



DIRECTORATE GENERAL FOR INTERNAL POLICIES
POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY

The Challenges of a Low Interest Rate

NOTE

Abstract

The sovereign debt crisis is due to two major flaws of the euro area's architecture: a doomed approach to fiscal discipline and the lack of a banking union. Adopting a complete banking union has always been a requirement and

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EXECUTIVE SUMMARY

The architecture of the euro area needs to be improved but the changes must rest on a proper diagnosis

threat at this stage.

1. INTRODUCTION

In comparison with other major central banks, the ECB has been slow to cut its policy interest rate once the global financial crisis started. To a first order of approximation, its policy rate is now almost at the zero lower bound and has been there for about four years. Given the sorry state of the Euro Area economy, no end is in sight, so it looks like we may experience a few more years of near-zero rate. As a result, we seem to live in a different world.

Of course, the interest rate matters a lot, mainly because it is redistributive. Borrowers gain at the expense of savers and savers include all those who depend on their savings for their daily incomes, especially retired people. For the whole financial industry, the interest rate is the most important variable, with extraordinarily wide effects, including on share prices and risk-taking, which puts taxpayers at risk. The interest rate also affects the exchange rate and therefore income distribution between export-oriented firms (and their employees) and consumers.

These redistributive aspects are usually ignored because monetary policy is looked as a countercyclical macroeconomic instrument. Over a complete cycle, those who benefit and those who lose alternate and the gains and losses about balance out. The current situation seems different because the down phase of the cycle is extraordinarily long. As is often the case, the perception grows that cyclical effects have become permanent. Theories flourish, arguing for many reasons why the interest rates will never return to normal levels.

Exchange rate

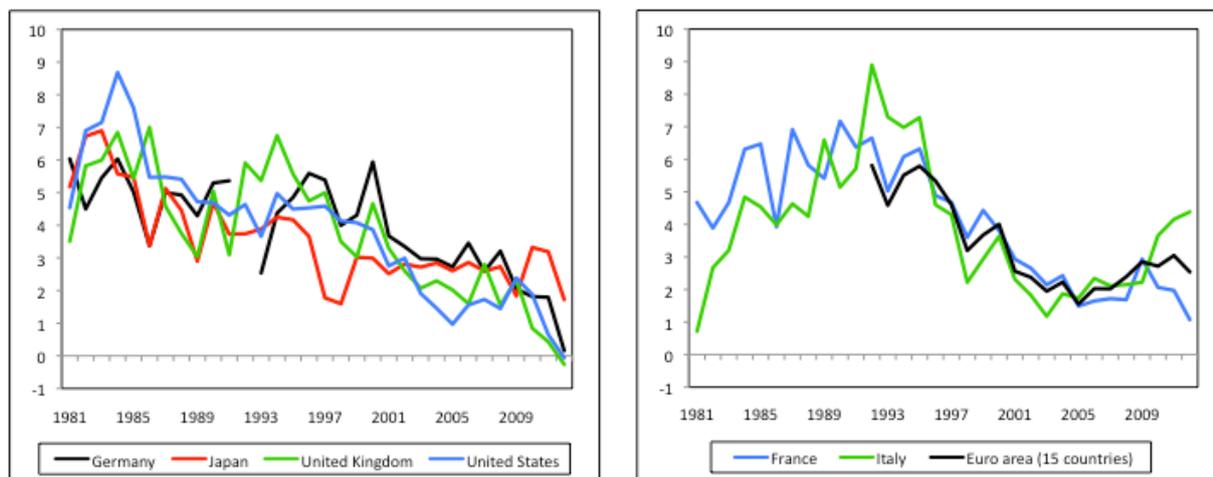
2. FACTS

The striking aspect of the current experience is that the policy interest rate has been brought down to very close to zero, the normal lower bound. Yet, in most countries, what matters for the macroeconomy is the interest rate at longer maturities, correspond to borrowing by consumers and firms. More precisely, what matters is the real long-term interest, deducting expected inflation from the observed long-term rate. Real long-term (10 years) rates are presented in Figure 1, which covers the post-inflation of the late 1970s when real rates were negative, and largely so. The left hand-side panel displays real rates for four major developed countries. We observe a secular decrease, which accelerated after 2007 when the global financial crisis went under way. By 2012, the real rates are about zero, which has not been seen for over 30 years. The exception is Japan, where the real long-term interest rate has been about 3% since the late 1990s, after the bursting of the housing bubble and the bank crisis.

The right hand-side chart in Figure 1 conveys a very different impression, though. In France and Italy, the real declined sharply on the way to the establishment of the euro and then steadily rose since the mid 2000s. The euro crisis then pushed up the Italian rate, an evolution mirrored in a number of other Euro Area countries. This is confirmed by the curve that gives the average real rate in the Euro Area. The very low real interest rate is not a general feature of the Euro Area. Part of the reason is that the interest rate used in the

charts concerns public bonds. Since private borrowing rates are usually higher than those of the sovereign, the observation remains valid.

