

What are the costs of these ultra-accommodative monetary policies?

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Negative interest rates and quantitative easing have become traditional monetary policy tools

The way that central banks operate has radically changed since the Great Recession of 2008-2009. The time when central banks had merely to set the key rate is now past. The widespread weakening of growth potential has driven key rates downward, nearly to zero in the case of most central banks of developed economies. At the end of May 2016, the average central bank key rate (weighted by GDP) in the G10 countries was 0.32%, compared to 3.88% in late 2007.

In a visionary paper published in 2004 (*Conducting Monetary Policy at Very Low Short-Term Interest Rates*), Ben Bernanke and Vincent Reinhart gave hints of what central banks should do when their key rates had reached the zero lower-bound:

1. *providing assurance to investors that short rates will be kept lower in the future than they currently expect,*
2. *changing the relative supplies of securities in the marketplace by altering the composition of the central bank's balance sheet,*
3. *increasing the size of the central bank's balance sheet beyond the level needed to set the short-term policy rate at zero ("quantitative easing").*

The recommendations of Bernanke and Reinhart's paper have been followed to the letter by the majority of central banks in developed countries for the past decade. The convergence of key rates toward zero has thus led central banks to fall back on other tools besides the traditional use of interest rates to stimulate the economy, and in particular on negative interest rates and "quantitative easing" (QE).

1-1. Negative interest rates

One of the most controversial unconventional measures over the last years has been the introduction of negative interest rates. Several central banks (ECB, BoJ, Riksbank, Danmarks Nationalbank, Swiss National Bank) have lowered some of their key rates to slightly below zero in order to further ease their monetary policy. Most of the time, the objective is twofold: to encourage banks to deploy their excess reserves (partially related to QE programmes) in order to distribute credit to the private sector, and to aid the currency's depreciation (or at least to ease upward pressure) via portfolio rebalancing.

1-2. Quantitative easing (QE)

The other unconventional measure of monetary policy that has been extensively used by central banks over the last years is "quantitative easing" (QE). It has been applied by many central banks, including the Fed, ECB, Bank of Japan, Bank of England and Sweden's Riksbank. There is no single, concrete definition

Abstract

The central banks of the major developed countries embarked on ultra-accommodative monetary policies after the Great Recession of 2008 and then after the Eurozone crisis in 2011-2012. The tools deployed were on an unprecedented and considerable scale. However, the inflation and growth outlook in developed countries remains unchanged. In this context, it seems legitimate to question whether central banks are not close to reaching their limits and assess the collateral damage caused by their expansionary monetary policies. In fact:

- The successive QE programmes of the Fed, BoJ and ECB have contributed to the yuan's overvaluation.
- The impact on the bond markets is strong: more than a quarter of global sovereign debt is now trading with negative yields.
- Banks' business model could be altered over the long term affected by the low level of rates and the yield curve slope.
- Low rates and strong investor appetite have encouraged excessive growth in debt of US companies.
- Monetary policies play a major role in investment decisions. Moreover, investors are encouraged to offset the decline in returns by taking up positions in assets that are less liquid, more risky or/and with a more significant duration risk.
- Lastly, these ultra-accommodative monetary policies can also be held responsible for exacerbating economic inequalities, with an increase in the price of assets held by only a minority of the population.

of a “quantitative easing” policy, but as explained by Borio and Disyatat (2010, *Unconventional monetary policies: an appraisal*), it is generally defined in one of the following ways:

- A scheduled increase in excess bank reserves via the purchase of sovereign debt
- The purchase of public and private sector bonds using central bank money
- A reduction in long-term interest rates via an increase in excess reserves
- Any central bank operation that results in a rise in reserves, regardless of whether the latter is explicitly targeted or not

Although the BoJ had already conducted a form of QE in the early 2000s, it was the Fed that used QE most decisively, in the wake of the Great Recession. The Fed’s QE proceeded in three stages (QE1, QE2 and QE3), in different formats each time, combining purchases of Treasury securities and mortgage-backed securities (MBSs). The Fed now owns over \$2.4 trillion in Treasury securities and over \$1.7 trillion in MBSs. The Fed’s balance sheet is now about 25% of U.S. GDP, compared to 6% in late 2007. The impact of the Fed’s QE on long rates has been very powerful, both on U.S. rates and on those of other developed countries. Estimates of this impact are fairly uneven, but the median estimate is that purchases equal to 10% of GDP lower the 10-year rate by 50 basis points (Gagnon, 2016, *Quantitative Easing: An Underappreciated Success*). These effects should be about the same for the QE programmes by the BoE and ECB. An interesting observation is that the decrease in long rates generally occurs before the programme is announced. The average 10-year rate (weighted by GDP) of developed countries is now around 1%.

