempt from the central clearing obligation certain counterparties with OTC derivatives positions considered to be small.

As a result:

- a new categorisation of counterparties will allow certain financial counterparties (Small Financial Counterparties, SFC) to be exempted from the central clearing obligation if their positions are smaller than 1 billion euros for credit or equity derivatives and 3 billion euros for other asset classes (exchange rates, interest rates, commodities and other derivatives);
- non-financial counterparties whose positions exceed at least one of the clearing thresholds (Non-Financial Counterparties+, NFC+) will be subject to the clearing obligation only for derivatives belonging to the asset class in which the clearing threshold has been exceeded. Moreover, funds established exclusively for the purpose of serving one or more employee savings plans will now be excluded,

<sup>108</sup> The "collateral annexes" are attached to the derivative contract and define the conditions of provision of collateral by the counterparties.

<sup>109</sup> Likewise, the contracts with the depositories will have to be revised to take into account the new guarantees.

*Small market participants exempted from the clearing obligation in order to improve proportionality*

and to limit the workload of the investment funds, UCITS and AIFs will have to perform this calculation at the fund level.

The calculation of positions making it possible to determine whether a counterparty is subject to the clearing obligation is also simplified. It will now have to be performed each year (instead of a daily calculation at present), on the basis of the average end-of-month positions for the past twelve months. Counterparties that do not perform this calculation will be deemed to exceed the clearing thresholds and will therefore have to submit to central clearing obligations.

The other changes in the regulation concern:

- risk mitigation techniques for non-cleared derivatives: physically settled FX swaps and forwards will now be limited to transactions between the most systemic market participants;
- simplification of the reporting obligations, notably for non-financial counterparties: for example, an exemption from reporting intra-group transactions is planned when one of the two counterparties to the transaction is not a financial company;
- supervision of trade repositories: ESMA's powers regarding the supervision of trade repositories are enhanced and the amounts of the fines that it can impose are increased.

As soon as the text comes into force, financial and non-financial counterparties must therefore be able to factor in these new rules, perform the necessary position calculations and inform the AMF and ESMA if their positions exceed one of the clearing thresholds. Lastly, concerning the links between the implementation of EMIR REFIT and Brexit, the UK authorities have confirmed their intention of introducing in their legislation the new features of EMIR REFIT via an instrument of domestic law.

On 18 April 2019, the European Parliament also adopted the plan to amend the EMIR regulation ("EMIR 2.2") related to the authorisation and supervision of European CCPs and the recognition of third-country CCPs. The project, initiated by the Commission in June 2017, aimed, on the one hand, to reform the equivalence regime of third-country CCPs, considered inappropriate against the backdrop of Brexit, but also to establish European supervision of the EU's CCPs.

The objective of the new text is to "provide the capital markets union with a more efficient and more consistent system for supervision of central counterparties, in the interest of further market integration, financial stability and equality of conditions of competition". To date, 16 European CCPs, including 3 UK entities, are authorised and 32 third-country CCPs are recognised in the Union.

The risks of a cliff-edge effect<sup>110</sup> feared in the event of a no-deal Brexit were temporarily sidelined in December 2018, under the emergency plan adopted by the European Commission, in light of the persistent uncertainty concerning the withdrawal agreement. To guarantee that there will be no immediate disruption to the central clearing of derivative products, a temporary and conditional equivalence decision for a period of twelve months from the end of March 2019 was granted to UK clearing houses. The document adopted by parliament defining the new recognition regime should subsequently take over.

The redefinition of the recognition regime relies on a proportional approach based on the degree of risk that the clearing houses represent for the stability of the Union. Accordingly, the text now distinguishes between Tier 1 third-country CCPs, of non-systemic importance, Tier 2 CCPs, of systemic importance, and Tier 3 CCPs of substantial

*ESMA central to the supervision of systemic third-country CCPs under the new recognition regime...*

<sup>110</sup> A term used in Brexit talks to refer to an abrupt transition.

systemic importance, i.e. representing a risk for the stability of the Union such that the requirements defined by the text regarding equivalence would not be sufficient. The classification will be performed by ESMA after a prior equivalence decision issued by the European Commission. Moreover, it will be performed after consultation of the ESRB and by agreement with the central banks of issue.<sup>111</sup>

While the recognition conditions defined by EMIR will continue to apply for Tier 1 CCPs,<sup>112</sup> Tier 2 CCPs will have to submit to specific requirements, including, in particular, prudential requirements set out in the EMIR regulation.

Moreover, ESMA will have a power of supervision over Tier 2 CCPs. This supervision will be performed via the establishment of a supervisory committee for central counterparties.<sup>113</sup> ESMA will thus be provided with a power of investigation and inspection with the assistance of the central banks of issue where applicable.

Tier 3 entities, for their part, will not be recognised as equivalent and a relocation of the activity in question in Europe could therefore be required if they want to continue their activity in the EU.

While, on the one hand, an EU consensus was reached fairly quickly on the redefinition of the regime for recognition and supervision of third-country CCPs, on the other, consensus for the supervision of European CCPs gave rise to numerous discussions. This led to a less ambitious text than the initial proposed text by the Commission regarding European supervision.

The initial text placed ESMA, but also the European Central Bank, at the heart of the supervision of European CCPs. The text enacted by parliament ultimately proposes a system largely focused on the national authorities. The latter keep their powers of supervision and only in certain cases will they have to obtain the prior agreement of ESMA or consult it. Via the central counterparty supervisory committee, ESMA will ensure satisfactory coordination between the national authorities in order to improve convergence at the European level. In the end, the ECB will have no power of supervision over European CCPs (and limited powers over third-country CCPs).<sup>114</sup>

The objective of European supervision of clearing houses aims to meet the need for financial stability and investor protection while enjoying the benefits of open, integrated financial markets in Europe. This integration notably involves harmonised implementation of the regulations. However, the absence of centralised supervision on the European level for EU CCPs, as endorsed by the proposed text, could risk creating a distortion of competition, and arbitraging in favour of jurisdictions with the least stringent regulations, having significant consequences for financial stability.

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<sup>111</sup> i.e. the central banks issuing all the currencies of the Union in which the financial instruments in question are denominated.

<sup>112</sup> Pursuant to the principle of recognition, whenever the European Commission believes that the applicable law in a third country is equivalent, an institution located in that state may, while complying with the legislation applicable in said state and being exclusively supervised by its local regulator, offer its services in the European Union without having to apply EU law or apply for authorisation/be subject to the supervision of the competent authority of the European state in which it is based or proposes to offer its services.

<sup>113</sup> The Supervisory Committee is formed of an independent chairman, two independent members, national authorities for supervision of CCPs and, when it gives a ruling on a third-country CCP, the relevant issuing central banks if they so wish. The latter do not have a voting right.

<sup>114</sup> It publicly regretted this and consequently withdrew the planned amendment to its articles of association, submitted in June 2017, which aimed to provide a clear legal authority with regard to CCPs under the planned revision of EMIR.

*...but supervision  
of EU CCPs  
remains in the  
hands of the  
national  
authorities*

### Box 3: A still very uncertain post-Brexit environment

Brexit-related risks, identified already in our 2016 Outlook and specified subsequently in the 2017 and 2018 editions, ought to have diminished at the start of 2019 because a large part of the uncertainty was supposed to be cleared by then, and the UK's exit was supposed to enter an operational phase. Indeed, the run-up to Brexit led financial market participants to prepare insofar as possible but the umpteenth political stalemate and exit postponement continue to generate significant risk, with a persisting high level of uncertainty.

In any case, the shifting of business is already noticeable in France, with a significant number of applications for relocation/creation of platforms or investment firms. These applications concern, in particular, large market players at the European level and are expected to result in a significant increase in market activities. Likewise, regarding post-trading, the LCH group has relocated in Paris all its central clearing activity for repo transactions in euros (197 billion euros in 2018) and a new central depository was authorised at the start of the year.

In addition, temporary measures have been taken by the Commission to prevent "cliff-edge effects", such as temporary equivalence decisions for the clearing houses (see part 2.1.6)

However, the latest successive extensions and the uncertainties now overhanging the effective implementation of Brexit are now resulting in a certain wait-and-see attitude which could be dangerous; and there are still numerous factors of uncertainty, generating risks:

- **Relocations to the EU-27 go hand-in-hand with a fragmentation of operations and could create real difficulties in terms of supervision**, which must now cover entities whose operations are distributed among various jurisdictions (via subsidiaries or branches). Apart from the problems it causes, this fragmentation of supervision also runs counter to the search for a European convergence which is already proving difficult to establish, as shown by the recent failure to reform the European supervisory authorities.
- **The application of the obligation of trading on platforms (STO, share trading obligation) in a post-Brexit universe** has been the subject of numerous discussions due to the difficulties caused by the fact that some securities could find themselves subject simultaneously to an obligation of trading on European platforms and an obligation of trading on UK platforms. However, ESMA recently tried to settle the problem by publishing on 29 May 2019 a new public statement with a view to exempting securities whose ISIN code begins with GB from an STO in the EU-27. The rules that will be applied by the UK regulator, for their part, have not yet been published.
- **A clearing house recovery and resolution scheme which could be finalised only in two years' time.** The recent bankruptcy of a clearing member of the Nasdaq OMX CCP last September recently showed the need to have such a scheme rapidly (see Box 2).

### Box 4: Exchange of supervision data: Despite the progress, certain risks remain

Exchanges between the EU and the rest of the world of data useful for the supervision and inspection work of the market authorities generally come within a framework stipulating, under national provisions, derogations to the common law. On the one hand, the development of regulatory systems applicable to third-country entities is increasing the volume of these exchanges. At the same time, certain emerging risks could affect their implementation.

Regarding the first point, since the financial crisis some legislative systems have heightened the requirements of the competent authorities regarding supervision of third-country entities performing market activities in their jurisdiction. In particular, the Dodd Frank Act (DFA) enacted in the United States defines a substituted compliance similar to the European equivalence concept,<sup>115</sup> by which the application of the EMIR regulation to European banks operating on certain US derivatives markets can be considered sufficient to establish those entities' compliance with US law for the operations in question. The US Securities Exchange Commission has also proposed subjecting the swap dealer operations of foreign banks within its jurisdiction to its direct supervision – i.e. obtaining direct access to their books and records in the form of a right of visit and inspection of the considered third country entities.<sup>116</sup>

<sup>115</sup> Equivalence regimes have been created notably within the framework of MiFID 2, EMIR and the BMR.

<sup>116</sup> See regulatory proposals of the SEC updating the Securities Exchange Act of 1934 to bring it into compliance with the requirements introduced by the DFA (Title VII) submitted for public consultation on 9/05/19 ([Rule Amendments and Guidance Addressing Cross-Border Application of Certain Security-Based Swap Requirements](#)).

Regarding the second point, given that exchanges of data (especially personal data) derogate from the common law, multilateral international cooperation agreements (Multilateral Memorandums of Understanding or MMoUs), or, where relevant, bilateral agreements (MOUs), have been established at the instigation of the IOSCO to clarify the applicable framework. The administrative arrangement drawn up at the instigation ESMA and the IOSCO, signed by 16 countries,<sup>117</sup> here amends the current MMoU of the IOSCO. It provides in particular, pursuant to Article 46, 3, b of the GDPR,<sup>118</sup> for guarantees concerning personal data exchanged between EEA states and EEA third countries within the framework of international cooperation between regulators. This agreement raises practical problems notably because its application depends on: i) the non-binding nature of the agreement, which requires establishing an internal governance mechanism providing, for example, for the possibility of expelling a signatory member who did not comply with its terms; ii) the granting of effective guarantees and means of obtaining redress – limits on the purpose of the data transfer, people's rights to information, limits to the data retention period, means of obtaining redress, claims for compensation, mediation mechanism, etc. Moreover, the number of authorities who are signatories to this agreement is still limited given that the agreement was concluded recently. The signatory European market authorities will therefore have to consider the future of their cooperation with non-signatory states, by deciding to resort to the public-interest derogation envisaged by the European Regulation but interpreted restrictively by the European Data Protection Board (EDPB).<sup>119</sup>

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<sup>117</sup> See [IOSCO press release of 30 May 2019](#).

<sup>118</sup> The European General Data Protection Regulation, which came into force on 25/05/18, extends the French "Informatique et Libertés" legislation on the collection and use of data.

<sup>119</sup> See [Guidelines 2/2018 relating to the derogations provided for in Article 49 of Regulation \(EU\) 2016/679](#).

## CHAPTER 3: ASSET MANAGEMENT

The market downturn at the end of 2018 was reflected in a drop in assets under management (AuM) and a global slowdown in collective management inflows. The asset management sector continued to be bedevilled by significant structural challenges such as pressure on fees, the development of passive investing and the increase in ETFs. In Europe, we note a significant improvement in the risk monitoring of collective management funds, thanks to compliance with the reporting requirements laid down in the AIFM Directive and the money market fund Regulation to come.

In France, although there appears to be a widespread trend of outflows save for real estate funds, this assessment must take into account the relocation/merger trend of French collective management funds with Luxembourg entities. This trend continued, with a risk of a reduction in the French oversight scope, while conversely, French assets under management continued to rise. The main risk indicators of alternative funds managed or distributed in France (liquidity, leverage, type of investors) seem to be in line with the strategies employed, fund by fund. Although hedge funds involve substantial risk, they continue to be marginal in France (48 funds for a net asset value of 5.4 billion euros at the end of 2018). This trend is coupled with fast growth in private financing (debt and private equity funds). While the outstanding amounts of French funds still seem modest, it raises questions over the ability of supervisors to monitor these developing markets.

The macro-financial environment described in Chapter 1 contributed to the development, at the global level, of leveraged finance, which entails risk both for borrowers (sustainability of the debt issued) and for investors (increase in the risk taken, fewer protections, etc.). At this stage, the exposure of French funds to leveraged finance seems very limited.

### 3.1. STATE OF ASSET MANAGEMENT: INFLOWS AND RISK PROFILE

#### 3.1.1. A change of trajectory for collective management?

For the first time since the 2008 crisis, the cumulative stock of worldwide collective management funds dropped in 2018. At the end of the year, global assets were valued at 40,786 billion euros, compared with 41,107 billion euros the previous year (end 2017), i.e. a drop of 0.8 %.

*A slight decline in worldwide outstanding, despite a net positive inflow in 2018*

While the year-on-year increase in assets under management was 19 % in 2014, 12 % in 2015, 10% in 2016 and 6% in 2017, year-end adjustments in 2018 completely cancelled out the increase in the first three quarters of the year (worldwide assets reached 43,320 billion euros in September, a 5.4% increase compared with end December 2017).

With €18,408 billion at the end of 2018, the United States continues to be by far the world's largest fund domicile. US assets decreased slightly compared with 2017 (-0.4%). This slight reduction is the result of a 1,509 billion euro increase in the first three quarters, followed by a 1,623 billion euro drop in the fourth quarter.

Collective management outstanding (excluding funds of funds)  
per country of fund domiciliation

Figure 46: Historic view of outstanding amounts  
(trillions of euros)

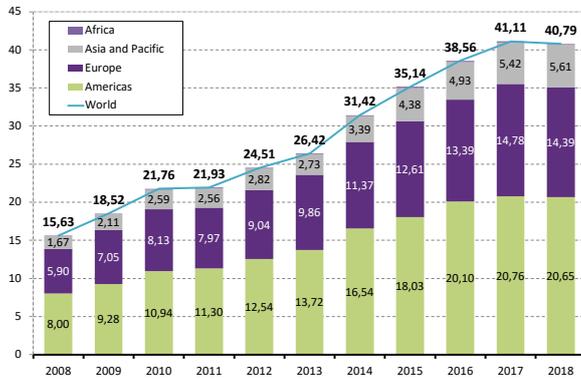
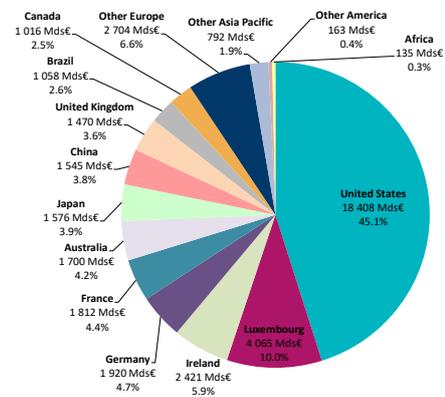


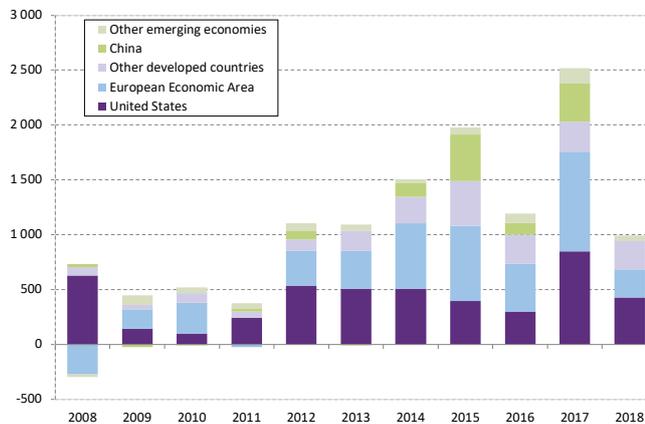
Figure 47: Market share at end 2018  
(billions of euros)



Source: EFAMA – International Quarterly Statistical Release, AMF calculations

Worldwide fund inflows (including funds of funds) remained positive over the year (the drop in outstanding was therefore due to a valuation effect). They were however lower than the 1 trillion-euro threshold, which has not happened since 2011. After the record set in 2017 (2.517 trillion), net inflows on collective investment undertakings therefore dropped significantly (61 %).

Figure 48: Inflow trend  
(billions of euros)



Source: EFAMA – International Quarterly Statistical Release, AMF calculations

**A sharp drop in inflows in the main jurisdictions, and even negative in France and the United Kingdom.**

Inflows on Chinese funds have practically ground to a halt, dropping from 350 billion euros in 2017 to less than 3 billion euros in 2018 (up 78 billion euros over the first half and down 75 billion euros over the second half). This trend may be partly due to the market adjustments that followed the trade disputes between China and the United States. Inflows were halved in the United States (428 billion euros compared with 849 billion euros year on year. However, the drop was relatively evenly spread over the year). In Europe, only Germany exceeded 100 billion euros of inflows in 2018 (an 8% drop against 2017). Fund inflows for Ireland and Luxembourg declined by more than two thirds,

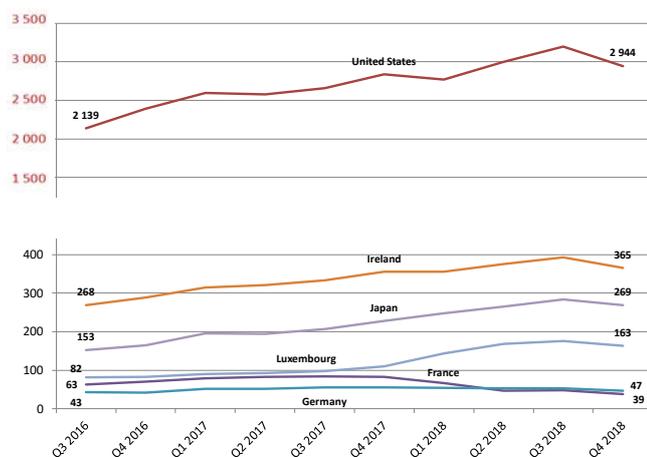
while France and the United Kingdom recorded a net outflow in 2018 (18 billion euros and 24 billion euros respectively).<sup>120</sup>

### 3.1.2. Predominance of the United States in passive investing

The exchange-traded fund (ETF) trend reflects both the overall positive performance of financial markets since the crisis, which has had an impact on valuations (price effect) and the appeal of passive investing which pushed up subscriptions (volume effect). In two and a half years, between mid-2016 and end 2018,<sup>121</sup> the cumulative net assets of ETFs worldwide has risen from 2.851 trillion euros to 4.081 trillion euros, representing an annualised growth rate of over 15% (compared with less than 5% for all collective management funds), even taking into account the market adjustment in the fourth quarter of 2018, which pushed down the amounts.

The market is mainly dominated by funds domiciled in the United States, which accounted for 72% of the amounts outstanding at the end of 2018. Ireland, Japan and Luxembourg are far behind, but account for nearly 20% of the market. The chart below shows a sharp decline in the outstanding of French ETF since the beginning of 2018, at the same time as Luxembourg fund assets picked up. This is explained by the change in domicile of several ETFs during the year. This relocation has reduced the French supervisor's scope of action.