Figure 1. Real long-term interest rates – 1981-2012



Note: Long-term interest rate less observed inflation measured with the GDP deflator.

Source: *Economic Outlook 92*, OECD, December 2012.

This conclusion implies that monetary policy is not unusually tight in a number of Euro Area countries. In the crisis countries, there is no such thing as a low interest environment, because of large risk premia. Thus, once again, real interest rates are having procyclical effects within the Euro Area: the countries in a recession face high rates while the rates are low those in countries with a better economic performance. Much the same happened on the late 2000s. The difference is that the roles have been swapped: yesterday's slow-growing countries are now those growing faster while the countries now in a crisis recession were growing fast previously. This confirms one more that, over a complete cycle, income redistribution *via* the interest rate is small. Yet, the fact that low interest rates and fast growth directly led to crisis, the familiar boom-and-bust financial cycle, justifies concern about the low interest rate environment observed elsewhere, as in Germany, the US and the UK.

3. FINANCIAL MARKETS

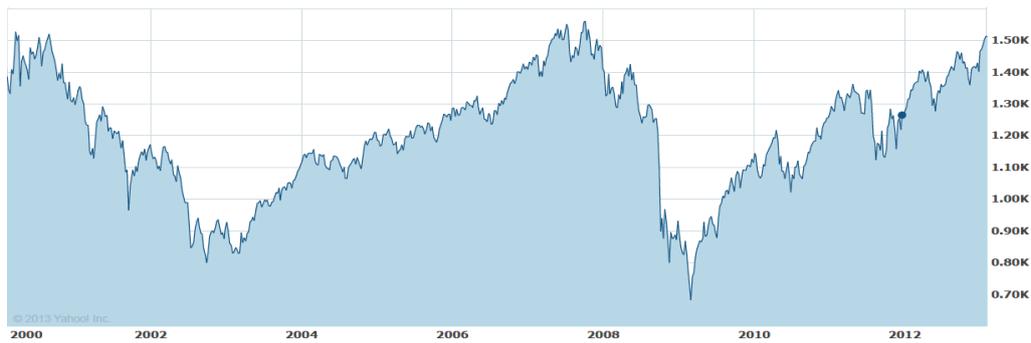
The fear of renewed financial instability attracts attention back to the nominal short-term interest rate. This rate matters for banks and financial intermediaries, since it is the price at which they borrow much of the liquidity that they need for their lending operation. It also matters for investors. First, low rates strengthen share prices. Second, low returns on bonds push investors toward stocks and more generally toward more risk taking. Third, it creates serious difficulties for regulated pension funds with defined benefits because they are not allowed to seek higher yields though risk taking and face declining revenues while spending remains unchanged. The result is that they must eat into their asset base, which

is itself often subject to regulation. Finally, the reduced attractiveness of bonds relative to stocks encourage borrowers to shift from banking finance to market finance.

More risk taking generally plants the seeds of an eventual bust. This can be seen from the evolution of stock prices shown in Figure 2. US, British and German stock market indices are now close to or above levels reached just before previous crises. There is no automaticity in these comparisons but the concern is there, especially since current growth in the US and the UK is low by historical standards, and is projected to remain low. The situation is better in Germany, which may explain the very high level of the DAX.

Figure 2. Stock prices

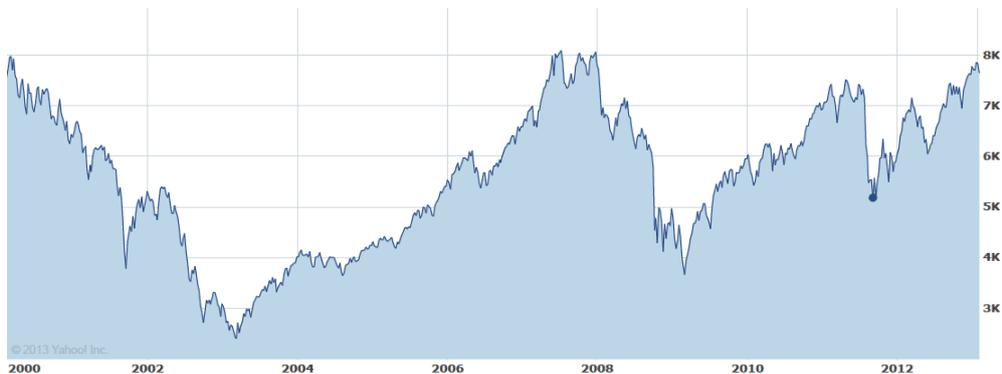
New York – S&P 500



London – FTSE 100



Frankfurt - DAX



The distinction between short-term nominal interest rates and long-term real interest rates matters because of the possibility of a disconnect between the financial and real sectors. In principle, long rates reflect expectation of future short rates, which means that there is nothing unusual with the existing term structure: eventually monetary policies will be normalized and the short rates will grow. But long-term rates are also related to expected capital gains on assets like houses or stocks. This can be represented through two symbolic arbitrage relationships:

Long vs. short bonds:

Long-term bond rate = average of present and expected future short bond rates¹

Bonds vs. stocks (or houses):

Long-term bond rates = average of present and future dividends and capital gains on stock prices

The first relationship justifies fairly high long-term interest rates even though the current rate is low, possibly zero. The second relationship a bubble emerges when asset prices are expected to rise “for ever”, at least for long enough to justify the second relationship even though dividends are low and expected to remain low. Such bubbles lead to a disconnect between financial markets and the rest of the economy. They arise when investors hold excessively optimistic expectations. But why do very short-term rates crucially matter to trigger bubbles? Because they encourage investors to move out of bonds and into assets subject to bubbles. As asset prices rise, investors may develop unrealistic expectations, which are self-validated by further purchases that push prices higher. Bubbles, however always end up crashing. This is why Figure 2 is worrisome.

4. QUESTIONS AND ANSWERS

4.1. What should investors do?

Irrational exuberance is dangerous. The problem is that individual investors may be all fully aware of the riskiness of their actions and yet believe that they will be able to escape before the crash. This may be individually rational but it is collectively impossible. Acting prudently, on the other hand, means staying away from highly-price assets and stick with low-return bonds, whose prices will decline when short-term interest rates start increasing back to normal levels, which is also risky.

In short, investors have nowhere to hide. They can take risks and hope to enjoy good returns, as stockholders did in 2012, or they can accept low bond returns and still take risk. There is simply no good option with US, British and Euro Area assets. This is why many investors look elsewhere, in developed countries like Australia, Canada and Switzerland, possibly Eastern and Central Europe. Many investors have also “discovered” the emerging market countries in Asia and Latin America, which they know But these are small countries; the amounts of available assets are limited and strong demand quickly translates into exchange rate appreciation and the spectre of “currency wars”, hence the risk of sharp movements.

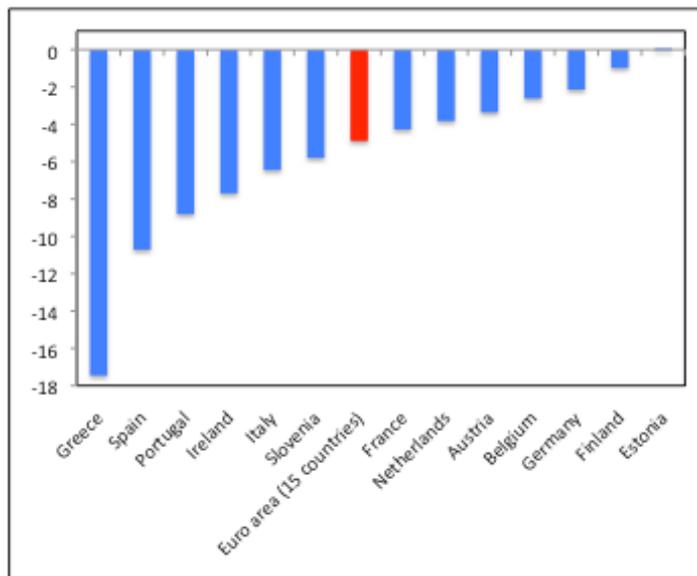
4.2. What should the ECB do?

Looking at Figure 1 and at the DAX in Figure 2, it is not surprising that some observers fret that the policy interest rates are too low. Yet, the right hand-side chart in Figure 1 and

¹ Formally: $(1 + i_L)^n = (1 + i_1)(1 + i_2) \dots (1 + i_n)$ where i_L is the n-period interest rate and i_1, i_2, \dots, i_n are expected short term rates over the next n periods. A similar, if more complicated, relationship stands behind the next symbolic representation. These arbitrage relationship ignore risk, for simplification.

rather depressed stock indices in the Euro Area crisis countries send the exact opposite message. Once more, we find that the single monetary policy is mission impossible when Euro Area member countries face highly asymmetric shocks. And, once more, we can only conclude that the only possible solution for the ECB is to look at the Euro Area as a whole, disregarding individual macroeconomic conditions. The OECD forecasts presented in Figure 3 predict an output gap of 4.9% in 2013, expected to remain virtually unchanged at 4.85 in 2014. These are very large gaps. The ECB's own forecast for inflation in 2013 is between 1.3% and 2.5%, nicely balanced around the 2% upper target level. Thus, looking at the overall macroeconomic picture, monetary policy should be as accommodative as possible.

Figure 3. Output gaps in 2013



Source: *Economic Outlook 92*, OECD, December 2012.