Although QE has mainly focused on sovereign debt, central banks have purchased other types of securities, sometimes in large proportions:

- MBSs for the Fed
- ABSs for the ECB
- Covered bonds for the ECB
- Corporate bonds for the BoE, ECB, and BoJ
- Commercial paper for the BoE and BoJ
- ETFs and equities for the BoJ
- Exchange-traded real estate investment trusts for the BoJ

Globally, the QE policies induced a sharp expansion of the central banks’ balance sheet in developed countries, compared with pre-Great Recession levels.

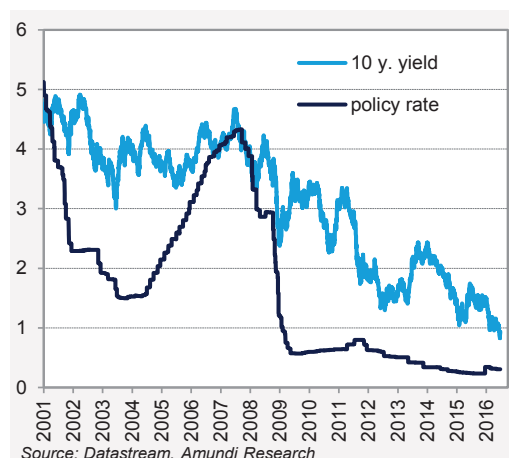
1-3. What prospects for monetary policy?

In a series of posts in March and April on the Brookings website, former Fed Chairman Ben Bernanke pondered what tools the Fed would have left if the U.S. economy were to slow down. The fact that Bernanke had theorised about QE policy as early as 2004 (he ultimately applied it in november 2008) gives his words even greater weight. Ben Bernanke foresees three types of responses from the Fed: (1) introducing negative rates, (2) targeting long rates, and (3) a “helicopter money” policy. Targeting long rates would involve determining a target value for sovereign yields and doing whatever it takes (via purchases of securities) for the market rate to converge on the target. This was already done in the United States in the 1940s. Very similar to QE, the fundamental difference would be that QE relates to quantities and that targeting would go at prices directly.

As says Joseph Gagnon, a former Fed economist and a QE specialist, “Central banks are still assessing whether and how to make QE a standard part of their policy toolkit, but policymakers have little doubt that QE does operate in many ways like conventional monetary policy.” (*Quantitative Easing : an Underappreciated Success*, 2016, Peterson Institute.)

Globally, it is rather clear that the Fed may come back to QE policies and may even introduce negative rates. In May, Janet Yellen declared that she “would not completely rule out the use of negative interest rates in some future very adverse

1 G10 countries: policy rate and 10y. bond yield (GDP weighted)



“The impact of the Fed’s QE on long rates has been very powerful”

2 12 months variation of the cumulated balance sheet of the Fed, the ECB and the BoJ (\$bn)



scenario.” As far as the ECB and the BoJ are concerned, they are not about to stop their negative interest rate and QE policies any time soon. As a conclusion, it is very likely that these policies will continue in the years to come for many developed central banks. This leads to the question of the cost of these policies for the economy and for the financial markets, or even for the society in general.

2 The “negative rate/QE cocktail” has triggered broad portfolio rebalancing whose negative impact must not be overlooked

2-1. Negative rates and QE: Tools for lowering bond yields and depreciating currencies

One thing is certain: negative rates have had a very heavy impact on the bond markets, where bond yields have fallen very sharply, whether on short or long maturities. Short-dated yields have been mechanically pushed into negative territory, and long-term yields, which depend in part on expectations of future short-term yields, have naturally declined, as well. QE bond purchases are also exerting downward pressure on long yields. As a result, the proportion of developed countries’ sovereign bonds trading at negative rates has greatly increased in recent quarters, and about a quarter of all sovereign debt in the world is trading at negative yields. The Japanese and German yield curves are in negative territory out to, respectively, 15 years and 10 years.