**Figure 49: ETF's AuM trend (excluding fund of funds), according to country of domiciliation (billions of euros)**



Source: EFAMA – International Quarterly Statistical Release, AMF calculations

Over and above ETFs alone, the Bank for International Settlements (BIS) estimated the global level of assets managed by passive funds at approximately 8 trillion dollars as at the end of 2017, or roughly 20% of aggregate collective management assets.<sup>122</sup>

The rapid growth of passive investing is partly due to the very low level of fees charged: to the extent that the fund practically automatically replicates the performance of an index, either by buying its underlying assets (physical replication) or through derivative products (synthetic replication), asset management companies have a fundamentally low-cost structure (0.5% compared with 2% per annum for current expenses, for example).

<sup>120</sup> There had not been any net outflows in the United Kingdom since 2008, and in France since 2014.

<sup>121</sup> EFAMA started to publish data about certain major jurisdictions only in the third quarter of 2016.

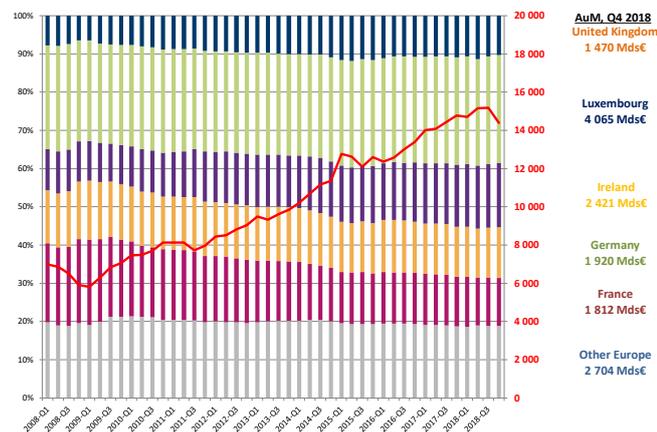
<sup>122</sup> BRI (2018), "[The implications of passive investing for securities markets](#)", BIS Quarterly Review, March.

However, this competitive advantage should not overshadow the benefits of active investing which, by establishing investment strategies based on the financial analysis of companies, contributes to the process of discovery of asset prices on financial markets. If the share of active investing continues to drop, it is not unreasonable to wonder about the value of the economic information contained in the indices replicated by passive funds. The International Organisation of Securities Commissions (IOSCO) has begun exploratory work on this subject, aimed in particular at clarifying the impact of ETFs on market liquidity and their underlying assets, and if necessary updating its regulation principles dating from 2013.<sup>123</sup>

International regulators are also increasingly becoming aware of the issue of closet index funds. These are funds that claim to be active investing funds, and apply active fund pricing, whereas they seem to confine themselves to replicating a benchmark index.

### 3.1.3. Collective management in Europe: a market dominated by five jurisdictions

**Figure 50: Collective management outstanding in Europe (excluding funds of funds)**  
(% market share, left scale – outstanding in billions of euros, right scale)



Source: EFAMA – International Quarterly Statistical Release, AMF calculations

At the end of 2018, funds domiciled in Europe (including Russia, Turkey, Switzerland) reached an AuM of 14.392 trillion, 2.6% less than at the end of 2017.

The European market is dominated by five domiciliation jurisdictions that total more than 80% of the outstanding: Luxembourg (28.2%), Ireland (16.8%), Germany (13.3%), France (12.6%) and the United Kingdom (10.2%).<sup>124</sup> France has lost more than eight points of market share in the last ten years.

The slowdown in the French market is perceived not only when we look at the breakdown of the AuM, but also when we look at the number of funds domiciled in the main European jurisdictions (see Figure 51).

<sup>123</sup> OICV (2013), “Principles for the Regulation of Exchange Traded Funds”, June.

<sup>124</sup> NB: non-EU countries account for only 3.6% of the outstanding, with Switzerland alone accounting for 3.2% (464 billion euros). In the European Union, the Netherlands records a total of 750 billion euros (5.2%), Sweden 294 billion euros (2%), Spain 284 billion euros (2%), Italy 207 billion euros (1.4%), and Austria 144 billion euros (1.0%).

## Change in number of funds and average AuM per jurisdiction (including funds of funds)

Figure 51: Number of funds

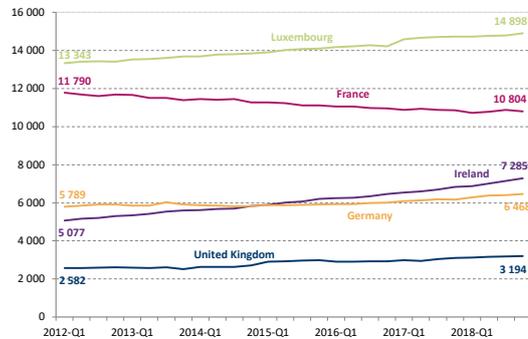
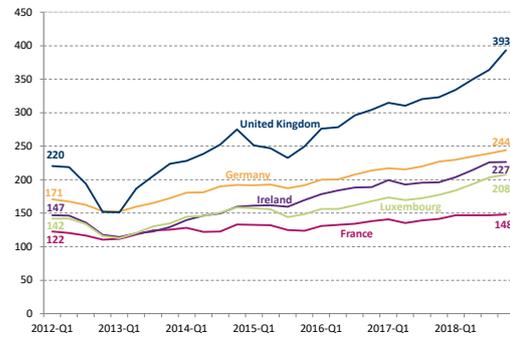


Figure 52: Average assets (millions of euros)



Source: EFAMA – International Quarterly Statistical Release, AMF calculations

### Ever fewer funds domiciled in France

Of the five main jurisdictions studied above, France is the only one where the number of funds is in a ten-year decline. However, we observe that the situation has stabilised at around 10,800 funds since 2017. The average size of French funds is relatively small (a little under 150 million euros as at end 2018) and it has grown only slightly in the last six years (see Figure 52). Consequently, the reduction in the number of French funds cannot be explained by market concentration around larger players, but rather by the transfer of funds to other jurisdictions (note in particular cross-border mergers - with Luxembourg funds - of several dozens of French funds managed by two major players on the Paris financial marketplace).

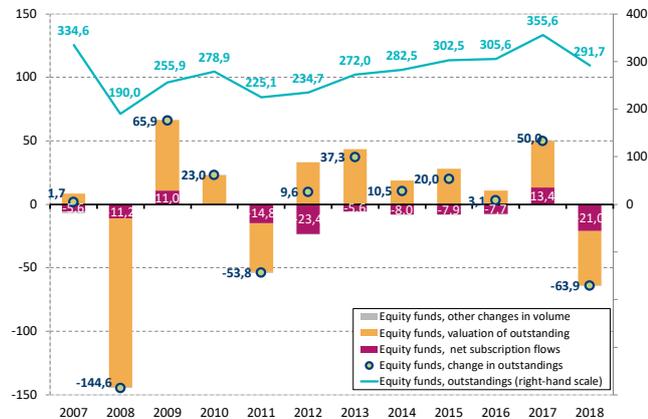
### 3.1.4. Focus on French funds

Unlike the previous sections, which were aimed at reporting on the international collective management environment based on data provided by professional associations for the major jurisdictions (EFAMA compiles the databases provided by national associations), this section analyses the details of the regulatory disclosures collected by the AMF and Banque de France on collective investment undertakings governed by French law. The scope is not exactly comparable between the two approaches: for example the authorities exclude assets managed by securitisation vehicles, and the methods used in accounting for the assets are not particularly uniform (in particular for real estate funds). These two points explain how the French Asset Management Association (AFG) and EFAMA report French collective management assets of over 1.8 trillion euros, while the assets of French funds mentioned by the AMF and Banque de France are in the region of 1.5 trillion euros.

#### 3.1.4.1. Equity funds: Synchronisations of (out-)flows and (de-)valuation

In 2018, net inflows on equity funds went into the red again, after a short stint in the black in 2017. At 21.1 billion euros, this outflow is the second highest for the period studied (since 2007), behind the 23 billion-plus euros observed in 2012. There were particularly massive outflows in March and April, i.e. immediately after the volatility episode in February (cumulated flow of -17.3 billion euros over these two months). Conversely, the strong adjustment of equity markets in the last quarter (-14.1% for the CAC between 1 October and 31 December) did not result in substantial outflows.

**Figure 53: Outstanding amounts, net inflows and revaluation  
French equity funds  
(billions of euros)**



Source: Banque de France – Financial overview of CIUs, AMF calculations

**Methodological note:** other changes in volume concern fund reclassifications, formations and liquidations

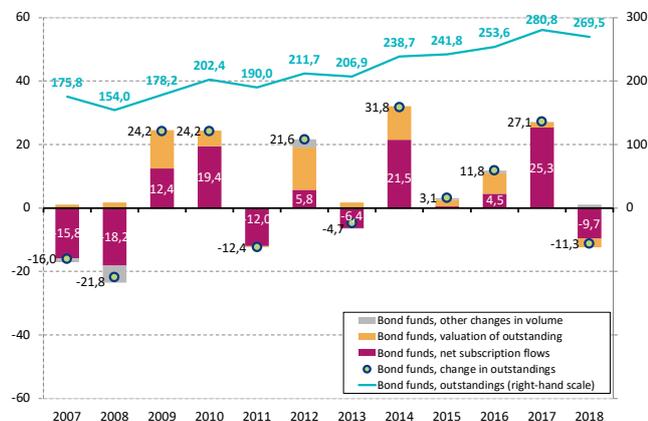
The market valuation effect over the twelve months of the year was a 47.2 billion drop in assets at the end of December.

With 291.6 billion euros of assets at the end of 2018, French equity funds dropped for the first time since 2011.

### 3.1.4.2. Net outflow of bond funds

French bond funds also ended the year on the decline compared with 2017. Outstanding amounts stood at 269.3 billion euros, which was 11.5 billion euros less than the previous year. This decline in assets is primarily due to a substantial outflow (9.9 billion euros over the year, in sharp contrast with the record inflow of 25.3 billion euros in 2017) which was mainly concentrated in the last four months of the year (6.9 billion euros of outflows in November alone).

**Figure 54: Outstanding amounts, net inflows and revaluation  
French bond funds  
(billions of euros)**



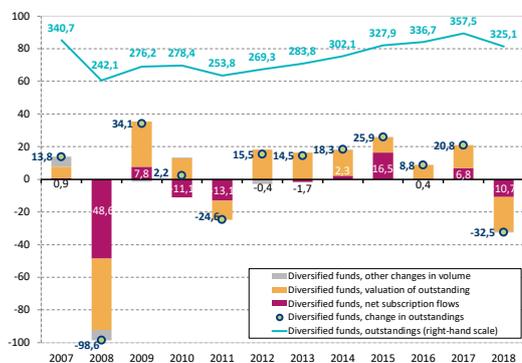
Source: Banque de France – Financial overview of CIUs, AMF calculations

### 3.1.4.3. Drop in mixed fund outstanding amounts

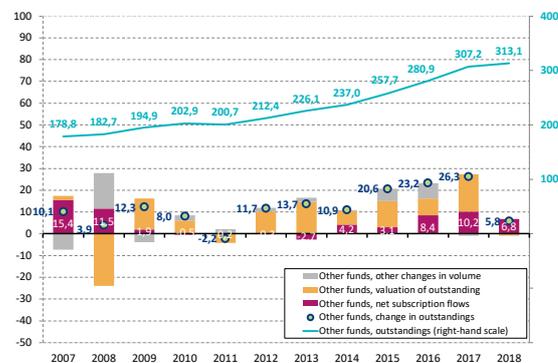
As with equity funds and bond funds, mixed funds were affected by the combination of strong outflows and a substantial decline in valuation. The outstanding dropped by 33 billion euros compared with the previous year and stood at 324.5 billion euros at the end of 2018.

Banque de France’s “Other” category is made up of a disparate set of funds, including employee savings funds (regardless of strategy), some hedge funds, structured funds, as well as private equity funds and real estate funds.

**Figure 55: Outstanding amounts, net inflows and revaluation French mixed funds (billions of euros)**



**Figure 56: Outstanding amounts, net inflows and revaluation French “Other” funds (billions of euros)**



Source: Banque de France – Financial overview of CIUs, AMF calculations

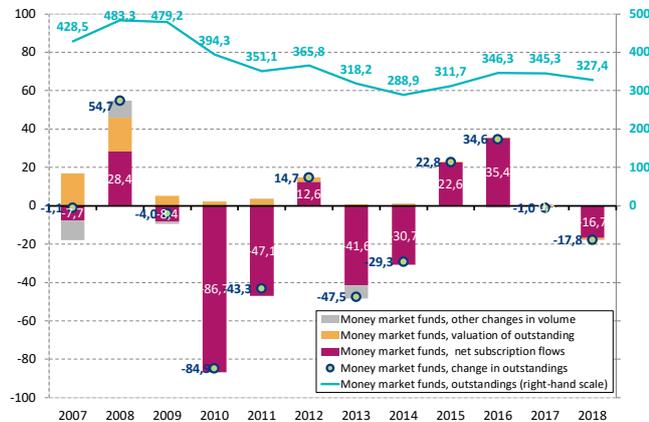
### 3.1.4.4. Money market funds: a market change that has not yet materialised

After a stable 2017, money market funds recorded an outflow in 2018 (16.7 billion euros), primarily driven by the relocation of funds abroad by French residents.<sup>125</sup> At the end of 2018, the net assets of French money market funds thus stood at 327.4 billion. The interest rate environment, which remains very low, continues to weigh on the profitability and attractiveness of money market funds since 2013. The annual performance of these funds hit the low point of -0.3% at the end of 2018. The beginning of 2019 was marked by the levelling of their annual performance at -0.23% in March 2019. Furthermore, the implementation of the new European regulation in 2019<sup>126</sup> created a wait-and-see attitude among investors pending the new market structure.

<sup>125</sup> See Banque de France (2019), “Financial overview of French CIUs 2018Q4”. To ensure comparability with the previous sections, the figures presented in graph 12 included own funds (money market funds investing in money market funds) while those reported by Banque de France (2019) are consolidated.

<sup>126</sup> See Regulation (EU) 2017/1131 of the European Parliament and of the Council of 14 June 2017 on money market funds, OJ L 169 of 30 June 2017, p. 8–45. For a more in-depth presentation of the new regulatory requirements, see Section 3.2 of the 2017 risk mapping. For an impact analysis of the Regulation and the development of the European market, see Section 3.4 of the 2018 risk mapping.

**Figure 57: Outstanding amounts, net inflows and revaluation of French money market funds (billions of euros)**



Source: Banque de France – Financial overview of CIUs, AMF calculations

**New requirements to improve money market fund risk monitoring**

The money market regulation will reinforce the strength of the sector by establishing new constraints in terms of diversification and ownership limits on the assets side, management of liquidity risk and credit risk,<sup>127</sup> as well as comprehensive quarterly<sup>128</sup> reporting to the regulator. This reporting will be an opportunity to better monitor these funds, using new information about their portfolio, their assessment of liquidity or credit risk. Imposing new constraints of knowledge of their investors and anticipation of their redemption and subscription movements should facilitate a decrease in the concentration risk of investors and unanticipated redemption movements.

The management of the fund’s liquidity risk is also supplemented by quarterly regulatory stress-tests, taking into account interest rate shocks, credit on assets, massive redemptions on liabilities and macroeconomic shocks. Their results should lead to an action plan in case of vulnerability observed. Already provided for by the UCITS or AIFM directives (regulating the previous money market funds),<sup>129</sup> the calibration of these simulations will henceforth be defined at the European level, in cooperation with the ESRB, and will enable regular and comparable monitoring. The first financial year will be marked by a common calibration with stress-tests of pension funds and clearing houses. This presents the advantage of being consistent and simple, but may not allow the specific risks of money market funds to be addressed. The stress test models used, their assumptions and calibrations should therefore be re-examined for subsequent years.

On these two new money market fund risk monitoring methods (reporting and stress testing), ESMA’s guidelines have been submitted for consultation and their finalised version should be available in summer 2019.<sup>130</sup> The first reports and stress-test exercises

<sup>127</sup> The funds will have to implement internal assessments of the credit quality of the portfolio securities and be able to anticipate the redemption behaviour of the fund’s holders. Liquidity risk is also regulated through the implementation of liquidity ratios requiring that funds hold assets with a residual maturity of one day (at least 7.5% for V-NAV funds, at least 10% for CNAV and LVNAV funds) and one week (at least 15% for VNAV funds, at least 30% for the others). For constant net asset value funds, failure to comply with these ratios leads to exit penalties and the suspension of redemptions.

<sup>128</sup> A waiver mechanism with an annual discount is provided for funds with assets under management not exceeding 100 million euros.

<sup>129</sup> See Directive 2009/65/EC and Directive 2011/61/EU, which impose the establishment of stress tests on a regular basis, but the definition of assumptions and variables of interest remain in the hands of the manager.

<sup>130</sup> See ESMA (2019), “[Responses to the Consultation on draft guidelines on the reporting under article 37 of the MMF Regulation](#)” and “[Responses to the Consultation Paper on draft guidelines on stress test scenarios under the MMF Regulation](#)”.

are planned for the first quarter of 2020, and the results will be sent to national regulators.

The Regulation also transforms the market for existing money market funds<sup>131</sup> by imposing specific constraints on funds that want to use the amortised cost method which allows the display of a constant value of the fund unit (formerly CNAV). These must now be either public debt CNAVs (invested up to 99.5% in European or third country public debt), or LVNAVs,<sup>132</sup> “low volatility”<sup>133</sup> hybrid funds. At this stage, the French market, which comprised only variable net asset value funds (VNAV), has not yet received the request for authorisation from the constant net asset value fund, whether these are public debt CNAVs or LNAVs, probably because of the continued low interest rates which have had an adverse impact on the attractiveness of constant net asset value fund models.<sup>134</sup> Although it is too early to definitively analyse the impact of the Regulation on European balances in terms of fund typology, the first quarter of 2019 was marked by the stability of Eurozone money market fund assets (up 3% per annum according to European Central Bank data), which mainly benefitted from Luxembourg assets (+21% per annum in Q1 2019), to the detriment of Irish (+2%) and especially French assets (-6% per annum).

The historical analysis of the volatility<sup>135</sup> of French money market funds between 2006 and 2017<sup>136</sup> concludes that the annualised daily volatility of variable net asset French money market funds is low on the whole, corroborating their alignment with their investment objectives. The analysis covers periods of market stress (2008-2009 and 2011-2012), with a special focus on the period following the implementation of the Guidelines of the former Committee of European Securities Regulators (CESR - 2011), which for the first time imposed constraints on the maximum maturity of assets in the portfolio, on the weighted average life and weighted average maturity. If we take the size of the funds into account, it has been below 7 base points (bps) since 2010 and remained lower than 20 bps at the height of the crisis in 2008 for 95% of fund assets. Their volatility also remained close to that of the EONIA (the euro risk-free rate), with volatility differences of below 3 bps between 2011 and 2017 for 95% of fund assets. This analysis confirms that the variable net asset value model historically appears as a very low volatility model.

#### *3.1.4.5. Can a relationship be established between flows and performance?*

The issue of the existence and quantification of a relationship linking inflows to an asset with its performance is a recurring research topic (see for example Grillet-Aubert and Sow, 2009 or Salakhova and Coudert, 2019). The stakes are very high: if investors leave massively during market downturns, this could trigger liquidity problems for the manager,

<sup>131</sup> Until the implementation of the new European regulation, the two money market fund types were variable net asset value (VNAV) funds, which fluctuate each day based on the value of the securities in the portfolio, and constant net asset value (CNAV) funds, which have a constant NAV (USD 1 or EUR 1), as income is redistributed and straight-line accounting is used to smooth performance over time.

<sup>132</sup> They are considered hybrids because they can be converted, if their CNAV per unit repeatedly diverges from their shadow NAV, to a VNAV fund.

<sup>133</sup> At any event, the LVNAV and CNAV public debt funds must meet the conditions of short-term money market funds. Short-term funds have additional constraints regarding weighted average maturity (WAM), which must be less than 60 days, and weighted average life (WAL), which must be less than 120 days.

<sup>134</sup> Unlike variable net asset funds, where the fund constantly reflects the performance of the fund, which may be negative, CNAV funds keep their value per unit stable. To keep this value unchanged, they distribute to their investors all net income and gains generated by the fund and also use accounting techniques to smooth out their performance. However, should the fund asset market value continue to drop, as this may be observed during low interest rate periods, they find it difficult to maintain their CNAV.

<sup>135</sup> Volatility gives an indication of the dispersion of the fund's returns around the mean of its returns, i.e. the standard deviation of changes in return over a given period.

<sup>136</sup> K. Benhami, C. Le Moign (2018), “[Study of the Volatility of French Money Market Funds](#)”, Autorité des Marchés Financiers, October.

who could be forced to sell a significant share of its assets in a hurry in order to honour redemption requests. This risk may not be completely offset by the triggering of liquidity management tools. For retail investors, an untimely entry of market movements carries the risk of fuelling households' mistrust of stock markets.