Meanwhile, central banks’ asset purchases have helped to greatly increase banks’ excess reserves. US banks’ excess reserves are higher than 12% of GDP (vs virtually zero before the Great Recession) and have kept climbing in the euro zone (already more than 6% du PIB). Theoretically, the increase in excess reserves can stimulate bank credit in the private sector and lead to portfolio rebalancing towards risky assets. Though QE policies did not actually lead to a large increase in bank credit, it is easy to imagine that the situation would have been worse if central banks had not enacted them. **However, the sharp increase in excess liquidity has indeed been in the cause of powerful portfolio reallocations and has resulted in sharp currency moves.**

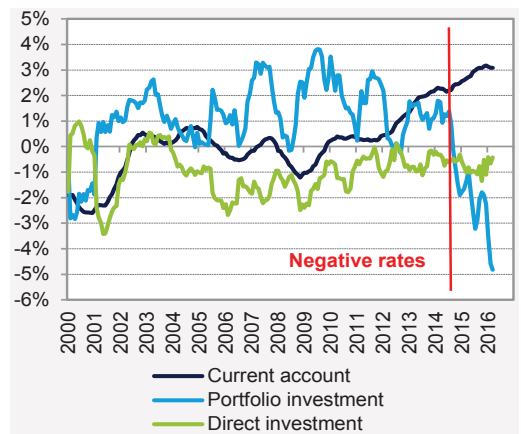
Let’s take the example of the ECB, whose “negative rate-QE” cocktail has exerted heavy pressure on the euro. Clearly, the ECB’s negative deposit rate and QE have weighed heavily on the euro since mid-2014 via portfolio reallocations. Since the ECB’s deposit rate moved into negative territory (in June 2014), investors outside the euro zone, especially a number of central banks in the emerging countries, have been net sellers of European bonds (€219bn for all of H2 2014 and 2015) in order to offload negative- or low-yielding bonds. Yet it is mainly European residents who have been massive and regular net buyers of foreign bonds (€535bn for all of H2 2014 and 2015). Some of the European investors who sold sovereign bonds to the ECB went looking for yield beyond Europe’s borders, mainly in the United States. Ultimately, net portfolio flows have been very broadly negative for the euro zone over the past 18 months and have offset the euro zone’s very large current account surplus, the highest in the world in nominal terms (€502bn for all of H2 2014 and 2015). The ECB’s “negative rate/QE” has allowed the euro to depreciate and kept it down.

2-2. Are developed countries’ QE policies the cause of imbalances on the forex markets?

It is commonly agreed that QE policies have led to a depreciation in the currencies concerned, with the depreciation generally happening mostly prior to the programme’s announcement, with a stabilisation in the exchange rate as QE is being implemented. It is hard to isolate the actual effects of QE policies, as they are generally announced during key-rate loosening cycles. That said, the accompanying charts show that phases of balance sheet expansion by the Fed, the ECB and the BoJ coincide with a weakening in their respective currencies. Interestingly, the end of the Fed’s QE3 (also called “tapering”) coincided with the start of the dollar’s appreciation.

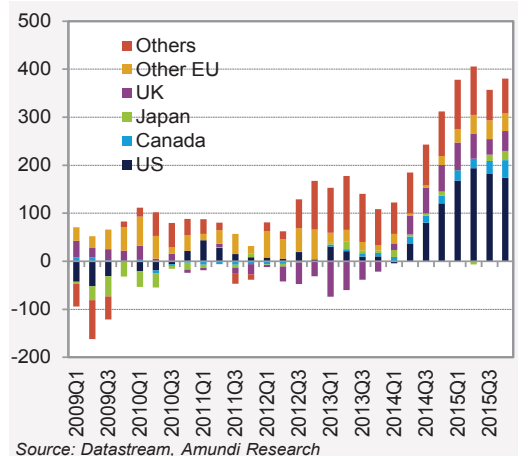
“ It is very likely that these policies will continue in the years to come for many developed central banks ”

3 Eurozone: element of the Balance of Payments (as % of GDP)



Source: Datastream, Amundi Research

4 Net purchases of foreign bonds by Eurozone residents abroad (4q. rolling sum, €bn)



Source: Datastream, Amundi Research

The successive QE programmes of the Fed, the ECB and the BoJ have led to a depreciation in the effective exchange rates of respectively the dollar, euro and yen, resulting in a very steep real appreciation in the renminbi, the only one of the four biggest currencies in the international system whose central bank has not conducted a QE policy. In April 2016, the renminbi's real effective exchange rate was 31% above its average 2008 value, vs. 15% and 13% lower in the cases of the euro and yen, and 11% higher in the case of the US dollar. How the Chinese authorities manage the yuan's overvaluation is one of the crucial issues facing the markets. The renminbi reached very high levels in 2015, particularly with the re-appreciation of the US dollar, thus precipitating the need for monetary reforms in China.

The shift in the Chinese monetary regime, i.e., its gradual unpegging from the US dollar with the yuan's being monitored vs. the CFETS basket, has triggered phases of rapid depreciation in the yuan vs. the USD (the August 2015 and January 2016 episodes), which seriously disrupted the risky assets markets, led to a bout of uncertainty on global growth, and slowed the Fed's rate tightening cycle.

Beyond the case of China, it is clear that QE policies have led to heavy capital inflows into emerging markets, particularly through portfolio investments. At first, this resulted in upward pressures on currencies and on emerging asset prices. Emerging currencies stabilised on the whole (in nominal terms) vs. developed currencies from 2011 to mid-2013 after falling off a cliff in previous years. This stabilisation ended in May 2013, when Ben Bernanke, then the FOMC chairman, said that the Fed could 'taper' its QE3 asset purchases. This corresponds to the famous "taper tantrum" of May 2013, which triggered a new phase of depreciation in emerging currencies. The hardest-hit countries were those whose current accounts were the most negative suffered the most.

2-3. Excessively low rates are a risk to the stability of banks and insurance companies

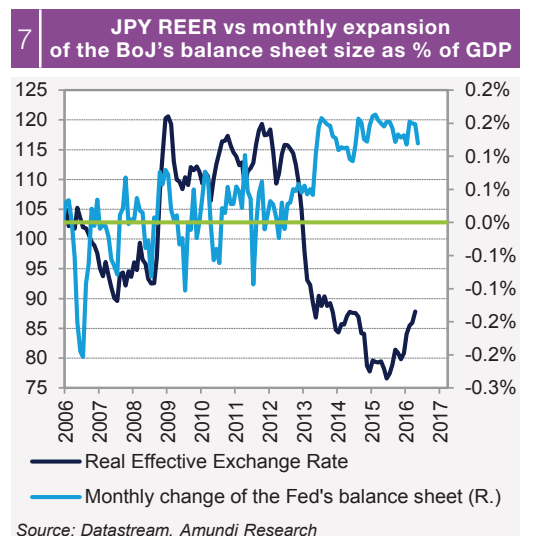
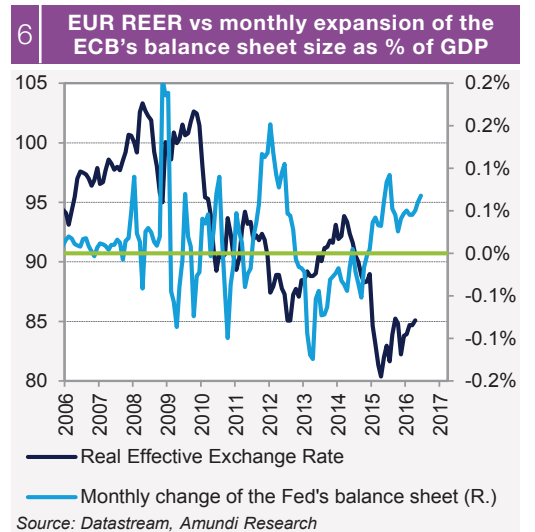
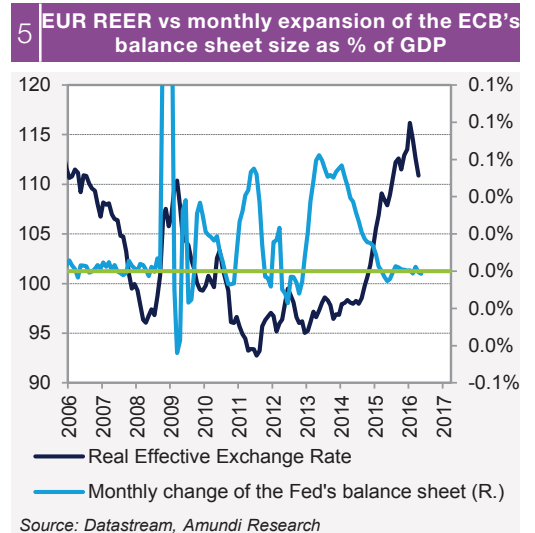
The financial markets (bonds and equities) have been marked in recent months by the underperformance of the banking sector.