*We need to be very careful when seeking to establish a statistical relationship between flows and performances.*

The study of the relationship comes up against several theoretical and practical difficulties:

- what time interval should be used to measure the correlation between flows and performance? Do investors react to daily, monthly or quarterly fluctuations? The temporal aggregation of net flows can hide very sudden movements in the reallocation of investment between two observation dates.<sup>137</sup>
- is the reaction of a variable to the variation in the other immediate or delayed? Do investors react to current valuation levels, past valuations or to their future valuation forecasts?
- determining the causal link between flows and performance turns out to be very difficult: are flows induced by performance, or rather should it be considered that the increase in demand for a type of fund appreciates its value? We could also imagine that flows and performance are simultaneously caused by a third variable, for example, economic recovery (simultaneous increase in the stock exchange and disposable income and therefore savings flows).
- the various fund categories are, of course, in competition to capture savings flows. We should therefore take the profitability of alternative investments (other types of funds) into account in the flow-performance analysis.
- the various types of investors (retail, institutional) do not necessarily behave in the same way, and aggregate inflow potentially refers to average, non-informative behaviour.

Ideally, such an analysis should use individual fund data, at a high frequency (daily), distinguishing between subscriptions and redemptions (gross flows rather than net flows). It also calls for the use of sophisticated econometric techniques to identify the meaning of the causal relationship.

Despite its limitations, we propose here a rudimentary study of correlations between flows and performance, based on monthly data aggregated by major fund categories (money market, equity, bond, mixed) as provided by Banque de France.<sup>138</sup>

First, we will study the correlation coefficients between valuation and inflows for each fund category separately, as well as the autocorrelation of the valuation series. Next, we will present the results of a multivariate analysis (without addressing the issue of causality). Lastly, we will describe the correlation between the inflows recorded on the various fund types in order to study a possible substitution among them.

<sup>137</sup> It should be recalled in this respect that most open-ended funds normally offer daily liquidity to their unitholders, which means that clients may request a refund of their investment at the day's value.

<sup>138</sup> Monthly frequency is the smallest frequency at our disposal. A similar analysis was nevertheless conducted with the quarterly version of the database, with results quite close to the ones presented in this section.

**Table 3: Correlation coefficients between variable pairs (Pearson's r)**

	Money market funds		Equity funds		Bond funds		Diversified funds	
	Subscription (t)	Valuation (t-3)	Subscription (t)	Valuation (t-3)	Subscription (t)	Valuation (t-3)	Subscription (t)	Valuation (t-3)
Valuation (t-3)	<b>0,1053</b> <i>0,1937</i>		<b>0,1738</b> <i>0,0311</i>		<b>0,1073</b> <i>0,1854</i>		<b>0,1682</b> <i>0,0371</i>	
Valuation (t-2)	<b>0,0613</b> <i>0,4483</i>	0,9832 <i>0,0000</i>	<b>0,0246</b> <i>0,7612</i>	0,1476 <i>0,0677</i>	<b>0,0337</b> <i>0,6773</i>	0,0867 <i>0,2850</i>	<b>0,2318</b> <i>0,0037</i>	0,1391 <i>0,0854</i>
Valuation (t-1)	<b>0,0587</b> <i>0,4670</i>	0,9721 <i>0,0000</i>	<b>0,1497</b> <i>0,0622</i>	-0,0150 <i>0,8535</i>	<b>0,1265</b> <i>0,1156</i>	0,0379 <i>0,6405</i>	<b>0,3766</b> <i>0,0000</i>	0,0216 <i>0,7898</i>
Valuation (t)	<b>0,0889</b> <i>0,2680</i>	0,9597 <i>0,0000</i>	<b>0,1779</b> <i>0,0258</i>	0,0377 <i>0,6426</i>	<b>0,2809</b> <i>0,0004</i>	0,0359 <i>0,6586</i>	<b>0,2117</b> <i>0,0078</i>	0,0252 <i>0,7564</i>
Valuation (t+1)	<b>0,0485</b> <i>0,5479</i>	0,9388 <i>0,0000</i>	<b>-0,0165</b> <i>0,8378</i>	0,1330 <i>0,1012</i>	<b>-0,0769</b> <i>0,3400</i>	-0,0785 <i>0,3345</i>	<b>0,1265</b> <i>0,1156</i>	0,0972 <i>0,2320</i>
Valuation (t+2)	<b>0,0533</b> <i>0,5099</i>	0,9178 <i>0,0000</i>	<b>0,0388</b> <i>0,6321</i>	0,0450 <i>0,5820</i>	<b>0,0394</b> <i>0,6264</i>	-0,0176 <i>0,8300</i>	<b>0,2454</b> <i>0,0021</i>	0,0176 <i>0,8292</i>
Valuation (t+3)	<b>0,0816</b> <i>0,3143</i>	0,9008 <i>0,0000</i>	<b>0,0881</b> <i>0,2770</i>	-0,0711 <i>0,3856</i>	<b>0,1038</b> <i>0,2000</i>	0,0736 <i>0,3694</i>	<b>0,0726</b> <i>0,3710</i>	-0,0492 <i>0,5486</i>

**Note:** For each fund type, we study the correlation between net inflows and the change in valuation of the current month, as well as the three months before and after (left column). We also calculate the autocorrelation of the valuation up to a 6-month interval (right column). P-values (level of significance) are indicated in italics under the coefficient. The colour code makes reading easier: significant coefficients at the 5% threshold are in green, those that are significant at the 10% threshold are in orange, and those that are not significant are in red.

Table 3 highlights a correlation between inflows and current valuation for equity, bond and mixed funds. For equity and mixed funds, the changes in valuation of prior periods are sometimes significantly correlated (although at the same time we observe a slight autocorrelation of valuations). With respect to money market funds, monthly valuation effects are extremely autocorrelated, and we do not observe any correlation between inflows and valuation.

To try and go further in the analysis, we propose the regression tables below in which up to two time lags in the valuation effect are introduced. For money market funds, the very strong autocorrelation of the valuation makes multivariate regressions totally misleading (the last two columns of the “money market collective investment undertakings” block in Table 4 are irrelevant).

Equity funds showed a trend outflow over the period (the regression constant was negative and significant). We observe a positive correlation between flows and contemporary performance, which is relatively robust to the inclusion of lags, but of lower magnitude: one euro of additional revaluation of the asset is associated with an additional inflow of 3 cents. The explanatory power of this relationship is very limited ( $R^2$  is lower than 5%).

The relationship is stronger for bond and diversified funds and lags seem to play a more important role. We also note that the valuation effect of the two previous months is higher than the contemporary effect for diversified funds, suggesting a more complex relationship and greater inertia.

**Table 4: Regressions of inflows on changes in valuation up to two months ahead**

	Money market funds				Equity funds			
Valuation (t)	2,3720 <i>(0,26)</i>		24.51** <i>(0,02)</i>	24.55** <i>(0,01)</i>	0.0369** <i>(0,04)</i>		0.0324* <i>(0,07)</i>	0.0314* <i>(0,08)</i>
Valuation (t-1)		1,5680 <i>(0,46)</i>	-22.55** <i>(0,03)</i>	-22,1800 <i>(0,14)</i>		0.0310* <i>(0,08)</i>	0,0266 <i>(0,14)</i>	0,0253 <i>(0,17)</i>
Valuation (t-2)				-0,4180 <i>(0,97)</i>				0,0028 <i>(0,88)</i>
Constant	-1,7870 <i>(0,22)</i>	-1,5110 <i>(0,30)</i>	-1,5360 <i>(0,29)</i>	-1,5340 <i>(0,30)</i>	-0,443** <i>(0,01)</i>	-0,458** <i>(0,01)</i>	-0,476*** <i>(0,01)</i>	-0,500*** <i>(0,01)</i>
Observations	157	156	156	155	157	156	156	155
R-squared	0,008	0,003	0,031	0,031	0,032	0,022	0,047	0,044

	Bonds funds				Diversified funds			
Valo (t)	0.771*** <i>(0,00)</i>		0.742*** <i>(0,00)</i>	0.750*** <i>(0,00)</i>	0.153** <i>(0,03)</i>		0.116* <i>(0,07)</i>	0.114* <i>(0,08)</i>
Valo (t-1)		0.346* <i>(0,06)</i>	0.281* <i>(0,09)</i>	0,2750 <i>(0,10)</i>		0.268*** <i>(0,00)</i>	0.253*** <i>(0,00)</i>	0.234*** <i>(0,00)</i>
Valo (t-2)				0,0405 <i>(0,85)</i>				0.136*** <i>(0,01)</i>
Constant	0,0183 <i>(0,94)</i>	0,1520 <i>(0,56)</i>	-0,0906 <i>(0,71)</i>	-0,1130 <i>(0,66)</i>	-0,1500 <i>(0,53)</i>	-0,2500 <i>(0,27)</i>	-0,3000 <i>(0,19)</i>	-0,386* <i>(0,09)</i>
Observations	157	156	156	155	157	156	156	155
R-squared	0,079	0,016	0,089	0,09	0,045	0,142	0,168	0,204

**Note:** P-values (level of significance) are indicated between parentheses under the coefficient.

Lastly, we can briefly analyse correlations between monthly net inflows on the various vehicles to identify any possible arbitrage patterns between the various fund classes. We note that Pearson correlation coefficients are always positive and often significant, which implies that on the whole, an increase in inflows for a fund type goes with an increase in inflows on the other fund types. This would tend to invalidate the idea of substitution between different categories of French funds. It is perhaps more appropriate to instead consider a possible substitution between French funds and foreign funds, or even between financial and non-financial assets.

**Table 5 : Correlation coefficients between variable pairs (Pearson's r)  
Monthly net inflow levels on the various fund classes**

	Money market funds	Equity funds	Bond funds
Equity funds	<b>0,0396</b> <i>0,6223</i>		
Bond funds	<b>0,2368</b> <i>0,0028</i>	<b>0,1121</b> <i>0,1623</i>	
Diversified funds	<b>0,1571</b> <i>0,0494</i>	<b>0,1890</b> <i>0,0177</i>	<b>0,1823</b> <i>0,0223</i>

**Note:** P-values (level of significance) are indicated in italics under the coefficient. The colour code makes reading easier: significant coefficients at the 5% threshold are in green, those that are significant at the 10% threshold are in orange, and those that are not significant are in red.

### 3.1.5. French discretionary asset management remains dynamic

Collective management, which we examined previously, is only part of the asset management business. Investment services providers (ISP) and asset management companies (AMC) can also offer discretionary asset management services to their clients (mostly institutional and high net-worth individual investors). By signing a management mandate, investors give their representative the power to manage their portfolio of financial instruments on their behalf, taking into account their objectives and situation. According to the French asset management association (AFG), French assets under discretionary asset management were estimated at 2.051 trillion euros at the end of 2018, up 2.1 % compared with the previous year.

*Assets under discretionary asset management in France continued to increase in 2018.*

**Figure 58: Change in collective asset management assets and assets under discretionary asset management**  
(billions of euros)



Source: Association Française de la Gestion Financière (AFG)

## 3.2. THE GROWTH OF PRIVATE FINANCING AND DEBT VEHICLES

### 3.2.1. Development of private finance

Crossing several criteria, private finance generally refers to<sup>139</sup> vehicles:

- Primarily intended for **institutional investors**, in particular insurance companies and pension funds;
- Typically private equity or private debt funds investing in **relatively illiquid assets** (equity, unlisted debt securities,<sup>140</sup> real estate, infrastructure, natural resources). They differ here from alternative asset management strategies (hedge funds);
- **Closed-end** (e.g. with a horizon of 5 to 10 years);<sup>141</sup>
- Often created in the context of **market transactions** (mergers-acquisitions, LBO, etc.).

*Private finance funds: a scope to be defined...*

Like hedge funds (see 3.3.4), they refer above all to market uses or specific national regimes.<sup>142</sup> The assets managed by these funds are nevertheless substantial and have increased sharply in recent years.<sup>143</sup> Using the Prequin database, the consulting firm McKinsey values global financing via this type of fund at 5.23 trillion dollars in 2018 (Figure 59), compared, for example, with global open-ended fund assets of 50.37 trillion

*...but significant global financing assets*

<sup>139</sup> The media cites analyses – for example by McKinsey, CFA, Morgan Stanley Oliver Wyman – based mostly on market data (Prequin, Dealogic, Pitchbook, etc.) and rating agencies.

<sup>140</sup> This section, focused on funds, does not deal with relative incentives by issuers to use private and public financing instruments. This point, addressed by [CFA \(2018\)](#) is discussed in Chapter 1.

<sup>141</sup> Their legal status distinguishes them from UCITS or open AIFs. See the description below of private equity funds, in particular in the box 5, and Appendix 3 of the [IOSCO \(2010\)](#) consultation report.

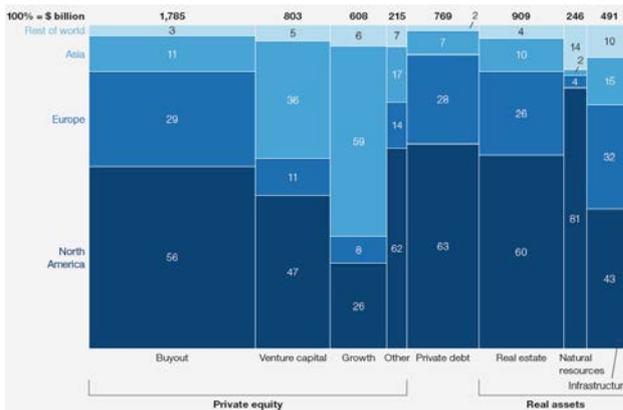
<sup>142</sup> In France, in particular, innovation funds (FCPI), venture capital funds (FCPR), local investment funds (FIP) or professional private equity fund (FPCI) and limited partnerships (SLP) and specialised professional funds (FPS).

<sup>143</sup> What follows is therefore based on available sources of market information and analyses of consultants and strategists that monitor market innovation.

dollars (23.64 trillion dollars in the Americas, 16.478 trillion dollars in Europe<sup>144</sup>), hedge funds of nearly 3 trillion dollars,<sup>145</sup> or 4.7 trillion dollars of <sup>146</sup> ETF.

**Private asset management fund assets**  
(billions of dollars)

**Figure 59: Private equity global assets**



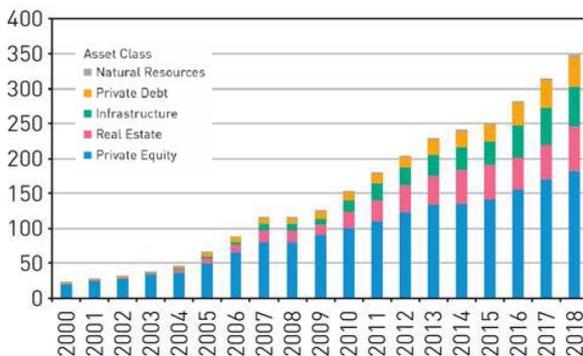
Source: Preqin, [McKinsey](#).

**Figure 60: Private equity – total amount**



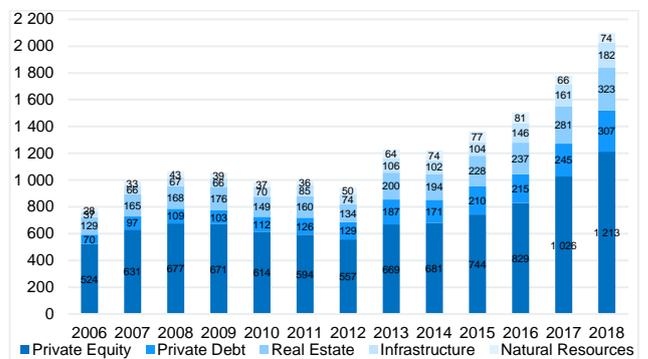
Source: Preqin, [CFA](#).

**Figure 61: History of eurozone assets**  
(billions of dollars)



Source: Preqin, [CFA](#)

**Figure 62: Private equity – total amount of liquid assets to invest (dry powder)**  
(2018, billions of dollars)



Source: Preqin, [AMF](#)

**Strong growth of debt funds...**

The growth observed benefited in particular from the recent development of private debt markets.<sup>147</sup> Total assets of private debt funds, which were practically non-existent two decades ago and still under-developed before the crisis, have more than tripled since to reach 769 billion dollars in 2018 (Figure 59). Geographically, assets are concentrated mainly in the United States (484 billion dollars), followed by Europe (215 billion euros<sup>148</sup>).

<sup>144</sup> Source: [EFAMA](#) (20.6 trillion and 14.4 trillion euros).

<sup>145</sup> 3.1 trillion dollars according to [HFR](#); 2.9 trillion dollars according to [BarclayHedge](#) which separately records 400 billion of managed futures and CTA.

<sup>146</sup> Source: [Lyxor Asset Management](#).

<sup>147</sup> See [De Fontenay \(2017\)](#) for a description of legal developments in the United States

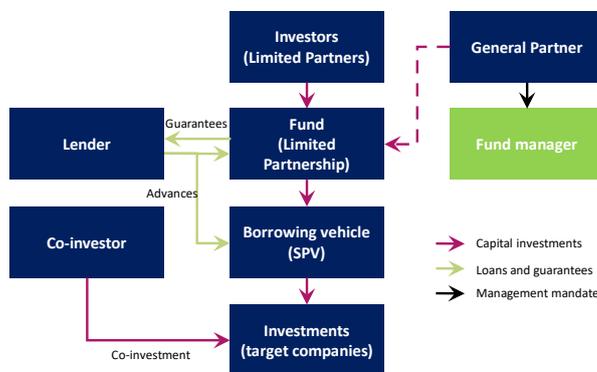
<sup>148</sup> According to the [2<sup>nd</sup> France Invest and Deloitte survey](#) on private debt fund activity in France, in 2018 "37% of transactions were carried out in the United Kingdom, 26% in France and 11% in Germany".

...and the majority of assets are concentrated in private equity

LBO: dry powder could exert upward pressure on acquisition prices

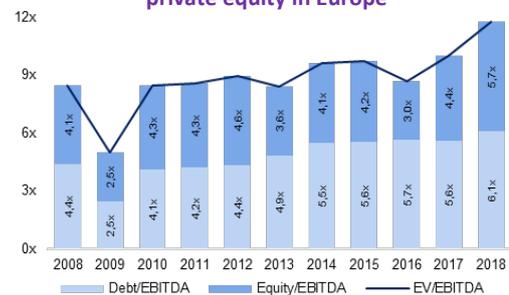
Given the assets concerned, the increase in private financing is, however, primarily the growth of private equity (3.411 trillion dollars),<sup>149</sup> in particular LBOs, especially in the United States (1.668 trillion dollars of assets; 685 billion dollars in Europe; 180 billion dollars in the euro area (Figure 59 and Figure 61 Figure 60). Despite a 24% drop compared with 2017 (at 432 billion dollars), the funds raised worldwide once again increased the amount of assets under management. They reflect in particular (Table 6) the continued low interest rates and a search for returns by institutional investors. The amount of liquid assets available to invest (dry powder) thus rose to 1.213 trillion dollars at the beginning of 2019 (Figure 62). Despite historically high valuation multiples of target companies, this increase could exert upward pressure on acquisition prices (Figure 64).

Figure 63 - Diagram of a Leveraged Buyout



Source: AMF on the British Venture Capital Association database

Figure 64: Valuation multiples of private equity in Europe



Source: Morningstar PitchBook, AMF

### Box 5: Type of private equity fund and structure of Leveraged BuyOut (LBO) funds

Of the private equity funds, it is venture capital funds, representing 803 billion dollars at the global level, that finance the initial growth of companies. An intermediate segment (growth) finances the growth stages of intermediate undertakings, especially in Asia which accounts for 59% of the 608 billion dollars of global assets. LBO funds concentrate a high level of assets (1.785 billion dollars) relating to large scale transactions that finance the growth stages of the more advanced companies. Aimed at acquiring significant shares in the (non-listed) capital of target companies, LBO funds often take the form of Anglo-Saxon Limited Partnerships (Figure 18) whose investors (Limited Partners) delegate the management of the company to a General Partner. Created in 2015, the limited partnership (SLP), a part of the specialised professional fund category (FPS), is similar under French law.<sup>150</sup> Although the investment horizon is generally 5 to 10 years, investors have a longer horizon when they reinvest in new funds. For tax reasons or to obtain leverage, the fund's investment is generally intermediated by Special Purpose Vehicles (SPVs). The return is therefore based on the managers' ability to influence the management of the target companies and, where applicable, on the leverage obtained by issuing debt to the target and/or SPVs created for this purpose<sup>151</sup> (Figure 63).

<sup>149</sup> Asset management companies may be encouraged to manage both private debt and private equity (Liebscher, Mählmann (2017)). In France, Instruction AMF 2012-19 of 24 January 2019 sets out the rules for the management of conflicts of interests of "transactions in non-listed securities, both debt and equity, on the same issuer".