Investors first worried about weakness in the global economy. Remember that the banking sector is extremely sensitive to economic growth, as banks have structurally high debt and are exposed to many sectors and geographical regions. They therefore are high-beta during crisis periods.

Banks are also being affected by the lower trading income resulting from stricter regulations and less favourable market conditions. This is affecting investment banks and international banks in particular.

Lastly, extremely accommodating monetary policies may also be blamed partly for this underperformance, as central banks' actions have affected banks' future ability to generate profits.

- For central banks, the objective of lower interest rates and other non-conventional measures is to support lending, restart investment and, ultimately, to boost inflation and growth.
- However, these actions are squeezing banks' profitability by modifying their business models over the long term. Profits generated from lending are measured in the form of net interest margin, i.e., the difference between interest income and interest expenditure. Basically, this is the difference between the interest rate at which a bank lends and its (market or deposit) financing cost. These earnings are therefore sensitive to the absolute interest rate level and to the spread between long-term and short-term yields, and the German, US and Japanese yield curves have flattened considerably, albeit to varying degrees, over the past two years.
- US banks' net interest margins have shrunk considerably since 2008. Investors fear they will do so even more. The Fed's cycle of rate hikes is likely, at best, to be especially slow, and the yield curve is likely to flatten further.
- In Europe, things are more complicated. According to ECB statistics, euro zone banks' margins are holding up well. These statistics corroborate



Benoit Cœuré's recent affirmation that monetary policy was not the banking sector's main problem (*From challenges to opportunities: rebooting the European financial sector*, 2 March 2016). However, these figures contradict Jens Weidmann's steady drumbeat (see, for example, his 11 May speech) that excessively low rates could undermine banks' profitability and have the opposite of their intended effect by increasing the cost of credit. Clearly, the ECB's strategy (offering zero- or negative-rate funding via TLTRO 2 and taxing excess reserves) is not having, and will continue not to have, the same impact on all euro zone banks. Banks that don't need ECB funding and that have heavy excess reserves are the big losers of this policy. The negative deposit rate is hitting German banks especially hard. In 2015 alone, German banks paid the Bundesbank €248 million to use the deposit facility but these amounts are likely to be far greater for 2016, as their excess reserves have increased sharply. Moreover, a Bundesbank survey of 1500 German credit establishments in September 2015 shows that, on average, they are expecting a 60% to 75% decline in their profits by 2019 if rates fall by 100 basis points from their end-2014 level.

The impact of the sustained low-rate strategy to boost lending to the real economy is therefore debatable as it penalises – to varying degrees – banks' growth outlook. And investors are aware that the cost-cutting strategy of most financial institutions cannot be a permanent solution.

2-4. Accommodating monetary policies have led to an allocation of resources that undermines the economy

Ultra-accommodating monetary policies are allowing companies to stretch out their debt maturities and to lower their average borrowing costs. However, there is certainly the risk (for the bondholder!) that companies are taking advantage of low rates and investor appetite to leverage their debt. This risk has emerged in the United States and is still moderate in Europe.

US corporate debt has reached an explosive level as of the end of 2015. Can the Fed be blamed for this? The very low yields on sovereign bonds have caused investors to switch to other, riskier securities. The corporate bond market, for example, has benefited fully from the appetite of investors in search of returns. These exceptional financing conditions have allowed companies to raise record amounts of capital on the equity and bond markets. And let's not overlook the fact that the dollar investment grade market has quite simply doubled in size during this period!