<sup>150</sup> See AMF In-Depth document of 11 January 2016. 158 SLPs have been declared to the AMF since the regime was set up in October 2015. We note an acceleration in 2018, with 76 declarations of new funds. In 2019, 18 creations have been created as at 14 May 2019.

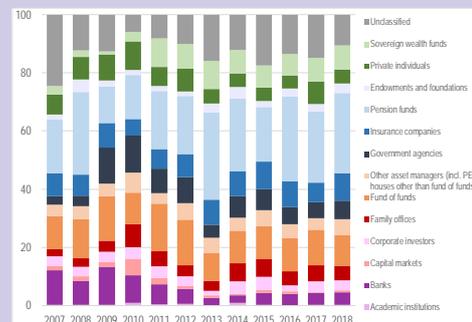
<sup>151</sup> Included in the statistical residue of the Financial auxiliaries (S.126) and Captive financial institutions and money lenders (S.127) of national accounting, SPVs are poorly identified at the aggregate level. Work was initiated by the ESRB (2017) and its members. On Ireland and the Netherlands, see BIS (2016); on Luxembourg see CSSF (2017).

**Table 6: Private equity activity indicators in Europe and France**  
(billion euros (annual change, as a %), 2018)

<b>• Activity in Europe</b>	
Funds raised	97.3 (+0.7%) / LBO: 66.6 (-8.4%)
Funds invested	58.4 (+5.9 %)
Divestments	22.4 (-34%)
Valuation. (PitchBook)	11.8x EBITDA (Figure 18)
<b>• Activity in France</b>	
<b>- Authorised vehicles (AIF)</b>	
<b>Funds open to retail investors (FCPR, FCPI, FIP)</b>	
Assets: 7.2	Number of funds: 723
<b>Professional private equity investment fund (FPCI)</b>	
Assets: 65.4	Number of funds: 903
<b>- Venture capital</b>	
Funds raised	18.7 (+13.3 %)
Funds invested	14.7 (+2.8 %)
Divestments	9.8 (+2.1 %)

Sources: Europe: Invest Europe; France: Authorised alternative investment funds: AMF; venture capital: France Invest.

**Figure 65: Funds raised by private equity in Europe per type of investor**



Source: Invest Europe, AMF.

*The regulatory framework of debt funds is evolving*

*Monitoring necessary, especially if the intermediation chains are lengthening*

Several supervisory issues are linked to the development of private financing funds. In France, private equity fund assets (72.6 billion euros at the end of 2018) and those of debt funds<sup>152</sup> remained modest compared with the Anglo-Saxon countries. Furthermore, there is a relatively large proportion of small and local venture capital transactions. However, the increase should continue, driven by structural and cyclical factors. Structurally, an environment that is favourable to long-term market financing has been established in Europe.<sup>153</sup> This is attested to in France with the modernisation of the funding organisations.<sup>154</sup> With respect to the financial cycle, the extension or termination of accommodating monetary policies could reveal excessive risk-taking with regard to the objectives of the competent authorities<sup>155</sup> in relation to investor protection or financial stability. These trends therefore raise questions for financial supervisors about the resources needed to monitor trends and risks on these markets, in particular to consolidate the relevant information base, whether in terms of data useful for quantifications, improving the identification of end investors or characterising the sometimes-complex legal frameworks<sup>156</sup> that can increase intermediation chains.

<sup>152</sup> Debt funds may refer to different types of French undertakings that can acquire debt instruments. For professional private equity investment funds (FPCI), professional specialised investments (FPS), specialised financing vehicles (OFS), securitisation vehicles (OT), these may be debts resulting from loans (granted or acquired). For a broader UCITS scope, they may be high yield bonds, subject to applicable risk management rules (diversification, etc.). According to France Invest-Deloitte, debt funds managed 7 billion euros of investment in France in 2018 (+16%). Single tranche debt, specific to LBO financing, represented 62% of the amounts invested in 2018.

<sup>153</sup> See the review of the measures adopted by the [Action Plan on Building a European Capital Markets Union](#).

<sup>154</sup> The 2015 Finance Act creates the possibility for FPCI, FPS and securitisation vehicles to lend, with the conditions for granting loans of funds (FPCI, FPS) to companies specified by the decrees of 24 November 2016. Since the Sapin 2 Act could modernise securitisation vehicles (OT), specialised financing vehicles, vehicles specific to the management of debt funds, were created by the order of 4 October 2017. The decrees of 19 November 2018 specify the implementing provisions of the specialised financing vehicle reform and the AMF General Regulation (Q1 2019) the rules applicable to specialised financing vehicle and the adaptation of securitisation vehicles. In particular, it stipulates their ability to grant loans directly without passing through a bank.

<sup>155</sup> The risks of a potential excessive indebtedness of non-financial companies are discussed in Chapter 1 and the implications for asset management are discussed more specifically in the next section.

<sup>156</sup> NB: the domiciliation of entities (in particular SPVs) does not necessarily reflect the domiciliation of economic activities. Conversely, financial flows and cross-border activities continue to be imperfectly measured.

### 3.2.2. Risks related to leveraged finance

#### 3.2.2.1. Activities that are ill-defined but risky by nature...

Leveraged finance refers to debt instruments intended to finance non-financial companies that are already heavily indebted and therefore present a greater risk of default. It is often used in external growth operations carried out using debt (leveraged buyouts, or LBOs), mergers & acquisitions, capital distribution, or to refinance previous loans taken out for the same purpose.

There is no agreed international definition.<sup>157</sup>

The following assets are usually included in the scope of leveraged finance:

- high-yield bonds, i.e. bonds with a credit quality below the investment grade level;<sup>158</sup>
- leveraged loans, i.e. loans granted to companies that are already very indebted or owned by private equity funds<sup>159</sup>; and
- products derived from the securitisation of these loans (Collateralised Loan Obligations, or CLOs).

The persistent low interest rates have contributed to the development of leverage financing. On the demand side, it has pushed companies to resort to debt leverage. On the supply side, it has encouraged investors looking for higher returns to increase their exposure to assets of lower quality. In the immediate aftermath of the crisis, the momentum of leveraged finance was driven by the high-yield bond market, but leveraged loans and CLOs have since taken over.

Leveraged finance usually involves long intermediation chains that bring in different categories of market players, via various legal structures: banking institutions, non-banking intermediaries, institutional investors and retail investors. Complex and opaque arrangements reflect incentives to increase debt and risk. In LBO transactions for example, a holding company takes control of a target company by financing its acquisition with a debt issue that will be reimbursed with the revenue generated by the target. To generate the necessary return on capital, the target will itself have to use leveraged debt. To further reduce the amount of shareholders' equity that is tied up in the company, it is possible to set up a takeover cascade via indebted holdings, which increase the use of levers. The holding companies behind the LBO often belong to the owners of the target companies or the private equity fund.

<sup>157</sup> For example, the definition of "leverage loan" by the [American Office of the Comptroller of the Currency \(2008\)](#) is rather vague: "The OCC broadly considers a leveraged loan to be a transaction where the borrower's post-financing leverage, when measured by debt-to-assets, debt-to equity, cash flow-to-total debt, or other such standards unique to particular industries, significantly exceeds industry norms for leverage." (p.3)

[BCE \(2017\)](#) defines a "leveraged transaction" as:

"any transaction that meets at least one of the conditions below:

- (1) all types of loan or credit exposure where the borrower's post-financing level of leverage exceeds a Total Debt to EBITDA ratio of 4.0 times;
- (2) all types of loan or credit exposures where the borrower is owned by one or more financial sponsors." (p.4)

<sup>158</sup> Note that the debt level is only one of the many factors taken into account in assessment of ratings agencies. All high-yield bonds are therefore not necessarily issued by very indebted companies.

<sup>159</sup> We use here the (2) ECB's definition given in the previous footnote.

CLOs, on the other hand, use complex risk management and transfer structures, as they require active tracking of individual loans. The safest tranches, with lower yields, are usually allocated to institutional investors, while the riskier tranches are bought by funds (including ETFs).<sup>160</sup>

Leveraged finance encourages excessive risk-taking by NFC issuers. The abundance of inexpensive financing does not incite investors to sift through good and not-so-good projects. However, the sustainability and refinancing of corporate debt could be seriously compromised by the end of accommodating monetary policies or a macroeconomic shock: the simultaneous refinancing of multiple borrowers at the loan maturity and under deteriorated market conditions may prove to be very difficult, leading to a large number of defaults.

The easing of the contractual guarantees offered to lenders (“covenant-lite” or cov-lite loans<sup>161</sup>) and the indulgent complaisance about the estimate of leverage ratios (add-backs) are an undeniable result of the excessive risk taken by investors.

Despite the inaccuracy of aggregate quantification, since 2018 many national and international institutions have expressed their concern faced with the magnitude of the phenomenon.<sup>162</sup>

#### *3.2.2.2. ... and difficult to apprehend*

The global leveraged finance outstanding is currently estimated at nearly 3 trillion euros,<sup>163</sup> although this figure is very imprecise.<sup>164</sup> It depends in particular on the definition given to leveraged finance (in terms of the securities rating criteria or threshold for the debt ratio of borrowers, at the time of issue as well as during the life of the loan), the scope covered (minimum transaction size), and the source of data (no consolidated public database). In 2018 in the United States, outstanding leveraged loans were estimated at 1.2 trillion dollars (half of which were in the form of securitised CLOs) and outstanding high-yield bonds stood at the same value.<sup>165</sup> According to Bloomberg, outstanding leveraged finance in Europe could reach 875 billion euros at the end of 2018.

We cannot describe leveraged finance as a whole without crossing databases from multiple sources that are not always interoperable. It is therefore necessary to cross-check the official reports submitted to the supervisory authorities (banks, markets, insurance – both nationally and internationally) with additional data from rating agencies, consultants or private information providers. The lack of precise and harmonised identification of the underlying assets (for private loans) or even securitised assets (not all the CLOs are identified by an ISIN code), combined with the margin of interpretation concerning the definition of leveraged finance (and the lack of homogeneity of the definitions actually used by analysts) explain the large variability in the estimates provided.

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<sup>160</sup> The [Bank of England \(2018\) proposes a qualitative review in Figure F.8 p.45.](#)

<sup>161</sup> The [Bank of England \(2018\)](#) notes that cov-lite loans accounted for more than 60% of new leverage loan issues worldwide (p.43).

<sup>162</sup> [Bank for International Settlements \(2018\)](#), [International Monetary Fund \(2018\)](#), [Financial Stability Board \(2017\)](#), [U.S. Federal Reserve Board \(2018\)](#), [ECB \(2018\)](#), [Bank of England \(2018\)](#), [U.S. Office for Financial Research \(2018\)](#).

<sup>163</sup> By way of comparison, the [Bank of England](#) reminds us that the stock of US subprime mortgage in the United States stood at 1.1 trillion dollars (p.47).

<sup>164</sup> It adds up an estimate by Fitch Ratings in the US market for 2017 and figures of Moody's in the Europe, Middle East and Africa (EMEA) region in 2018.

<sup>165</sup> Sources: Fitch Ratings (May 2018); Goldman Sachs for CLOs (Dec. 2018).

Since several types of financial intermediaries are involved in leveraged finance (creditors, structuring organisations, market intermediaries, investors), it is essential to develop consistent regulatory frameworks across jurisdictions and sectors (these rules should cover loan origination and securitisation of receivables, but also the eligibility of assets for different categories of investors).

### 3.2.2.3. *In France, the exposure of funds to leveraged finance is limited*

As part of the HCSF's work, the AMF estimated the exposure of French funds to leveraged finance by focusing exclusively on securities identifiable by their ISIN code.<sup>166</sup>

The AMF used a granular database describing the French fund portfolio as at end 2018 (fund by fund and security by security), and crossed these data with a repository of nearly 8,000 ISINs of international high-yield bonds as well as with a list of nearly 11,500 ISINs of international CLOs.<sup>167</sup>

Of the total assets of all French funds (nearly 1.5 trillion euros), high-yield bonds represent less than 21 billion euros in assets. Not surprisingly, bond funds are the most exposed (15 billion euros out of 335 billion euros of assets), followed by mixed funds (6 billion euros out of 375 billion euros of assets). The average exposition of those funds which invest in high yield bonds is 8%.

Only 28 French funds are exposed to CLOs, and the total exposure amounts to 393 million euros. On average, the exposition of those 28 funds to CLOs amounts 1.7% of their total assets.

It therefore appears that French funds have very limited exposure to leveraged finance. We must however point out several limitations of this analysis:

- The holding of loans by the funds is not taken into account;
- Only securities with an ISIN code can be easily identified in reports;
- The lists identifying high-yield bonds and CLOs are not necessarily exhaustive (dependence on data from commercial information providers).

## 3.3. IMPROVED UNDERSTANDING OF RISKS THROUGH AIFM REPORTING

The data collected under the requirements of the AIFM (Alternative Investment Fund Managers) directive, 2011/61/EU, published on 8 June 2011, now allow regular monitoring of alternative investment funds (AIF) and their risks at the European as well as national level. This directive regulates the activities of all alternative investment fund managers, which include all funds that do not fall within the scope of the UCITS 4 Directive, including private equity funds, real estate funds and alternative management funds (funds of funds and hedge funds).

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<sup>166</sup> The ISIN code (international securities identification number) enables the precise identification (unique code at the international level) of a security. It is established by standard ISO 6166 of the International Organisation for Standardisation (ISO). Some financial assets do not have ISIN codes. This is the case in particular when they are not sufficiently standardised (e.g. individual loans) or when they are not necessarily intended to be traded on the international market (e.g. French employee savings funds). When a security does not have an ISIN Code, each institution that deals with it assigns it an internal code, which makes reconciliation very difficult. The use of the trade names of products also raises many problems because slight variations in the entry of a character string such as spaces, accents and symbols can prevent the security from being identified.

<sup>167</sup> The breakdowns of the fund portfolio are part of the mandatory reports to the regulator. The high-yield bond repository was created using Thomson Reuters Eikon, and the CLO list was extracted from Bloomberg.

In March 2019, ESMA published a first overview of European AIFs, which characterised these funds as at the end of 2017. This report will now be published on an annual basis.<sup>168</sup> It highlights the first indicators capable of analysing the risks of the 26,378 AIFs reported in Europe and identified by ESMA, with total net assets of 4.909 trillion euros at the end of 2017. Professional investors own 80% of these AIFs, while retail investors account for the remaining 20%. The approximate leverage effect of AIFs that report in Europe seems limited, with the notable exception of hedge funds, which are more heavily exposed to derivatives. Lastly, ESMA points out signs of potential liquidity risks at short-term horizons, in particular with European real estate funds as the liquidity offered to investors is greater than the liquidity of their assets.

An initial study was also published by the AMF on the basis of data reported by French managers on all the funds they manage (French or foreign) relating to data from the end of 2017.<sup>169</sup> It presents the first lessons learned about AIFs that report in France and provides a better understanding of their risks. The information presented below is based on these analyses, which have been updated in the fourth quarter of 2018. This is because thanks to the analysis of reports, it is now possible to regularly monitor the liquidity and leverage risk of AIFs that report in France.

### 3.3.1. It seems essential to work on improving data quality

Despite initial results, work intended to improve the quality of data from the AIFM reports must be extended to increase the scope of analytical work and risk monitoring. That is why ESMA set up two working groups in 2019 to (i) analyse reporting technical errors or understand variables, and to (ii) improve the convergence of the statistical analyses of the competent authorities. This is because some reporting variables are difficult to use statically without in-depth monitoring and error correction. For example, ESMA highlights its inability at this stage to use the leverage variables as calculated by managers<sup>170</sup> at the European level.<sup>171</sup> In France, in order to address this issue, the AMF has set up a mechanism to check abnormal leverage levels around several checks.

Likewise, at the French level, we observe that the strategies submitted by managers, which provide the basis for the analysis, highlight a large majority of main strategies declared as "other" (than reporting proposals), which limits the scope of interpretations and the appreciation of the diversity of strategies implemented: they accounted for 54% of total net assets at the end of 2018. Even if we break down the total net assets of managers who report in France at the level of their sub-strategies (35 possibilities), the proportion of AIFs in "other" sub-strategies remains high, at 27% of total net assets.

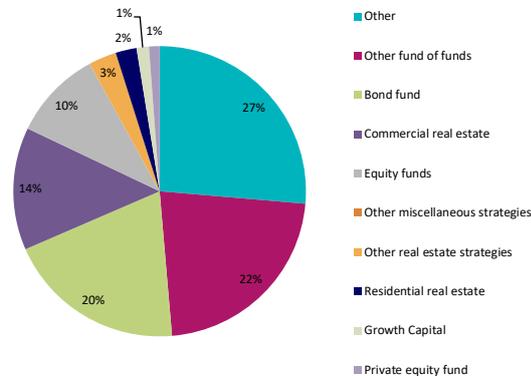
<sup>168</sup> ESMA (2019), "ESMA Annual Statistical Report - EU Alternative Investment Funds 2019", March.

<sup>169</sup> See C. Le Moign, K. Siempis (2019), « First results from AIFM reporting », Autorité des Marchés Financiers, January.

<sup>170</sup> See section 3.2.3 for these definitions.

<sup>171</sup> See the article "Fundamental issues in AIFMD data handling and statistics", in the above-mentioned ESMA report.

**Figure 66: Breakdown of AIF net assets by investment sub-strategy**  
(as a cumulative % of total net assets at end 2018)



*Note:* Managers choose the sub-strategies that best describe the investments of the AIF, as a % of net assets. The “Other miscellaneous strategies” sub-strategy includes all sub-strategies with a share in total net assets of less than 1%.

Source: AMF

In all, we observe that most managers who report in France have AIFs that resemble the more traditional funds: equity, bond and diversified funds represented 52% of total net assets at the end of 2018.

### 3.3.2. A low liquidity risk and better investor knowledge

In France at the end of 2018, AIFM reports counted 7,433 AIFs, representing 752 billion euros in assets, or 51% of assets under French collective management).<sup>172</sup> The greater part of those funds is domiciled in France (96% of total net assets at the end of 2018).<sup>173</sup>

It is possible to monitor the manager’s assessment of the liquidity of their funds’ assets according to their liquidation duration, as well as the assumed redemption behaviour of investors, in order to assess their ability to cope with shocks by disposing of liquid assets.<sup>174</sup>

At the level of the categories of funds considered, the commitments appear here to be systematically (at all maturities, for all categories) smaller than the asset liquidation periods, showing a capacity in general<sup>175</sup> to cover redemptions of investors’ units. Although it represents only an approximation, since managers model according to their own liquidation criteria, the presented outlook shows that the liabilities structure – in particular, the commitments to be met for short-term redemptions – is consistent overall with that of the assets of funds. For example, the proportion of holders who can redeem their units of “Other” funds within one day is 52% (Figure 67), whereas it is almost zero for real estate funds (2%, Figure 70). Unlike the European average presented by ESMA,

*The adequacy between assets and liabilities of AIFs seems consistent*

<sup>172</sup> The other funds were undertakings for collective investment in transferable securities (UCITS) governed by the UCITS Directive: Directive 2009/65/EC of European Parliament and of the Council of 13 July 2009.

<sup>173</sup> To allow recurrent monitoring of the largest AIFs, the statistical analyses carried out focus on the AIF population that reports quarterly (the quarterly reporting threshold is 1 billion euros per manager). This population represents 90% of the total net assets of AIFs reported.

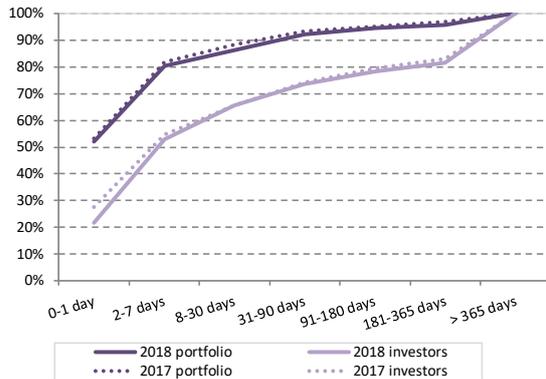
<sup>174</sup> These variables are optional and are therefore not filled in by all managers. However, the results were available for 98% of reports at the end of 2018.

<sup>175</sup> This average observation for the fund categories considered does not prejudice the individual situations of the funds under review.