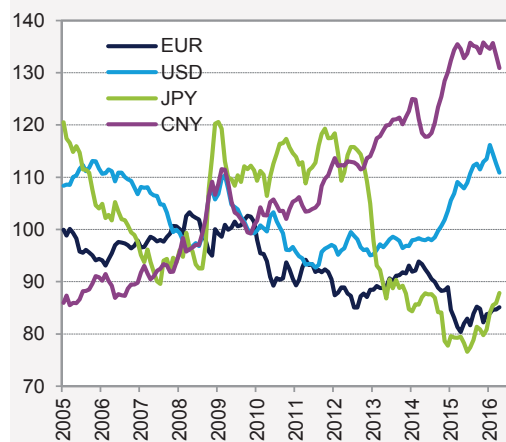
Companies have mainly funded mergers & acquisitions and share buybacks. These two markets have become as busy as they were prior to the crisis. Productive investment, however, has remained low through this cycle.

> Heavy corporate debt is why lower US earnings are the focus of attention

A greater decline in profits could be a big problem, as that would increase the number of defaults:

- Earnings are being undermined by weak revenues.** It is very important to understand that the earnings growth of recent years has been due far more to wider margins than top-line growth. Despite the length of the expansion cycle, the recovery has turned out to be the softest in post-war history, which has resulted in relatively weak growth in earnings for businesses. Margins have widened due to a steep contraction in production costs and, most importantly, a very limited rise in wages. Today, there is far less potential for increasing profits by raising margins, for several reasons: (1) margins are at historically high levels, and (2) a strong US job market suggests that wages will continue to rise.
- Corporate manufacturing profits are being squeezed.** Within this broader context of US recovery, there is a clear discrepancy between the manufacturing and non-manufacturing sectors. Falling oil and commodity prices continue to take a heavy toll on the US manufacturing industry. The ISM Manufacturing Index fell from 50.1 to 48.6, its lowest level since June 2009.
- Our main fears are for the energy sector.** There are more and more defaults in this sector.

8 Real Effective Exchange Rate (100 = average 2008)



Source: Datastream, Amundi Research

9 US banks net interest margin (in %)



Source: Bloomberg, Amundi Research

“US banks' net interest margins have shrunk considerably since 2008”

Euro zone corporate debt remains quite in line with bondholders' interests. The threat of a worsening in debt leverage, in our view, is greater for higher rated issuers (AA-A).

The Fed's ultra-accommodating policy has generated excessive growth in US corporate debt. Heavy debt levels are now an undeniable source of financial weakness.

2-5. QE policies undermine market liquidity

One of the most common criticisms of QE is that it undermines market liquidity. The argument goes like this: when a central bank buys up too many securities, that can disrupt the normal functioning of the market and price formation, which can push investors into demanding an additional liquidity premium. And the proportion of certain securities that are held by the central banks is very high. The Fed, for example, holds up to 70% of some US Treasury issues, and the ECB has established a 33% cap on each security and issuer for its Public Sector Purchase Programme (PSPP) in order "to safeguard market functioning and price formation as well as to mitigate the risk of the ECB becoming a dominant creditor of euro area governments". It may soon run up against these caps in the cases of Ireland, Portugal and Germany. The cap per security has been set at 70% for the Corporate Sector Security Programme (CSPP) and the CBPP3 (covered bonds) programme. It is worth asking whether QE policies are not jeopardising the ability to buy and sell securities on certain market segments.

2-6. Has QE exacerbated economic inequality?

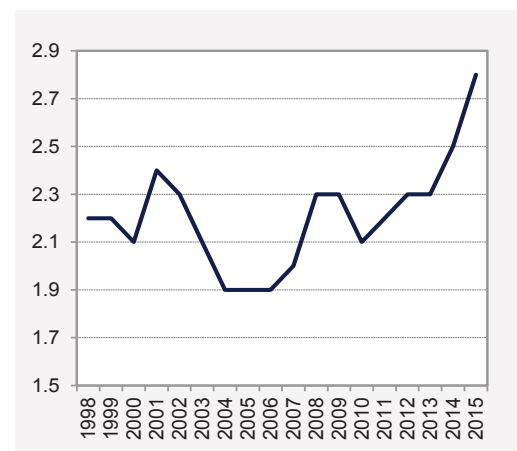
Given that the repercussions of QE and negative rate policies on financial assets are, as we have seen, very great. And it is worth asking whether they are exacerbating economic inequalities. A growing number of academics have studied the issue (see, for example, the working document released in 2016 by Fed researchers with the telling title *Doves for the Rich, Hawks for the Poor? Distributional Consequences of Monetary Policy*). In a paper published in the BIS's *Quarterly Review* of March 2016 entitled *Wealth inequality and monetary policy*, three researchers have compared wealth inequality data and the variation of various asset prices to highlight the possible heavy impact of monetary policy actions on wealth inequalities since the Great Recession. A number of politicians have joined the debate. In the US, the Republicans regularly blame increased economic inequalities on QE and low-rate policies.