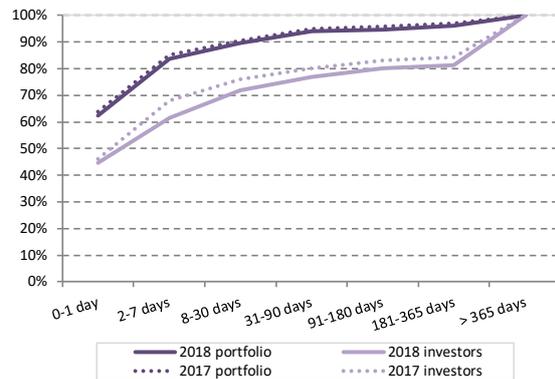
the assessment of managers of real estate funds reporting in France is that most of their investors are not authorised to redeem their units before a year.<sup>176</sup>

### Structure by terms of the portfolio assets and liabilities

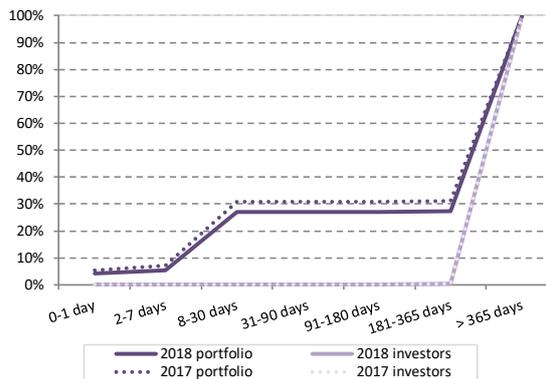
**Figure 67: Other fund**  
(estimate as a cumulative % of net assets)



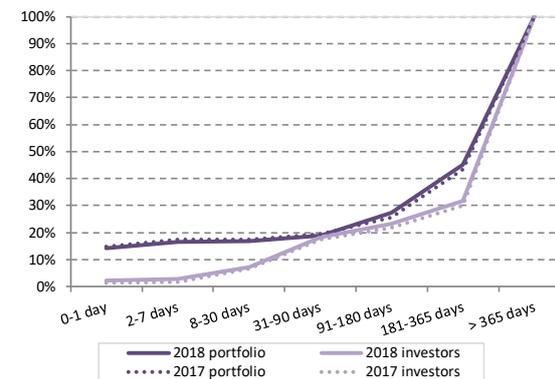
**Figure 68: Funds of funds**  
(estimate as a cumulative % of net assets)



**Figure 69: Private equity funds**  
(estimate as a cumulative % of net assets)



**Figure 70: Real estate funds**  
(estimate as a cumulative % of net assets)



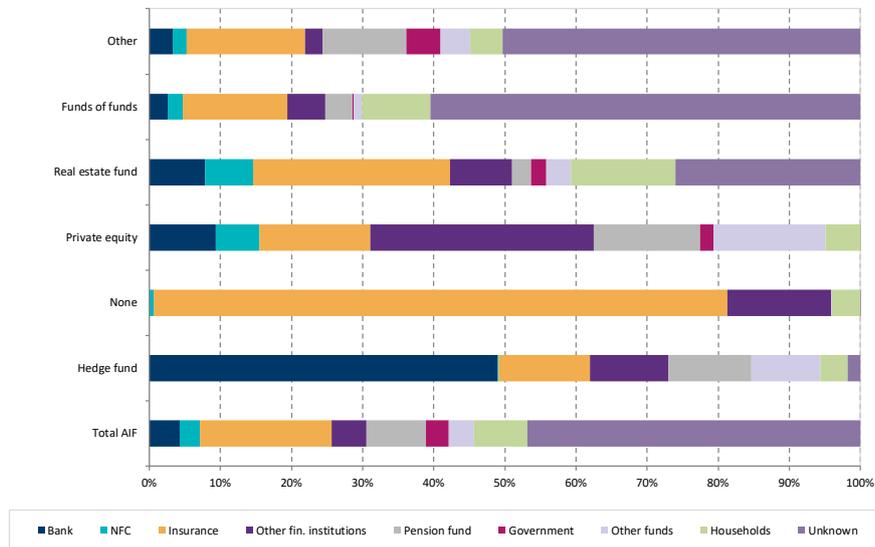
**Note:** for the 'real estate funds' strategy (19% of net assets), managers estimate that 14% of their portfolio can be sold within one day and that 2% of investors can receive redemption payments within this horizon. Source: AMF

**However,  
knowledge of  
AIF liabilities  
can be  
improved**

In order to supplement this analysis of liquidity by asset managers, they are also asked to report on their ability to identify their clients on the liabilities side (Figure 71). Above all, it shows that retail investors are generally in the minority in the holding of alternative funds (7% weighted average by assets at the end of 2018), in particular the riskier strategies (4% of hedge funds and 5% of private equity funds held), except for real estate assets of which they hold 15% of units. Nevertheless, this proportion is certainly reduced by the possibility for certain funds to be distributed to retail clients through account keepers (no vision by transparency). Furthermore, the high proportion of investors reported as "unknown" (47% on the average) seems to stem from asset managers' limited knowledge of their liabilities, in a context where the reporting categories do not always correspond to the commercial information available to managers.

<sup>176</sup> For the description liquidity management tools of real estate funds domiciled in France, see box 20 of the AMF Risk outlook 2016. See also HCSF (2017), "Updated analysis and results of stress tests dedicated to commercial real estate", March.

**Figure 71: Fine categories of investors per strategy**  
(as a % of the weighted net asset of each investment strategy)



Source: AMF

Institutional investors make up the main category of French alternative fund unitholders, foremost insurance companies, which hold 19% of AIFs at the end of 2018 and 17%, 15%, and 28% of net assets of the “Other”, “Funds of funds”, and “Real estate” fund categories respectively. Banking institutions and other financial institutions represent only a limited weight of unitholders, 9% for all AIFs, but with very broad differences depending on the strategies. Likewise, pension funds represent only 3% of bearers of real estate funds, but 12% of hedge funds and 15% of private equity funds. Ultimately, this nascent improvement in the knowledge of liabilities could make it possible to better analyse investors' behaviour according to their type, and to deepen the links between inflows and portfolio liquidity<sup>177</sup>.

### 3.3.3. Average leverage levels adapted to investment strategies, but monitoring required on a case-by-case basis

It is also now possible to track the leverage level of AIFs, which is expressed as a ratio of the fund's total exposure to its net assets. It is calculated using two methods: the gross method<sup>178</sup> and the commitment (or net) method,<sup>179</sup> which are differentiated by whether or not the calculation takes cash into account. Based on the AIF reports collected between 2015 and 2018, we can draw up an inventory of average leverage per asset class, which must however be accompanied by fund-by-fund monitoring. This is because we observe that over certain periods, the level of average leverage fluctuates rather sharply, suggesting problems with the reliability of the information entered and the understanding of leverage calculations by some asset managers. It should also be noted that these

<sup>177</sup> See also Darolles et al. (2018), “A Self-Exciting Model for Mutual Fund Flows: Investor Behaviour and Liability Risk”, Paris December 2018 Finance Meeting EUROFIDAI – AFFI.

<sup>178</sup> Gross leverage is the ratio between (i) the sum of the absolute values of all positions (with conversion for derivatives into underlying instruments), including repurchase or reverse repurchase agreements, with cash and borrowings excluded from this sum (unless reinvested) and (ii) net assets.

<sup>179</sup> Net leverage is the ratio between (i) the sum of the absolute values of all positions (with conversion for derivatives into underlying instruments), including repurchase or reverse repurchase agreements.

indicators are only a first method for assessing risks, for example by adding derivative positions without taking their direction into account.

It can be seen that money market and equity funds have the most moderate gross and net leverage, varying between 89% and 113% of the net assets of their asset class. The highest levels observed are diversified funds and bonds (109%-134%). Lastly, real estate funds and formula funds have leverage in excess of 130%, due to their debt strategies or higher exposure to derivatives. Moreover, when we observe the evolution of AIF leverage according to their declared investment strategy, their levels seem generally in line with their strategies: at the end of 2018, private equity funds, funds of funds and "other" strategy funds had low leverage (102%, 113% and 124% average gross leverage respectively), while real estate funds and hedge funds had more substantial leverage (135% and 1246% respectively).

**Table 7: Average leverage per asset class**

	Equity			Bonds			Diversified funds			Real estate fund			Money market funds			Formula fund		
	Gross leverage	leverage commitment	Assets (€bn)	Gross leverage	leverage commitment	Assets (€bn)	Gross leverage	leverage commitment	Assets (€bn)	Gross leverage	leverage commitment	Assets (€bn)	Gross leverage	leverage commitment	Assets (€bn)	Gross leverage	leverage commitment	Assets (€bn)
2015	111	103	91	147	113	134	128	108	187	133	130	71	94	93	39	170	135	16
2016	109	102	94	134	113	139	120	108	196	238	235	85	88	90	45	176	139	16
2017	108	102	99	133	110	135	119	109	213	141	139	108	89	92	42	157	131	19
2018	113	105	86	134	109	116	124	109	192	134	132	120	90	89	41	156	142	18

Source: AMF. Note that the tables presented above only take into account leverage other than zero, which are excluded. Leverages are expressed as a percentage of the net assets held by each asset class. Leverages are those of all the AIFs (those that report quarterly as well as those that report half-yearly and annually).

**Interpretation assistance:** Average gross and commitment leverage of bond funds at the end of 2018 (all reporting frequencies combined) stood at 134% and 109% respectively. Net assets corresponding to this asset class totalled 116 billion euros.

*The levels of AIF leverage seem generally in line with their strategies:*

Over and above this analysis at the aggregate level, funds with atypical levels are analysed one by one to ensure that they do not present excessive risk. The quality of these data however seems problematic for some AIFs or certain periods. The AMF has therefore launched work to make these data more reliable.

These leverage metrics also enable European regulators to provide feedback to the various propositions made by IOSCO for monitoring leverage.<sup>180</sup> In November 2018, IOSCO submitted proposals for consistent techniques for measuring leverage in funds at the international level, in order to help national authorities identify the funds or types of fund that could present a risk to financial stability.<sup>181</sup> In this sense, the approach proposed is structured around two stages: (i) several simple calculations based on fund exposure (gross, gross adjusted and net)<sup>182</sup> that enable a breakdown of leverage by asset class; (ii) for funds that call for an in-depth analysis by the regulator, the examination of additional data (the choice of which would be left to national authorities), to better understand the figures and identify the potential risks. While the results of these metrics are not perfectly comparable, they nevertheless allow for the consistent identification of potentially systemic funds across jurisdictions.

<sup>180</sup> In January 2018, IOSCO had been asked to propose technical recommendations on liquidity management tools for funds and leverage assessment measurements. See FSB (2017), "Policy Recommendations to address structural vulnerabilities from asset management activities", January.

<sup>181</sup> See IOSCO (2018), "IOSCO Report: Leverage – Consultation", November – the public consultation was closed in February 2019.

<sup>182</sup> Gross exposure would consist in adding up all the absolute values of fund investments and the notional amounts of the derivatives used. It is then proposed to adjust these calculations through various derivative netting proposals, depending on their maturity, their direction, or use – these adjustments are open for consultation.

### 3.3.4. The absence of a common definition for hedge funds makes it difficult to monitor their risks

After the financial crisis, the monitoring of the most speculative funds was reinforced. The term hedge fund encompasses a wide variety of investment strategies. Although the historical definition included funds committed to the short-selling and purchase of shares, in order to hedge against the risk of fluctuations at the market level, hedge funds today also use a wide range of very active strategies (arbitration of interest rates or bonds, event driven<sup>183</sup> or relative value,<sup>184</sup> macro-directional management,<sup>185</sup> etc.). Nevertheless, the lack of a common definition at both international and European level leads to significant differences in the amounts under management of these funds, which are difficult to apprehend. Several avenues for monitoring these funds are presented below.

Since September 2009, IOSCO has been working actively on the oversight and monitoring of these funds with the setting up of a data collection and a biannual publication of results (“Hedge funds survey”). The latest report that presents these data<sup>186</sup> highlights a growing industry with 1,971 funds representing 3.220 trillion dollars of net assets at the end of 2016. The domiciliation of these funds is highly concentrated since they are mainly domiciled in the Cayman Islands (53% of assets) and the United States (29%). The other domiciles are much smaller: Ireland and Luxembourg with 6% and 4% of global assets respectively.

In the European Union, it is the AIFM Directive that was aimed at better monitoring the riskiest alternative funds, and in particular hedge funds. AIFM reporting thus enables the in-depth analysis of the characteristics of hedge funds domiciled or managed in the European Union. Nevertheless, the qualification of “hedge fund” is assigned after a declaration by the asset manager and is not based on the intrinsic characteristics of the AIF. The EMSA report<sup>187</sup> on European AIFM data shows a limited sector, since only 5% of European AIF net assets (264 billion euros at the end of 2017) are reported as hedge funds. The sector is also concentrated, with 82% of European net assets reporting in the United Kingdom (217 billion euros at the end of 2017). Hedge funds reporting in Luxembourg represents only 5% of European assets with 14 billion euros at the end of 2017. AIFs reporting in Ireland are not represented in this first ESMA analysis because of technical difficulties encountered in sending their reports to ESMA.

These data will enable European authorities to contribute better to the IOSCO’s Hedge Fund Survey and to resolve any remaining points of divergence. Thus the size of British hedge fund assets derived from AIFM data and their absence in the Hedge Funds Survey may be partly explained by the proportion of non-European funds that register and market their AIFs in the UK, through the private placement system, and who must consequently be subject to AIFM reporting requirements. Nevertheless, an analysis of the domiciliation locations of hedge funds marketed in the European Union would be welcome to clarify their origin and to improve our knowledge of these funds. Even more

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<sup>183</sup> Event driven strategy consists in taking a position on financial instruments in order to take advantage of price differences that can be observed in special situations in the life of companies, such as mergers and acquisitions or debt restructuring of bankrupt companies: for example, the fund may speculate on the difference between the announced price by the acquirer in a public offer and the market value.

<sup>184</sup> The relative value strategy seeks to exploit price differences between similar financial instruments (shares, bonds, rates, convertible bonds, etc.), by simultaneously buying and selling these instruments, by allowing the investor to benefit from the differential potential (relative value) between the two instruments.

<sup>185</sup> The directional investment strategy consists in taking unhedged positions, anticipating the impacts of certain global economic variables on changes in prices of financial instruments.

<sup>186</sup> OICV (2017), “Report on the Fourth IOSCO Hedge Funds Survey”, November. The 2019 report will be published in the autumn.

<sup>187</sup> Ibid.

alarming, the difference between the two analyses could also be explained by the presence of Irish or Luxembourg funds that are declared as hedge funds but are not AIFs.

In the eurozone, the collection of data about collective investment undertakings made by the ECB groups funds by investment categories based on their portfolio securities. Nevertheless, “alternative multi-management funds”, which include hedge funds, are identified on the basis of their self-declaration (this is the only exception). In this manner the ECB identified 517 billion euros of assets under management by hedge funds domiciled in the eurozone at the end of 2018, i.e. 4.3% of the total assets of investment funds of the area. Here again, we note a discrepancy between the data derived from AIFM reporting.

In France, the collection made by Banque de France with the same definition as the ECB shows that French hedge funds are very marginal. Their number and assets have steadily declined since the financial crisis, reaching €1.4 billion of assets under management for 13 funds at the end of 2018, representing 0.3% of the assets of hedge funds in the eurozone. However, these funds do not identify as hedge funds in their AIFM reporting submission.<sup>188</sup>

Ultimately, despite the declarative nature of reporting, AIFM data are at this stage the most complete to observe hedge funds reporting in France and study their specific characteristics. The first observation concerns their marginal nature: there were 48 at the end of 2018, with net assets of 5.4 billion euros, or 0.7% of the total net assets of AIFs.

We also observe significant variations in domiciliation or strategies.<sup>189</sup> Unlike other AIFs, where 4% of total net assets are domiciled abroad, 51% of the assets managed by hedge funds that report in France come from foreign AIFs. While the funds domiciled in Ireland represented 52% of the net assets of hedge funds reporting in France at the end of 2016, at the end of 2018, they represented only 15%. Conversely, Luxembourg and French hedge funds increased their net assets, representing 1.1 billion euros and 2.1 billion euros respectively at the end of 2018, i.e. 26% and 49% of total net assets. The domicile also leads to significant differences with respect to risk. For example, while the average leverage of hedge funds is higher than that of other AIFs, there are significant disparities according to the domicile of the AIFs: at the end of 2018, the average annual leverage approximated by the exposure/net asset ratio was 2.1 for French AIFs, 15.4 for Luxembourg AIFs, 3.2 for Irish AIFs and 89.1<sup>190</sup> for AIFs from the Cayman Islands.

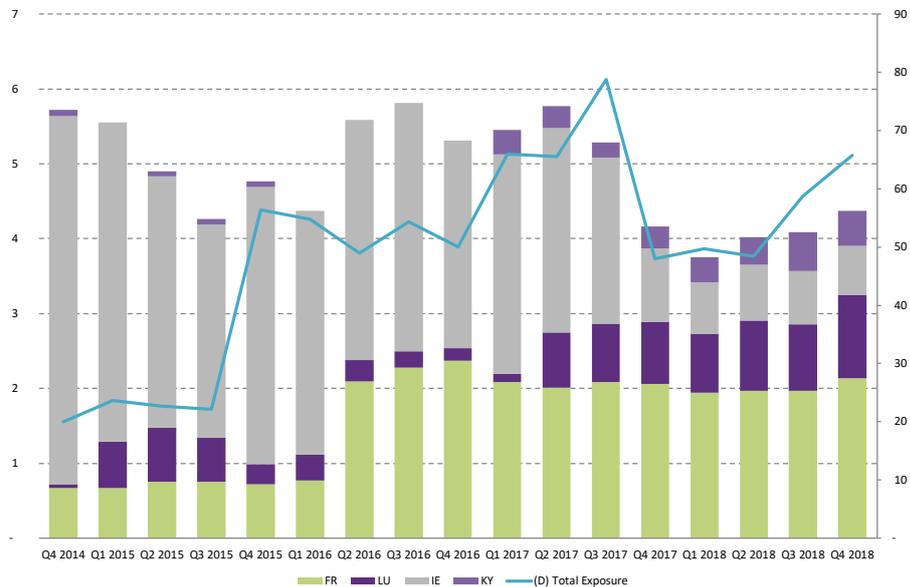
*AIFM reports  
enable the  
characterisation  
of these funds in  
France*

<sup>188</sup> Most of them indicate that they have an “Other” or fund of funds in their AIFM reports.

<sup>189</sup> The following results concern hedge funds that report quarterly, which are the largest, and represent 81% of the total assets of hedge funds that report in France.

<sup>190</sup> These AIFs use quantitative strategies based on the use of short-term interest rate futures (managed futures sub-strategies), with a high target volatility. This results in high leverage levels in low-risk markets, given that the formula for calculating the leverage level of short-term interest rate derivatives is disadvantageous when their maturity is less than one year.

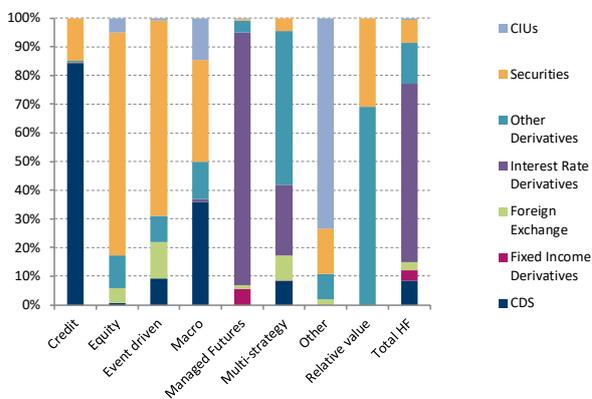
**Figure 72: Net assets of hedge funds reporting in France per domicile and total exposure (billions of euros)**



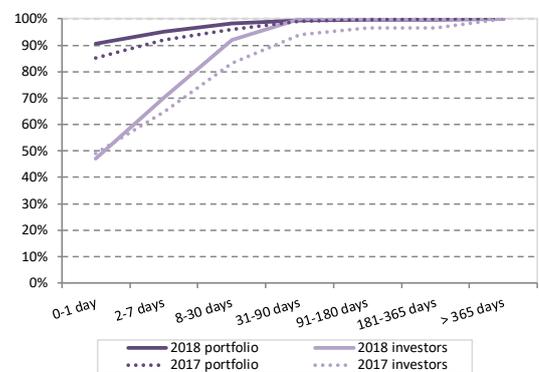
Source: AMF, for AIF asset managers reporting quarterly

After observing hedge fund exposures, we can confirm that they are very diverse and heterogeneous according to their sub-strategies (Figure 73): AIFs with managed futures strategies, multi-strategies, relative value or credit value are more exposed to derivatives, in particular interest rate derivatives. AIFs with equity or event driven strategies are more widely exposed to securities (78% and 68% of their exposure respectively). Nevertheless, despite their heavy use of derivatives, hedge funds are characterised by high liquidity on both the asset and liability sides, with 91% of assets deemed by the asset manager to be liquidated in one day at the end of 2018, and 47% of estimated holders able to redeem their shares in one day (Figure 74). They also hold more cash than the other AIFs: 10% of their net assets compared with 5% on the average with AIFs at the end of 2018.

**Figure 73: Exposure of hedge funds by sub-strategy (as a cumulative % of net assets)**



**Figure 74: Structure by terms of the asset and liability of hedge funds (estimate as a cumulative % of net assets)**



**Interpretation of figure 74:** the manager considers that 91% of his or her portfolio may be liquidated in one day and that 47% of investors can receive redemption payments within this time.

Source: AMF

Ultimately, the monitoring made possible thanks to AIFM reporting requirements allows regulators to better oversee these funds, which, if they take significant risks, remain marginal in France. Nevertheless, it would be helpful if there were better cooperation between competent authorities in order to improve the definitions and supervision of these funds.

#### Box 6 : Issues related to the development of ESG criteria in asset management

Individual investors feel increasingly concerned by environmental, social and governance issues (ESG criteria) and want these concerns to be better reflected in their savings,<sup>191</sup> in ways that may vary. Institutional investors also perceive the increase in ESG risks (in financial as well as reputational terms). In response to this demand, many asset management companies have sought to offer their clients socially responsible investment funds by incorporating this dimension (or rather these dimensions) into asset management strategies.

The inclusion of these non-financial criteria may take various forms, which are more or less restrictive. This may involve refusing to invest in a list of companies or sectors deemed incompatible, rating companies on the basis of ESG criteria and allowing to invest only in companies which, in each sector or in the investment universe, have obtained the highest score (best-in-class or best-in-universe approach), imposing minimum ESG scores on managers for their portfolios, with no limit on the investment universe, building thematic funds investing in a particular aspect of sustainable development, etc. Most responsible strategies also highlight shareholder engagement practices on ESG themes, but these can also take various forms.

The indicators used to assess an issuer's environmental or social performance are not necessarily standardised. Not only can the company decide to communicate on certain proprietary indicators (especially since a multitude of reference frameworks exist) but the fund manager may also have chosen its own indicators to guide its investment decisions, which sometimes makes it difficult to compare securities and portfolios on the basis of ESG criteria.

The scope of assessment of indicators is not standardised either: for example, to measure the environmental impact of a car or aircraft manufacturer, should we only take into account the construction of the vehicles, or also include the emissions related to their use by the end customer? Social indicators, which are very dependent on the national context, are by nature very difficult to harmonise. Data quality and the robustness of metrics are unquestionable areas of improvement.

Lastly, good environmental performance can sometimes be associated with weak governance or a negative social impact. Trade-off rules and the weight assigned to each dimension can therefore be a determining factor in the investment decision.<sup>192</sup>

An increasing number of asset management companies are seeking to communicate through various keywords (SRI, green, environment, social, sustainable, etc.), and it is not always easy to identify precisely how ESG criteria are effectively taken into account. Thanks to a lexicographic analysis, at the end of 2018 Novethic (Caisse des Dépôts group) identified 488 funds marketed in France and claiming to be SRIs, for cumulative total outstanding of 149 billion euros. For their part, in October 2018 the French Asset Management Association (AFG) and the French social investment forum (FIR) published the results of a survey conducted at the end of 2017, which identified 156 billion euros of SRI collective investment undertakings and 274 billion euros of collective investment undertakings following other ESG approaches (making a total of 430 billion euros of French responsible investment funds).<sup>193</sup> Additionally, they estimated the outstanding amounts under discretionary asset management following SRI or ESG methods in France to 651 billion euros.

To harmonize practices and enable French investors to easily identify funds that promote socially responsible investment, two labels have been introduced since 2015: the SRI label, presented as a tool for choosing responsible and sustainable investments, which is supported by the French Ministry of Economy and Finance, and the TEEC label (Energy and Environmental Transition for the Climate, now Greenfin), supported by the French Environment Ministry.<sup>194</sup>

<sup>191</sup> An IFOP survey in partnership with Vigeo-Eiris and the French social investment forum (FIR), published in September 2018, shows in particular that 63% of the French declare that they consider environmental and social impacts to be important in their investment decisions. This interest has increased sharply compared with 2017 (48 %). Despite this interest, the concept of socially responsible investment (SRI) is still unknown to the general public: 65% of the people interviewed declared that they had never heard of SRI before this survey. Source: <https://www.ifop.com/wp-content/uploads/2018/09/115733-Présentation-définitive.pdf>.

<sup>192</sup>NB: there may also be trade-offs even within one ESG dimension (e.g. for the environmental dimension: what is the potential impact on biodiversity of a renewable energy project).

<sup>193</sup> See [http://www.afg.asso.fr/wp-content/uploads/2018/10/2018\\_10\\_19\\_Etudes\\_Ecos\\_ISR.pdf](http://www.afg.asso.fr/wp-content/uploads/2018/10/2018_10_19_Etudes_Ecos_ISR.pdf).

<sup>194</sup> See the [TEEC label repository](#) (July 2018 version).

The development of the SRI label is dynamic: the first fund obtained the label in August 2016 and by November 2016 there were already 58 labelled funds spread over nine asset management companies, for outstanding of over 10 billion euros.<sup>195</sup> There were 96 at the end of 2017, and 146 at the end of 2018.<sup>196</sup> As at 25 April 2019, there were 206 funds with the label (44 asset management companies) for 53 billion euros of assets.<sup>197</sup> For the Greenfin label, the first fund obtained the label in May 2016. As at 29 April 2019, we had identified 30 funds with labels, managed by 22 companies and representing nearly 7 billion euros of assets.

In its report on sustainable finance in collective investment management published at the end of 2017, the AMF recommended that funds marketed to retail investors that claim they follow an SRI approach should apply for the SRI label. The AMF justified its recommendation by the fact that when a public SRI label has been introduced, using the same terminology for marketing purposes without having obtained the label may mislead investors.

The European Commission's action plan on sustainable finance launched in March 2018 should also make a significant contribution to improving transparency of information, in particular through the projects (i) for a European regulation to strengthen reporting requirements on sustainable investments and sustainability risks adopted in March 2019, and (ii) for the future EU Ecolabel on green financial products for retail investors which is currently being developed.

Given the diversity of investment strategies and the way ESG factors are integrated, the information provided remains a challenge for market credibility and investor confidence. In particular, progress needs to be made in impact measurements.

Lastly, the methods of collecting and taking into account clients' ESG preferences will be a challenge, in particular with regard to the renewal of a product offering and the training of advisors in ESG topics.

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<sup>195</sup> See [the ISR label information document](#) (November 2016 version).

<sup>196</sup> See the [Novethic indicator](#) (April 2019 version).

<sup>197</sup> See the list of approved funds, available at the website <https://www.lelabelisr.fr/fonds-isr/>.

## CHAPTER 4: HOUSEHOLD SAVINGS

In 2018, the trend towards households putting their savings into banking (currency and deposits) and life insurance investment was confirmed. This year, 60.6 billion euros went into bank savings (exceeding the previous year's record total of 57.2 billion) and 51.0 billion into life insurance. This concentration of savings in risk-free, low-return products is worrying in that it is clearly not an efficient long-term allocation of assets, especially for a population that will have to deal with funding aging-related expenditure. In this regard, a poll found that 51% of French savers considered that their savings would not be sufficient for retirement. At the same time, savers looking for a return are continuing to turn to real estate funds (which are exposed to the risk of a downturn in this market), and unusual products or crypto-assets (these last two product types tend to be very risky, if not pure scams).

### 4.1. REVIEW OF SAVINGS AND ASSET STRUCTURE

#### 4.1.1. Little change in the household wealth structure overall

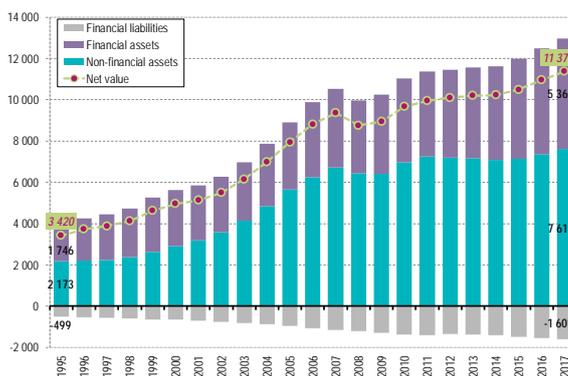
Household net worth can be broken down into three distinct items:

- financial assets (such as bank accounts, life insurance, securities accounts, etc.);
- non-financial assets (such as land, buildings, artwork, etc.);
- financial liabilities (on the negative side, such as loans).

*Around 60% of gross household assets are non-financial*

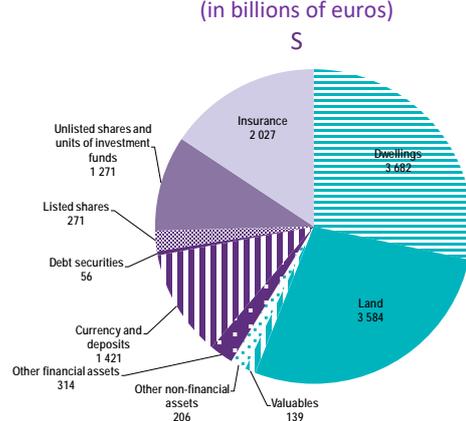
The balance sheet accounts for French households are produced by the French national statistical agency (INSEE). The latest published data (11 December 2018) relates to the wealth structure at the end of 2017, and valued French household assets (gross) at 12,971 billion euros (+3.9% compared with 2016), for liabilities of 1,601 billion euros (+4.4% compared with 2016).<sup>198</sup>

**Figure 75: Breakdown of household wealth<sup>199</sup>**  
(aggregates, billions of euros)



Source: INSEE, Household balance sheet accounts (11/12/2018)

**Figure 76: Structure of gross household assets at end-2017**  
(in billions of euros)



<sup>198</sup> The reader's attention is drawn to the major revision applied by INSEE, with the result that figures differ considerably from those given in our previous editions.

<sup>199</sup> Households include self-employed individuals but not non-profit institutions serving households (NPISH).

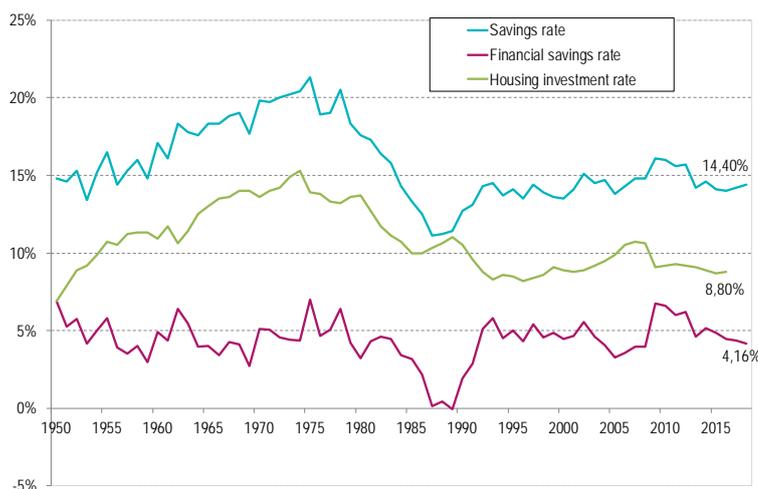
After a 6.2% increase in 2016, households' (gross) financial assets grew by a further 4.5% in 2017 to reach 5,361 billion euros. Non-financial assets recorded growth of 3.5% over the year and settled at 7,611 billion euros. The split between non-financial and financial assets remains stable: financial assets represent 41.3% of total gross assets.

We recall that the latest available value dates back to December 2017, and it is therefore not possible to observe the consequences for households' assets of market movements in 2018, as described in Chapter 1.

#### 4.1.2. The financial savings ratio continues to fall

The household savings ratio in France has been relatively stable since 1995, hovering at around 15% of gross disposable income (GDI)<sup>200</sup> for total savings, and around 5% for financial savings.<sup>201</sup> Focusing more specifically on the recent period, in 2018 the savings ratio stood at 14.4%, slightly above the average for the previous five years. The financial savings ratio, however, continued to decline for the fourth consecutive year, dropping from 5.1% in 2014 to 4.2% in 2018 (see Figure 77).

**Figure 77: Household savings ratio and financial savings ratio**  
(% of gross disposable income – GDI)



Source: INSEE, Datastream.

NB: the most recent value of the housing investment rate is for 2016 (INSEE), while the other series are available on Datastream up to 2018

#### 4.1.3. How are household financial savings structured?

##### 4.1.3.1. Savers are still attracted by life insurance and banking investment

From the national financial accounts, drawn up by the Banque de France, changes can be monitored in the financial assets of French households (excluding self-employed individuals). This year, pension rights are no longer shown as such in these accounts because they have been incorporated under the heading of life insurance, which is why the following analyses can no longer distinguish them. In parallel with the traditional

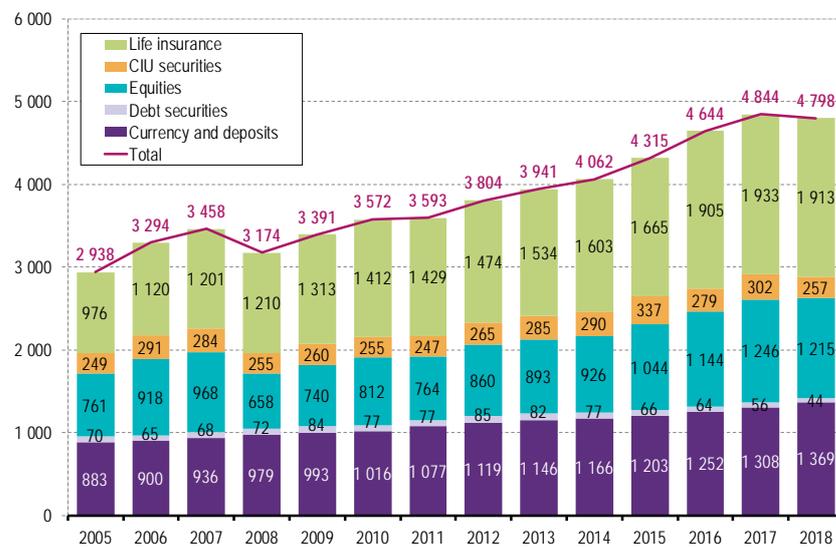
<sup>200</sup> Households' gross disposable income (GDI) includes "all income from activity, investments and social benefits less direct taxes and social security contributions" (INSEE).

<sup>201</sup> The financial savings ratio is the ratio of household cash flow (savings plus net capital transfers, less outlays for capital accumulation) to GDI.

revision of data relating to the last three financial years, the Banque de France and INSEE have adjusted some of the calculation methods they use in the national accounts, with the result that long-term series have been updated.<sup>202</sup>

In terms of assets, at the end of 2018, the main financial assets held by households totalled 4,798 billion euros, 46 billion euros down on the previous year (Figure 78). Asset valuation had a negative effect overall (-154.5 billion euros), with the loss being mainly due to life insurance (-70.5 billion euros), equities (-37.2 billion for listed equities and -26.1 billion for unlisted equities) and collective investment undertakings (CIU) (-23.2 billion euros).

**Figure 78: Households' main net financial assets**  
(net annual outstanding amounts, in billions of euros)



Source: Banque de France, National financial accounts, 2010 base, calculations by AMF

If we consider only the main vehicles,<sup>203</sup> household net financial savings reached 107 billion euros in 2018 (or 20 billion euros more than in 2017, Figure 79).

<sup>202</sup> NB: The reader's attention is drawn to the discrepancies that these changes involve for data published in previous editions of the Risk Outlook. As a reminder, traditionally, in the course of year n+1 data pertaining to the previous year (n) are published provisionally, those pertaining to year n-1 are revised and described as semi-definitive, while data for year (n-2) are adjusted for the last time, thus becoming definitive.

<sup>203</sup> Loans granted by households, accounts receivable/payable, and premium and claims reserves (property and casualty insurance) are not traditionally included in the analysis. The total flow of assets including these few additional items appears to amount to 106 billion euros, a very small difference for 2018 (a little under one and a half billion euros). However, it must be noted that this is not always the case: in 2017, for example, the sum of the main items was 87 billion euros, whereas total operations stood at 134 billion euros. In fact, the item headed "other accounts receivable/payable" was 41 billion euros. It had reached -64 billion euros in 2012 and +66 billion euros in 2009.

If we consider all financial assets and liabilities, households' net financial savings (flow) stood at 56.8 billion euros in 2018 (compared with 54.3 billion euros in 2017).

**Figure 79: Households' main financial net investment flows**  
(net annual flows, in billions of euros)

*Flows of household savings into the main financial vehicles reached 107 billion euros in 2018*



Source: Banque de France, National financial accounts, 2010 base, calculations by AMF

*Record inflow for bank and insurance savings products*

A new record was set this year. French households invested 60.6 billion euros in bank savings products in 2018 (currency and deposits). With 51.0 billion euros net inflow – including 17.3 billion in unit-linked products – life insurance is making a strong comeback (best inflow figures since 2011).

Unlike bank and insurance investment, savings inflow in shares, bonds and units of funds held directly are very poorly measured in the national accounts. There are very often statistical adjustments and rectifications in historic series for these variables. It therefore does not seem very relevant to comment on changes in their values.<sup>204</sup>

According to the Banque de France, there were almost 4.8 million bank equity savings plans (PEA) at the end of 2018, or 523,000 more than at the end of 2017. After relative stability at the start of 2018, outstanding amounts in PEAs declined sharply in Q4 (7.1 billion euros) then reached 85.8 billion euros at the end of December, which certainly reflects the market corrections of the end of the year (however, the data do not differentiate between the inflow effect and the valuation effect).

In addition the Banque de France recorded more than 82,700 PEA-PME<sup>205</sup> at the end of 2018 (i.e. more than 12,000 plans opened during the year), with a cumulated inflow of 1.1 billion euros (down 50 million euros over 12 months, with a decrease of 200 million in Q4 alone).

The rate of directly held shares stood at 6.2% in March 2019, according to figures issued in the annual survey of investment holdings carried out by Kantar TNS on a sample of 12,000 people aged 15 and over.

<sup>204</sup> These items were particularly affected by a methodological review carried out by INSEE and the Banque de France (to improve the method for estimating issue and inflow of unlisted shares and other investments on the one hand, and better recognition of capitalised interest for holders of CIUs on the other hand).

<sup>205</sup> Bank PEAs for small and medium-sized businesses (SME) and intermediate-sized enterprises (ETI).

#### 4.1.3.2. Savings are piling up in checking accounts and regulated passbooks

For the second consecutive year, French households saved more than 50 billion euros in risk-free banking vehicles (Figure 80), therefore exceeding, with 61 billion euros, last year's record.

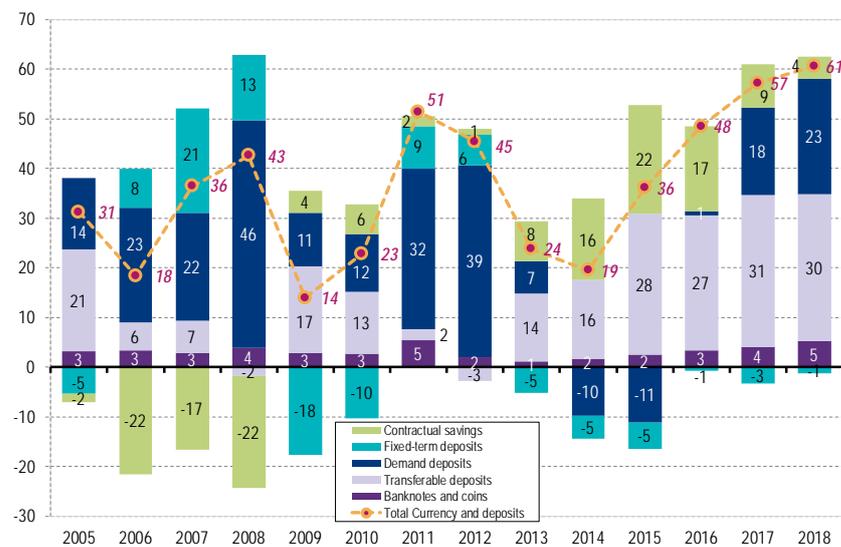
Fiduciary savings (i.e. in the physical form of coins and banknotes) exceeded 5 billion euros this year. We need to go back to 2011 and the sovereign debt crisis to find a similar savings flow.

With 29.7 billion euros paid in 2018, transferable deposits<sup>206</sup> recorded inflow on around the same scale as the record 30.6 billion euros achieved in 2017.

In 2018, 23.2 billion euros were saved in sight deposits (*Livret A* passbooks, *Livret Bleu* passbooks, LDDS<sup>207</sup> passbooks, popular savings passbooks, youth savings passbooks, home-savings and taxable passbook accounts), thus confirming the renewed attractiveness of these vehicles observed last year.

Flows into contractual savings (housing savings plans (PEL), business savings passbooks, popular savings plan (PEP), PEA cash account) reached 4.5 billion euros, which was only half of what they had been in 2017.