Generally speaking, there are two theories: 1) by stabilising economic activity and lowering unemployment, ultra-accommodating monetary policy benefits the greatest number; but 2) in increasing the prices of financial assets, which are held by only a minority of the population they are exacerbating economic inequalities. **Central banks generally consider the increase in wealth inequalities caused by their policies to be a necessary evil.** The Bank of England, which has an active QE policy, has officially stated that the effects of redistribution were "inevitable" but that the general economic situation would have been worse if it had not resorted to QE.

The problem is that this exacerbation of economic inequalities is occurring amidst a sharp increase in income inequalities in recent years in developed countries, the US in particular, due mainly to skewing in the sharing of added value and the polarisation of the labour market. **This is a big political issue and is fostering the boom in populist movements.** In Germany, the finance minister, Wolfgang Schäuble, has accused the ECB of having caused the breakthrough of the AfD, a far-right party, in regional elections early this year. While it is obviously very difficult to hand out blame precisely for increased economic inequalities, highly accommodating policy will certainly remain a major political theme for some time to come.

The fact that nominal interest rates fell dramatically over the last years, to reach low or even negative levels, make some critics say that central banks were "expropriating" savers with their ultra-accommodative policies. The ECB is under fire in Germany more than elsewhere, as interest

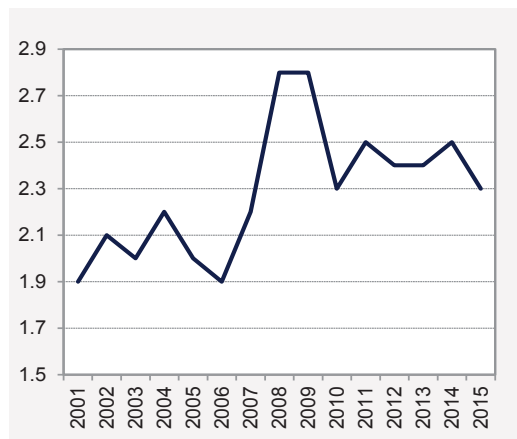
10 US IG: net debt to Ebitda



Source: Bloomberg, Amundi Research

“Heavy corporate debt is why lower US earnings are the focus of attention”

11 Euro IG: net debt to Ebitda



Source: Bloomberg, Amundi Research

rates are lower in this country. Jens Weidmann, the Bundesbank president, warned against the possible negative effects of ultraloose monetary policies on the savings returns.

However, Jens Weidmann himself insisted on the fact that real returns of short-term deposits are not exceptionally low by historical standards. Moreover, he explains that the “low interest rates are putting a strain on citizens in their role as savers, they are benefiting them in their capacity as employees, taxpayers and homebuilders.” **The worsening of the situation for savers is perceived as a necessary evil.**