**Figure 80: Breakdown of investment flows into “cash and deposits”**  
(net annual flows, in billions of euros)



Source: Banque de France, National financial accounts, 2010 base, calculations by AMF

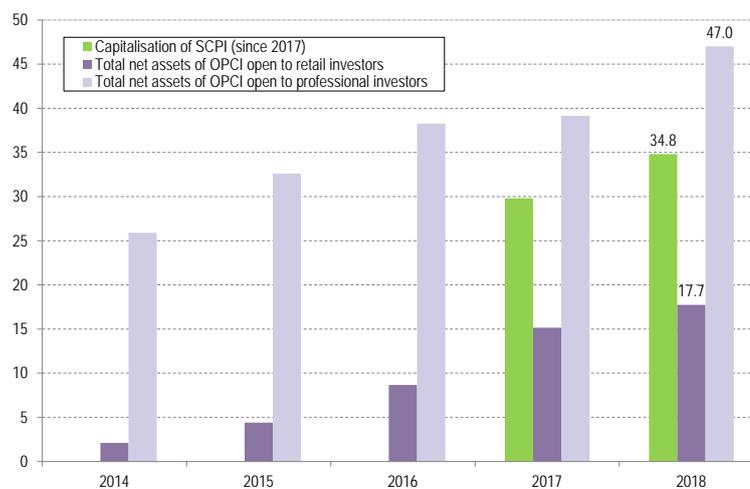
<sup>206</sup> Transferable deposits: deposits that can be converted immediately into cash or are transferable by cheque, transfer, debit or other means without significant fees or major restrictions.

<sup>207</sup> Livret de développement durable et solidaire (Sustainable development and solidarity passbook)

#### 4.1.4. Focus on real estate funds and employee savings schemes

The growth in real estate funds continued in 2018. The capitalisation of real estate investment companies (SCPI) reached 34.8 billion euros at the end of the year (or a rise of 17.7% over a year). The net assets of real estate collective investment undertakings (OPCI) open to retail investors reached 17.7 billion euros, up by 17%, and that of professional real estate collective investment undertakings (OPPCI – OPCI open to professionals) totalled 47 billion euros, or 20.1% more than the previous year.<sup>208</sup>

**Figure 81: Evolution of French real estate funds**  
(capitalisation and net assets, in billions of euros)



Source: AMF (BIO base)

Lastly, we propose an analysis specifically on the scope of employee savings schemes, i.e. employer-sponsored and partially tax-exempted plans such as employee savings plans (PEE) and group retirement savings plans (PERCO).<sup>209</sup>

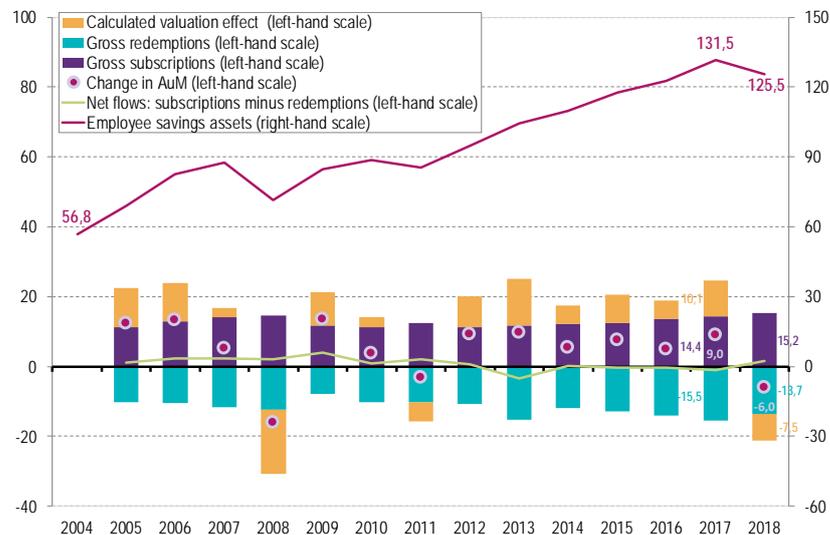
From 131.5 billion euros in December 2017, managed assets fell to 125.5 billion euros at the end of 2018 (Figure 82). This was the first time that assets in employee savings schemes had declined since 2011.

Net flows in subscriptions were very slightly positive in 2018. In general, across the entire period, gross subscriptions offset gross buybacks almost entirely, resulting in very weak net flows, hovering around zero.

<sup>208</sup> For this edition of the Risk Outlook, we chose to use only figures produced by AMF based on supervisory data. Unlike previous editions, we no longer refer to figures from the French association of real estate investment companies (ASPIM), as we are not sure whether their scope and method are comparable with our own.

<sup>209</sup> Insofar as the amounts saved in these plans is invested in specific funds (e.g. employee savings funds – FCPE –, or employee share ownership investment schemes – SICAV-AS) or even directly in the company’s financial assets, the corresponding outstanding amounts have already been allocated to different headings in the national accounts described above (CIU units, listed and unlisted shares, etc.).

**Figure 82: Evolution of the AuM in employee savings funds**  
(Net annual flows and net assets, in billions of euros)



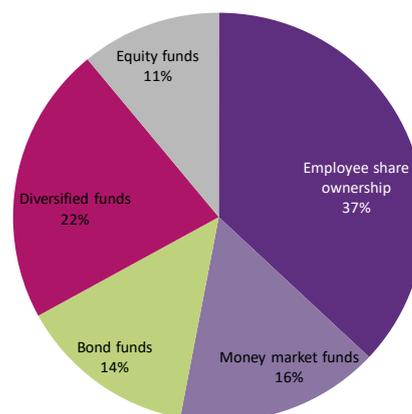
Source: AFG, Six Financial, Europerformance

Like the rest of the investment funds, employee savings vehicles recorded a negative valuation effect by the end of 2018.<sup>210</sup>

According to the performance indices published by the French asset management association (AFG) for employee savings funds (FCPE) in 2018, the performance of bond funds was -0.4%, that of equity funds was -7.5%, and that of diversified funds was -3.9%.

By grouping together employee share ownership and equity funds held through employee savings plans, it can be seen that at the end of 2018 almost 50% of employee savings schemes were invested in equities.

**Figure 83: Distribution of outstanding employee savings schemes on 31 December 2018 by asset category**



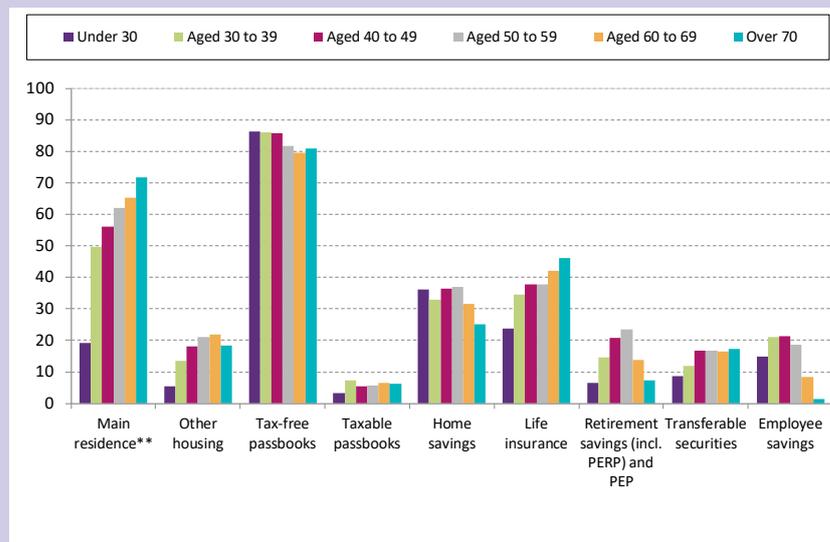
Source: AFG

<sup>210</sup> The reader's attention is drawn to the method used to estimate valuation effect shown in Figure 82: this effect is the result of the comparison between net inflow and variation in the outstanding balance. In addition to the pure valuation effect, it therefore includes all other possible changes such as improvement in statistical coverage (incorporating more funds into the database used).

### Box 7: Household wealth by age

Household wealth structure, as described above, differs substantially according to age, socio-professional category or type of household (couple with or without children, single person, etc.). Here, we examine holdings of financial and non-financial investment products, according to age.

Figure 84: Holding rate by major type of asset and by age\* in France in early 2018



(\* ) Age of household reference person.

(\*\*) Including in usufruct for the main residence.

How to read the graph: at the beginning of 2018, 86.3% of households where the reference person is aged under 30 held at least one tax-free passbook.

Source: INSEE, Household Wealth Surveys 2009-2010, 2014-2015 and 2017-2018

The rate of ownership of a main residence and of holding life insurance increases with age. The youngest category mainly holds bank savings (passbooks and home savings). Contrary to expectations, the proportion of households holding transferable securities increases with age then stabilises but does not decline, in fact the holding rate for transferable securities is highest among the oldest age class.

## 4.2. POINTS ABOUT THE RISKS IDENTIFIED PREVIOUSLY

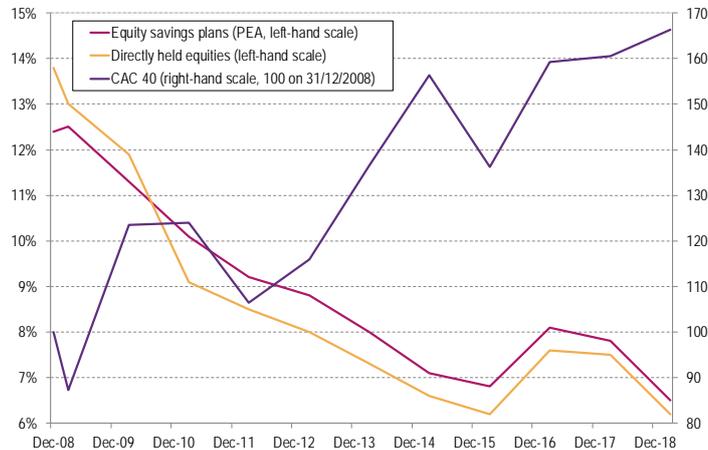
### 4.2.1. Have the French saved enough for their retirement?

In contrast with the increase in households' interest and confidence in equity investment observed in 2017 and 2018, the rebound in the direct holding rate for equities did not continue in 2019. According to the latest figures from AMF's savings and investment barometer (2018),<sup>211</sup> interest in equity investment and confidence in these products is growing among those surveyed. 30% of respondents said they were interested in investing in equity in 2018 compared to 28% the year before, and 27% of those surveyed were confident about equity investments, compared to 22% in 2017. In addition, 22% of respondents said they were willing to invest in equity in the next 12 months, compared with 18% one year earlier. However, the share of respondents who consider that the current period is not a favourable time to invest in equities is rising: 32% of those surveyed believe that the current period is a rather bad one to invest in equities,

<sup>211</sup> Savings and investment barometer: annual study of the attitudes and opinions of savers towards investments (<https://www.amf-france.org/Publications/Rapports-etudes-et-analyses/Epargne-et-prestataires?docId=workspace%3A%2F%2FSpacesStore%2F602559d0-ede9-44eb-888d-7fd564435a83>).

compared with 28% last year.<sup>212</sup> As a consequence, the direct holding rate for equities decreased in 2019 to reach a record low since 2008 (Figure 85).

**Figure 85: Holding rate of different equity-related investments and change in CAC 40**

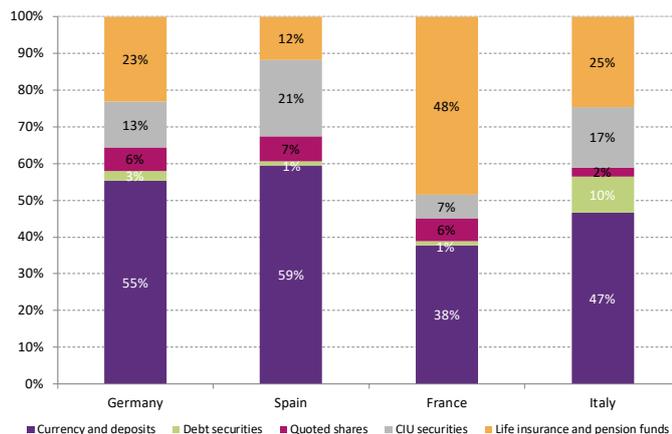


Source: Kantar TNS

The recent fall of stock markets and the risk of re-pricing of financial assets highlighted by the AMF, as well as by many French and European institutions (HCSF, ESMA, ESRB) seem to indicate that the households were right. Although investing part of one's savings in equity is appropriate for savers whose investment horizon is sufficiently long-term, the timescale of the investment should not be overlooked as it certainly has an influence on the investment's yield.

Meanwhile, French households' savings are poorly diversified: 86% of the households' <sup>213</sup> main net financial assets are invested in currency and deposits, or in life insurance and pension funds. In Germany, Spain and Italy this proportion is lower. <sup>214</sup>

**Figure 86: Comparison of the main financial assets of European households in 2018**



Source: Eurostat

<sup>212</sup> It should be noted that the survey was carried out between 24 September 2018 and 5 October 2018, in other words before equity markets tumbled at the end of 2018.

<sup>213</sup> Households and self-employed individuals.

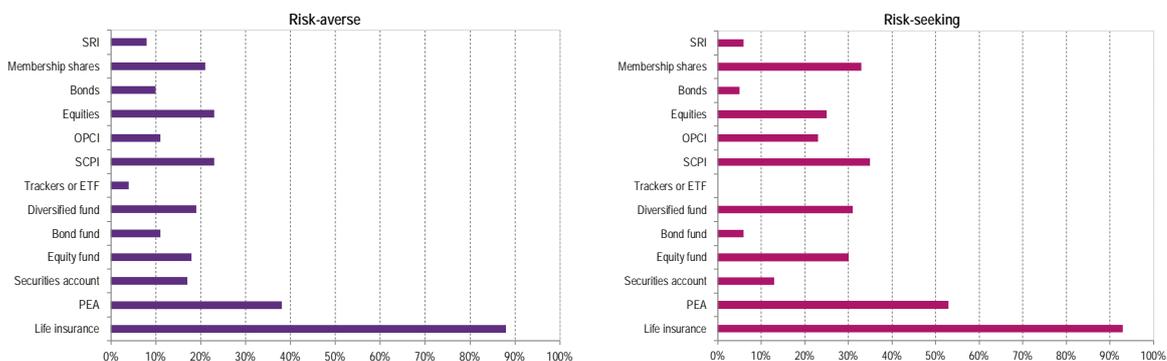
<sup>214</sup> These countries were chosen because their economic development and their system of social protection have some similarities with France.

The concentration of savings in risk-free but low-yielding vehicles may create a challenge in the long-term, given that the spending associated with an aging population is likely to increase in future. Savers with a long-term investment horizon (those who are saving for retirement, for example) should invest a significant proportion of their savings in financial securities since, in the long term, these vehicles generally offer a better yield than banking products.<sup>215</sup> The most popular banking products for French households are probably not the best for meeting long-term concerns. According to the latest AMF savings and investment barometer, 51% of those surveyed who had savings considered that these would not be sufficient for their retirement. There is therefore a concern that the French savings will be insufficient to cope with aging-related expenses.

#### 4.2.2. Do savers always receive good advice?

The AMF launched a new campaign of mystery shopping in 2018/2019 in order to assess business practices after MiFID2 came into force. As in their previous campaigns, two prospective customer profiles were tested in the 11 main banking networks in France, one “risk-averse” and the other “risk-seeking”. This year, two distinct types of client were tested: potential customers and new customers.<sup>216</sup> The results reveal an increase in the number of spontaneous commercial propositions made by the bank advisor (3.6 products were offered on average, compared with 3.1 in 2015). In contrast to previous years, financial savings were offered more, in preference to bank savings. Life insurance remains the most commonly offered vehicle, being proposed spontaneously by 90% of advisors. Compared with 2015, PEAs were offered by more advisors: more than half offered it to the “risk-seeking” customers (against 35% in 2015) and a third offered it to the “risk-averse” customers (against 23% in 2015). In terms of products, real estate funds (OPCI and SCPI) were offered most often, followed by diversified funds and equities (Figure 87).

Figure 87: Details of commercial propositions made by advisors according to customer profile



Source: AMF

These latest mystery visits reveal that bank advisors are offering more financial savings vehicles, which could therefore encourage savers with a sufficiently long-term investment horizon to invest in financial products.

<sup>215</sup> P.E. Darpeix and N. Mosson (2018) show that between 1987 and 2017, for a ten-year investment, the real annualised yield was, on average, 3.3% for a bond fund invested in 10-year French sovereign bonds, 2.7% for an equity fund invested in the CAC 40 and 1.3% for the *Livret A* passbook.

<sup>216</sup> “New customers” followed exactly the same path as the “potential customers” with extra steps relating to opening a deposit account, paying 500 euros, then subscribing to a financial product.

*Assessment of the customer's experience and knowledge should be improved*

The assessment of the potential customer's situation (professional situation, income, assets etc.) has improved overall since 2015. However, the new questions introduced as a result of MiFID2 (capacity for loss, risk tolerance) were not always asked. Similarly, the mystery shoppers' experience and financial knowledge were not much queried. Concerning customers' financial knowledge, more than 20% of advisors asked the risk-averse potential customers to perform their own self-assessment.

It can be seen that practices have improved since 2015, but there is still some progress to be made, especially in assessing financial knowledge, to ensure that the bank advisors' proposals are better adapted to the customer profile.

**4.2.3. Information received by investors is not always clear or exact and can be deceptive**

"SPOT" controls (Operational and Thematic Supervision of Practices) carried out by the AMF in 2018 show that information is not necessarily clear and complete. The AMF ran SPOT controls on ten investment service providers, excluding asset management companies, on themes of compliance of discretionary mandates and fees in portfolio management.<sup>217</sup> The result of these controls is that the information communicated to investors could be improved:

- information on discretionary management or on costs is sometimes too widely dispersed;
- information about fees is not necessarily complete or up to date;
- the investment universe and asset allocation is not always properly explained;
- the consequences of making frequent or large withdrawals are not always mentioned.

Savers must also be wary of the existence of closet index funds and they should check the information they receive, fees that are invoiced and net performance. For the regulators, the possible existence of closet index funds is a challenge both in terms of financial information and investor protection. This is why the financial regulators, including the AMF,<sup>218</sup> and consumer protection associations have taken an interest in this subject. Analyses carried out by the regulators have so far been unsuccessful (notably in Denmark<sup>219</sup> and Sweden<sup>220</sup>) but some investors have recently received compensation. This was the case in March 2018 in the United Kingdom where the regulator announced that as much as 34 million pounds<sup>221</sup> had been paid out in compensation to investors. In May 2019, the Norwegian fund DNB Asset Management was forced to pay out 35 million euros in compensation to its investors.<sup>222</sup>

<sup>217</sup> Summary of SPOT inspections on portfolio management. AMF, May 2019.

<sup>218</sup> In July 2018, the AMF published a study on this subject: Demartini, A. & Mosson, N. (2018). Closet Index Funds: a contribution to the debate in Europe. AMF Risk and Trend Mapping, July 2018. [https://www.amf-france.org/en\\_US/Publications/Lettres-et-cahiers/Risques-et-tendances/Archives?docId=workspace%3A%2F%2FSpacesStore%2F07e69596-6cde-448c-bd78-503210e61489&langSwitch=true](https://www.amf-france.org/en_US/Publications/Lettres-et-cahiers/Risques-et-tendances/Archives?docId=workspace%3A%2F%2FSpacesStore%2F07e69596-6cde-448c-bd78-503210e61489&langSwitch=true)

<sup>219</sup> In 2014, the Danish market regulator published a study which estimated that 30% (almost 12% in the second analysis) of equity funds domiciled in Denmark could be identified as potential closet index funds. After assessing each fund individually, the Danish regulator was not able to conclude that this practice was proven and decided not to continue with its investigation.

<sup>220</sup> In Sweden, a complaint was lodged at the end of 2014 against Swedbank Robur for improper sales of closet index funds to investors, but it was unsuccessful.

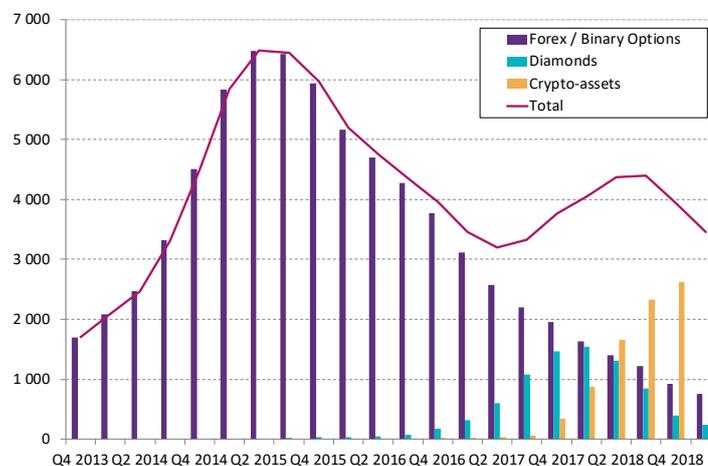
<sup>221</sup> FCA press release of 14/03/2018, <https://www.fca.org.uk/firms/authorised-and-recognised-funds/closet-trackers>

<sup>222</sup> Reuters: "Norway's DNB faces compensation bill for overcharging fund investors", May 2019.