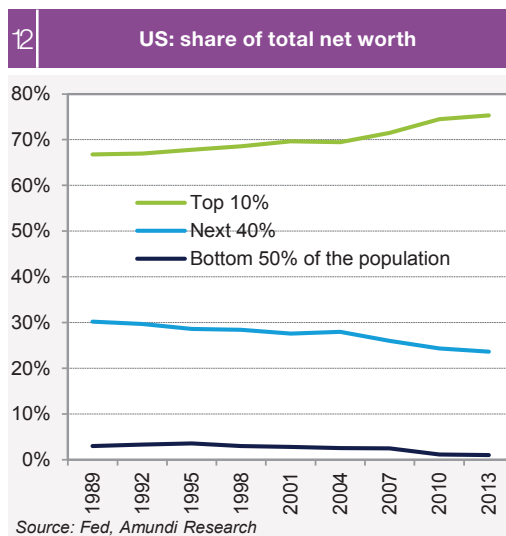
Aware of critics, the ECB reacted by conducting a communication operation, notably by publishing an occasional paper “*Critique of accommodating central bank policies and the ‘expropriation of the saver’*” in May 2015. **One of the main ideas in its argumentation is that the real interest rate depends on structural real variables (like trend GDP growth), on which the ECB cannot do anything.** According to the latest ECB staff estimates, the equilibrium real interest rate is between – 2% and 0% for the Eurozone (see Constancio, « The challenge of low real interest rates for monetary policy », 15 June 2016). On this, the ECB is probably right: would the ECB not introduced negative rates or implemented QE policies, interest rates would still be very low by historical standards in core Eurozone countries.

Conclusion

The central banks of the major developed countries embarked on ultra-accommodative monetary policies after the Great Recession of 2008 and then after the eurozone crisis in 2011-2012. The tools deployed were on an unprecedented and considerable scale. However, the inflation and growth outlook in developed countries remains unchanged. In this context, it seems legitimate to question whether central banks are not close to reaching their limits and assess the collateral damage caused by their expansionary monetary policies. In fact:

- The successive QE programmes of the Fed, BoJ and ECB have led to a sharp depreciation in effective terms of the dollar, yen and euro, that has resulted in a very sharp real appreciation of the renminbi, the only currency in the international system for which the central bank has not implemented a QE policy. The management of the yuan’s overvaluation constitutes a Damocles sword for the markets.
- The “negative rates – QE” cocktail has had a very strong impact on the bond markets. More than a quarter of global sovereign debt is now trading with negative yields. Japanese and German yield curves are in negative territory until respectively the 15-year and 10-year maturity.
- Banks’ business model could be altered over the long term. The profitability of loan activity is adversely affected by the low level of rates and the yield curve slope. Low rates could therefore have the reverse effect of that expected by making the cost of credit more expensive.
- The historically high debt level of US companies currently constitutes an undeniable financial fragility. Low rates and strong investor appetite have encouraged excessive growth in debt in order to finance M&A operations and share buybacks.
- Monetary policies play a major role in investment decisions. Expectations and new monetary policy measures often have more impact than changes in fundamentals. Moreover, investors are encouraged to offset the decline in returns by taking up positions in assets that are less liquid, more risky or/and with a more significant duration risk.
- Lastly, these ultra-accommodative monetary policies can also be held responsible for exacerbating economic inequalities, with an increase in the price of assets held by only a minority of the population.

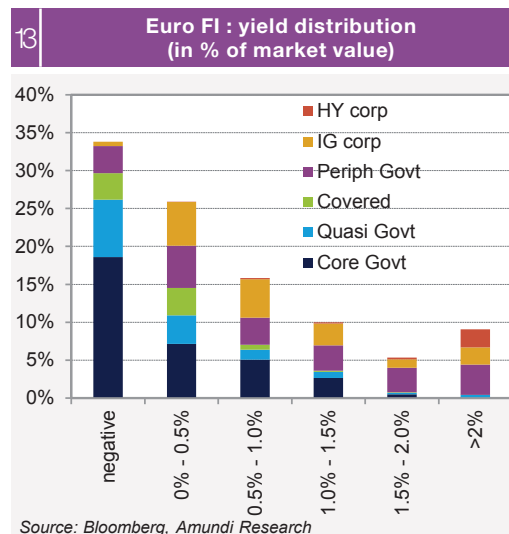
“ Ultra-accommodative monetary policies are increasing the prices of financial assets, which are held by only a minority of the population ”



“ The worsening of the situation for savers is perceived as a necessary evil ”

“ Expansionary monetary policy is not a means of correcting a lack of demand ”

Apart from this collateral damage, expansionary monetary policies have failed, above all, to generate a significant recovery in productive investment. This factor is essential since, in the medium term, it would help improve the productive apparatus and support the potential growth of these economies. To conclude, it is worth remembering that expansionary monetary policy is not a means of correcting a lack of demand and that it removes any incentive to invest in the long term.



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