#### 4.2.4. Savers looking for a return are still attracted by speculative or unusual products

Many savers who are looking for a return on their investment turn to speculative or unusual products, such as trading on the forex market, contracts for difference (CFD) and binary options, but also miscellaneous assets (investment diamonds, investment in wine, and more recently in cattle livestock or therapeutic cannabis etc.), as well as crypto-assets. The product intervention measures<sup>223</sup> taken by ESMA, and the AMF applying the Sapin 2 law<sup>224</sup> resulted in a drastic reduction in the marketing of these products, which probably explains the drop in the number of information requests, complaints and reports received by the AMF's Epargne Info Service (EIS) on forex, binary options and investment diamonds (Figure 88). Despite a strong interest in crypto-assets, the total number of requests received by EIS has decreased slightly since the end of 2018.

**Figure 88: Number of information requests, complaints and reports received by the AMF (year-on-year total)**



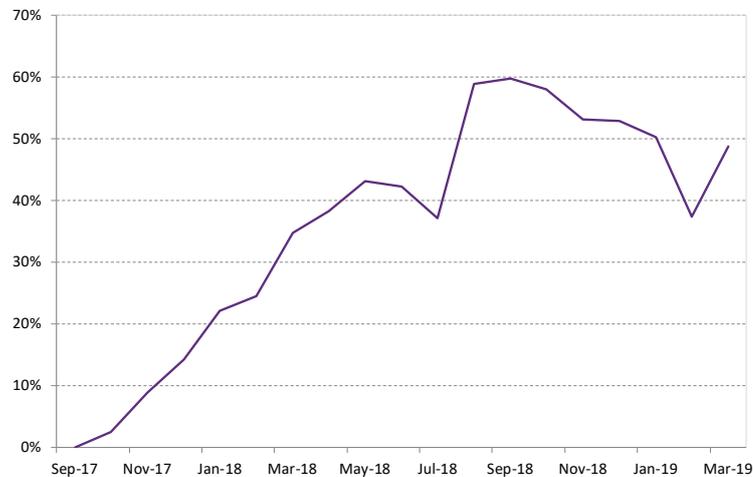
Source: AMF

However, among the requests made to EIS about crypto-assets since September 2017, there are fewer and fewer requests for information and more and more complaints (Figure 90).

<sup>223</sup> MiFID2 provides this new power for ESMA and the competent national authorities in specific cases, such as a threat to investor protection. By applying these measures, it has been possible to prohibit the marketing, distribution and sale of binary options to individuals. Regarding CFDs, they are allowed to be marketed, distributed and sold to individuals under restrictive conditions.

<sup>224</sup>The Sapin 2 law (promulgated on 9 December 2016) prohibits electronic advertising for binary options and CFDs without intrinsic protection and makes it easier to close offending websites. Agents offering unusual investments fall into the intermediation of miscellaneous assets legal framework and are required, since the Sapin 2 law, to submit an information document to the AMF and obtain a registration number before being involved in any commercial communication and any direct marketing campaign. To date, no provider ask for a registration number.

Figure 89: Share of complaints within requests to the EIS about crypto-assets



Source: AMF

*There are concerns that some fraudulent players are constantly moving into other products*

Since the beginning of 2019, we can see an increase in information requests about new types of product (investment in wine and livestock). Requests for these products started in January 2019 and are increasing month after month: requests to EIS about wine and livestock investment represented 7% and 5% respectively of requests in January 2019 compared with 11% and 7% in March 2019.

There is therefore a constant succession of cycles of speculative or unusual products enabling some fraudulent players to constantly commit further fraud and affecting increasing numbers of savers.

### 4.3. PERFORMANCE OF FINANCIAL PRODUCTS

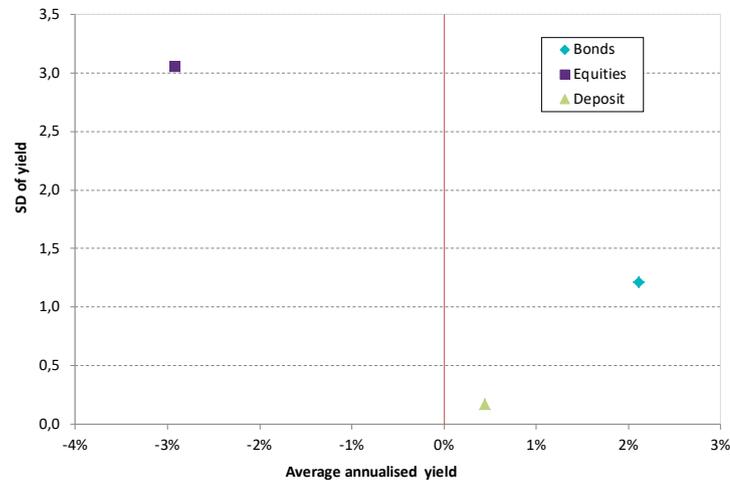
#### 4.3.1. What performance can we expect from financial savings if France experienced a Japanese-style scenario?

The delayed exit from the ultra-accommodative monetary policies mentioned in Chapter 1 raises the possibility that France might experience a “Japanese-style” scenario combining low interest rates, a massive intervention by the Central Bank, excess government debt and deflationary pressures. It is therefore interesting to examine the best savings strategies for an investor confronted with a similar macro-financial environment to that experienced by Japan over the last 30 years. To do this, we study the case of a French investor investing in France in alternative equity and bond indices where the real returns correspond to those observed in Japan since 1987.<sup>225</sup>

Between 1987 and 2017, for a single investment at the beginning of the period for a 10-year duration, the real annualised net yield of an equity fund imitating the behaviour of Topix (reinvested dividends) was, on average, -2.9%, against 2.1% for a bond fund replicating the behaviour of 10-year Japanese sovereign bonds (coupons reinvested) and 0.4% for bank deposits. This under-performance was accompanied by a higher volatility for equities (Figure 90).

<sup>225</sup> P.-E. Darpeix, & N. Mosson, (2018). The comparative performance of different investment strategies on foreign financial instruments. AMF Risk and Trend Mapping, Feb. 2019. [https://www.amf-france.org/en\\_US/Publications/Lettres-et-cahiers/Risques-et-tendances/Archives?docId=workspace%3A%2F%2FSpacesStore%2Fc435cf7b-88f5-4a8e-b7fe-311e24e25fc8](https://www.amf-france.org/en_US/Publications/Lettres-et-cahiers/Risques-et-tendances/Archives?docId=workspace%3A%2F%2FSpacesStore%2Fc435cf7b-88f5-4a8e-b7fe-311e24e25fc8)

**Figure 90: Average annualised yields and standard deviations for investments in Japanese equities, Japanese bonds and deposits for a 10-year investment horizon**



Source: Datastream, calculations by AMF

Incidentally, the study also confirmed the advantage of regular rebalancing for an investor with a diversified portfolio (invested half in equities and half in bonds) so as to retain the original allocation. For a single investment at the beginning of the period over a 10-year investment horizon, the diversified portfolio, rebalanced annually, gave an average annualised yield of 0.4% against 0.3% for the portfolio that was diversified but not rebalanced.

The very low yield from Japanese equities over a period of 30 years is unusual when compared to that of other countries (France, Germany and the United States in particular). Nevertheless, savers must take the macro-financial context into consideration before making any investment, as it can significantly affect the yield from different classes of assets and call into question the results obtained for different countries or different times.

#### 4.3.2. Does geographic diversification reduce the risk for the investor?

The famous saying, “Don’t put all your eggs in one basket” encourages investors to diversify in order to reduce risk. To verify the truth of this phrase, we illustrate the long-term behaviour of a geographically diversified equity portfolio by calculating the average and the variance of its yield. This involves quantifying the gains from geographic diversification and determining whether a diversified portfolio is better, in that historically it is then possible to reduce the variability of the yield compared with a portfolio invested in a single market.

A portfolio was built up gradually with a nominal monthly payment of €100, with 40% invested in the CAC 40 index, 40% in the S&P 500 index and 20% in the Topix index.<sup>226</sup> The portfolio is not hedged against currency risk. It will be compared, in terms of yield and risk, with a portfolio invested entirely in the CAC 40.

Three investment horizons (10 years, 15 years and 20 years) were considered to calculate a real constant equivalent yield (CEY) rate.<sup>227</sup>

Whatever the investment horizon (10 years, 15 years or 20 years), the standard deviation of the diversified portfolio was greater than the standard deviation of the portfolio invested in the CAC 40. For a 15-year or 20-year investment, the annualised mean constant equivalent yield rate for the diversified portfolio was less than the yield from the portfolio invested in the CAC 40.

**Table 8: Mean and standard deviation of annualised CEY rate for an investment horizon of 10, 15 and 20 years**

	10 years		15 years		20 years	
	Diversified portfolio	CAC 40	Diversified portfolio	CAC 40	Diversified portfolio	CAC 40
Mean CEY rate	6,09%	6,00%	3,99%	4,21%	3,83%	3,86%
Standard deviation	6,70%	6,03%	3,04%	2,85%	1,41%	1,09%

Source: Datastream, calculations by AMF

For an investment horizon of 15 or 20 years, the portfolio invested in the CAC 40 produced a more interesting risk-return tradeoff: it had a higher constant equivalent rate and a lower standard deviation than the diversified portfolio. Geographic diversification is therefore not necessarily synonymous with less variability.

*Geographic diversification does not necessarily reduce the variability of the portfolio yield*

These results seem to be explained by a strong correlation between the French and American stock market indices and a Japanese index that, although certainly less well correlated to the other two, showed disappointing performances over the period studied. Geographic diversification within the same class of assets is therefore not always enough to reduce risk in a portfolio, and an investor might think, wrongly, that his portfolio was effectively diversified. To ensure a more efficient diversification, one solution could be to select stock market indices that are less well correlated, like the indices in the emerging countries, for example, or to select different classes of assets.

#### 4.3.3. Can structured products reconcile the French with the stock market?

In a study, to be published later this year; the AMF analysed change in the complexity of structured products marketed in France between 2001 and 2018 and their performance. Structured products can take the form of funds or debt securities, the amount recovered at the end of the investment period (which is known in advance) being determined using a formula based on change in an underlying instrument such as an equities index, a basket of shares, etc. In October 2010, the AMF and the ACPR published jointly some elements of doctrine with the intention of reducing the complexity of structured products (AMF Position DOC-2010-05 and ACPR Recommendation 2010-R-01). One of the criteria used to determine the complexity of a structured product relates to the number of mechanisms in the formula for calculating the financial instrument's gain or loss. These elements of doctrine were amended in December 2016, with the result that complex elements present in the underlying instrument were included in the counting of the calculation mechanisms.

<sup>226</sup> The calculations shown include the reinvestment of dividends but do not take into account taxes and fees.

<sup>227</sup> The real constant equivalent yield rate is the single rate (stable across the entire period) that equates the sum of the payments and the amount finally obtained.

Drawing on existing academic literature on the subject (especially Célérier and Vallée, 2017<sup>228</sup>) and criteria used by the AMF, the study constructed 4 complexity indicators:

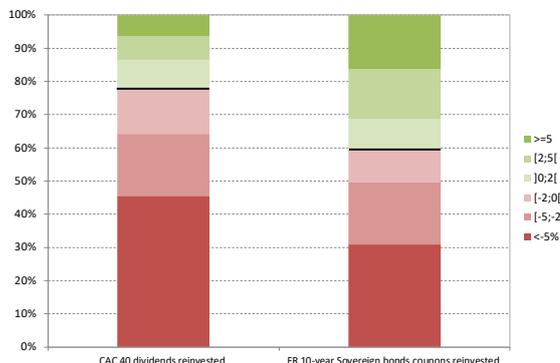
- the number of mechanisms that make up the formula;
- the number of scenarios in the formula;
- the number of nodes in the formula; and
- the complexity of the underlying index.

The study shows that complexity, as measured by the number of mechanisms, declined after position 2010-05 was implemented. However, this movement was offset by an increase in the number of scenarios and nodes. The complexity of the underlying index has been taken into consideration since 2016 but this has had mixed effects.

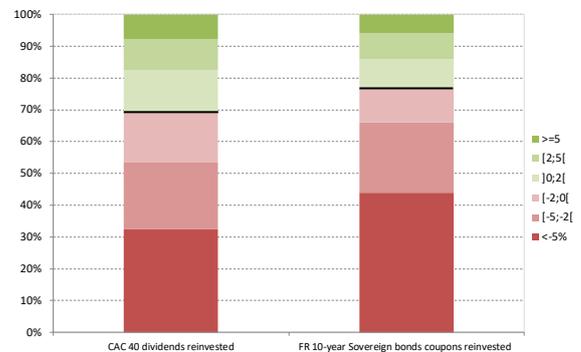
*More than half of structured products under-perform compared with the bond index or the equities index*

Part two of the study analyses annualised gross performance (i.e. excluding fees) of structured products, then compares this with the annualised performance of alternative investments in equities or bonds over the same period. When adjusted for inflation, the gross annualised performance of structured products is positive for 75% of products. However, it would appear that more than half of structured products (59%) under-perform when compared with French 10-year sovereign bonds (coupons reinvested), and more than three quarters (78%) under-perform against the CAC 40 (dividends reinvested).

**Figure 91: Proportion of structured products from the sample according to their deviation in annualised gross performance using different indices (as a number)**



**Figure 92: Proportion of structured products from the sample according to their deviation in annualised gross performance using different indices (as a volume)**



Source: Structured Retail Products, Datastream, calculations by AMF

**Note:** Products above the black line achieved a better annualised performance than the CAC 40 or sovereign bonds.

It is interesting to note that the complexity of the products impacts negatively on their performance.

<sup>228</sup> Célérier, C., & Vallée, B. (2017). Catering to investors through security design: Headline rate and complexity. *The Quarterly Journal of Economics*, 132(3), 1469-1508.

## LIST OF ACRONYMS

AEMF	<i>Autorité européenne des marchés financiers (ESMA)</i>	HY	High Yield
AFG	Association française de la Gestion Financière	IBOR	<i>Interbank Offered Rate</i>
AIFM	<i>Alternative Investment Fund Managers</i>	ICMA	<i>International Capital Market Association</i>
ARRC	<i>Alternative Reference Rate Committee</i>	INSEE	Institut national de la statistique et des études
ASPIIM	Association française des sociétés de placement immobilier	IS	Internalisateur systématique
BCE	Banque centrale européenne	ISBLSM	Institution sans but lucratif au service des ménages
BMR	Le Règlement <i>Benchmark</i>	ISDA	<i>International Swaps and Derivatives Association</i>
BRI	Banque des règlements internationaux	ISIN	<i>International Securities Identification Number</i>
CBI	<i>Climate Bonds Initiative</i>	ISR	Investissement Socialement Responsable
CCP(s)	<i>Central Counterparty Clearing</i> (Chambres de compensation)	LBO	<i>Leveraged BuyOut</i>
CCSF	Comité Consultatif du Secteur Financier	LCH	<i>London Clearing House</i>
CDS	<i>Credit default swap</i> (Dérivés sur risque de crédit)	LIBOR	<i>London Interbank Offered Rate</i>
CEPD	Comité européen de la protection des données	LIS	<i>Large In Scale</i>
CESR	Comité des régulateurs européens de valeurs mobilières	LVNAV	<i>Low Volatility Net Asset Value</i>
CFA	<i>Chartered Financial Analyst</i>	MI	Marges initiales
CFD	<i>Contracts for difference</i>	MIF2	Directive sur les Marchés d'Instruments Financiers 2
CLOs	Collateralized Loan Obligations	MIFIR	<i>Markets in Financial Instruments Regulation</i>
CNAV	<i>Constant Net Asset Value</i>	MMoU	<i>Multilateral Memorandum of Understanding</i>
CSPP	<i>Corporate Sector Purchase Programme</i>	MMSR	<i>Money Market Statistical Reporting</i>
DFA	<i>Dodd Frank Act</i>	MTF	Multilateral trading facility
EBITDA	Earnings before Interest and Taxes Depreciation Amortization	MV	Marges de variation
ECB	<i>European Central Bank</i> (BCE)	NAV	<i>Net asset value</i>
EEE	Espace Économique Européen	NFC+	<i>Non Financial Counterparties+</i>
EFAMA	Association européenne de la gestion d'actifs	OAS	<i>Option-adjusted spread</i>
EIS	Epargne Info Service	OCC	<i>Office of the Comptroller of the Currency</i>
EMEA	Europe-Moyen-Orient-Afrique	OCDE	Organisation de coopération et de développement économiques
EMIR	<i>European Market Infrastructures Regulation</i>	OFS	Organismes de Financement Spécialisés
REFIT	Regulatory Fitness and Performance programme	OICV	Organisation internationale des commissions de valeurs (IOSCO)
EMMI	<i>European Money Markets Institute</i>	OMC	Organisation Mondiale du Commerce
EONIA	<i>Euro OverNight Index Average</i>	OPC	Organisme de placement collectif
ESG	<i>Environnementaux, sociaux et de gouvernance</i>	OPCI	Organisme de placement collectif immobilier
ESRB	<i>European Systemic Risk Board</i>	OPCVM	Organisme de placement collectif en valeurs mobilières
€STR	<i>Euro Short-Term Rate</i>	OPEP	Organisation de pays producteurs de pétrole
ETD	<i>Exchange Traded Derivatives</i>	OPPCI	Organismes de placement professionnel collectif immobilier
ETF	<i>Exchange Traded Fund</i> (Produit indiciel coté)	OT	Organismes de Titrisation
ETI	Entreprise de taille intermédiaire	OTC	<i>Over the counter</i> (de gré à gré)
EURIBOR	<i>Euro Interbank Offered Rate</i>	OTF	<i>Organised Trading Facility</i> (systèmes organisés de négociation)
FCA	<i>Financial Conduct Authority</i>	PATER	Patrimoine Temps et du Risque
FCPE	Fonds commun de placement d'entreprise	PEA	Plan épargne en actions
FCPI	Fonds Commun de Placement dans l'Innovation	PEE	Plan d'épargne entreprise
FCPR	Fonds Communs de Placement à Risque	PEL	Plan épargne logement
FED	Réserve Fédérale des États-Unis	PEP	Plan épargne populaire
FIA	Fonds d'investissement alternatif	PER	<i>Price Earning Ratio</i>
FIP	Fonds d'Investissement de Proximité	PERCO	Plan d'épargne retraite collectif
FMI	Fonds monétaire international	PIB	Produit intérieur brut
FPCI	(Fonds Professionnels de Capital-Investissement)	PME	Petites et moyennes entreprises
FPS	Fonds Professionnels Spécialisés	PMI	Petites et moyennes industries
FSB	<i>Financial Stability Board</i> (CSF)	PSI	Prestataires de services d'investissement
FSMA	<i>Financial Services and Markets Authority</i>	PSPP	<i>Public Sector Purchase Programme</i>
GC	<i>General Collateral</i>	QE	<i>Quantitative easing</i>
HCSF	Haut Conseil de Stabilité Financière	RDB	Revenu disponible brut
HFR	<i>Hedge Fund research</i>	RFQ	<i>Request For Quotes</i>
HFT	<i>High Frequency Trading</i> (trading haute fréquence)		

RFR	<i>Risk Free Rates</i>
SC	<i>Specific Collateral</i>
SCPI	Société civile de placement immobilier
SEC	<i>Securities and Exchange Commission</i>
SFC	<i>Small Financial Counterparties</i>
SGP	Sociétés de gestion de portefeuille
SICAV	Société d'investissement à capital variable
SLP	Sociétés de Libre partenariat
SMN	Système multilatéral de négociation
SMS	<i>Standard Market Size</i>
SNF	Sociétés Non Financières
SOFR	<i>Secured Overnight Funding Rate</i>
SONIA	<i>Sterling OverNight Index Average</i>
SPOT	Supervision des Pratiques Opérationnelles et Thématiques
SPV	<i>Special Purpose Vehicles</i>
STO	<i>Share trading obligation</i>
TCE	Taux de rendement réel Constant Équivalent
TEEC	Transition énergétique et écologique pour le climat
TLTRO-III	<i>Targeted longer-term refinancing operations</i>
TOPIX	<i>Tokyo stock Price Index</i>
U.E.	Union européenne (EU)
VNAV	<i>Variable net asset value</i>
WAL	Vie moyenne pondérée
WAM	Maturité moyenne pondérée maximale
WFE	<i>World Federation of Exchanges</i>
WGMR	<i>Working Group on Margin Requirement</i>

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