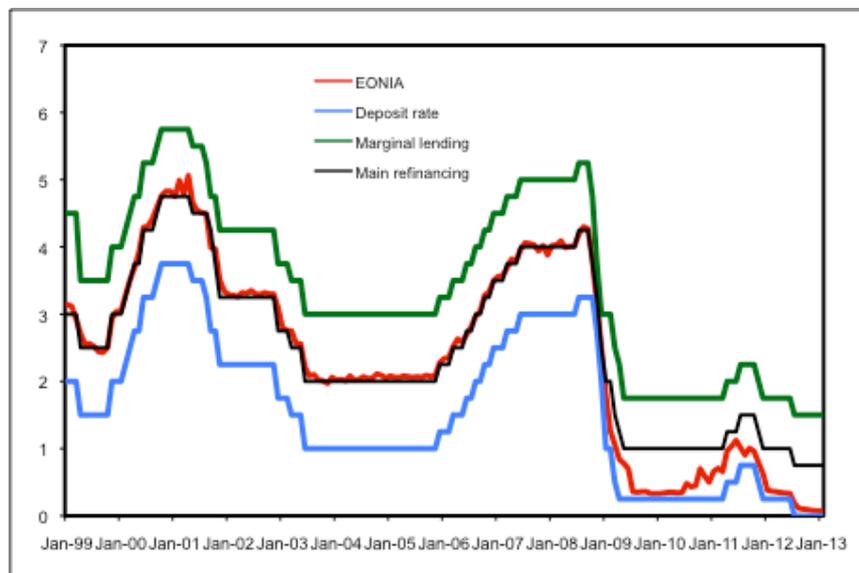
This is why a number of observers criticize the ECB for keeping its key policy interest rate, the main refinancing rate, at 0.75%, above what is observed in other major central banks. Is this other criticism justified? Largely not, but the ECB still faces some hard choices. Two arguments support the ECB. First, the distance between 0.75% and 0.25% as elsewhere is too short to make a significant difference given the large output gap. Second, Figure 4 shows that the market rate, EONIA, has remained close to the deposit rate, which is now zero (EONIA is currently at 0.07%). Lowering the refinancing rate is likely to have no effect at all on EONIA and other market rates.

However three arguments suggest the ECB stance is still too restrictive. First, EONIA has lost much of its significance as the interbank market is fragmented. Many Euro Area banks find it difficult to refinance themselves and certainly not at the EONIA rate. The ECB has recognized this problem; this why it has expanded its direct lending to unlimited LTROs. The rate applied to LTROs is the refinancing rate, which is therefore more relevant than EONIA for many banks. The fact that many banks have reimbursed their LTROs at the first possible date indicate that the situation has improved but also that the refinancing rate is considered expansive.

Second, since the beginning of the crisis the euro has remained surprisingly strong. A weaker euro would have certainly helped the crisis countries, albeit with some inflationary impact. One reason for the euro weakness is that the ECB is perceived as less

accommodative than other major central banks. Even though lowering the refinancing rate might not have much direct effect, it could lead to a lower exchange rate. This may well be the large margin of action left to the ECB.

Figure 4. Euro Area interest rates



Source: ECB

Finally, Figure 3 shows that the economic situation is highly asymmetric within the Euro Area. While the ECB has no alternative to dealing with the overall situation when conducting its *macroeconomic* policy, it must concern itself with financial stability and the integrity of the Euro Area. Based on the forecasts shown in Figure 3, some member countries are now expected to be in deep depression for at least six years (2009-2014) with disastrous implications for their banking systems and dramatic social, and therefore political, impact. This form of tail risk creates a trade-off with the price stability objective. This entails a value judgment – should some inflation risk be taken for some countries to bring depression to an end elsewhere – and political judgment – the consequences of protracted misery. Section 4.4 argues that governments have the leading role to play in these matters.

4.3. What should pension funds do?

Pension fund regulation often requires pension funds, public or private, to only hold reasonably safe assets. With very low interest rates, this often means insufficient income to match spending, especially when pensions are defined benefits. Should then pensions be changed into defined contributions instead or should the funds be bailed out? Pension funds are normally required to hold sufficient assets of sufficient quality to weather adverse conditions for a “normal” time. These times, however, are not normal.

The length of the depression is already above that of traditional cyclical downturns. In addition interest rates are expected to remain at record low levels for the foreseeable future. In principle, this is the time when precautionary reserves should be run down, to be rebuilt in better times. Changing the contract, from defined benefits to defined

contributions represents a break of contract, which should be postponed until absolutely necessary, even if it is sometimes argued that no pension system should be defined benefits.

The more challenging issue concerns the possibility that interest rates will remain low forever. In this case, most of not all pension funds are likely to be technically bankrupt. It is important to remember, though, that interest rates are low because central banks have adopted unprecedented measures to deal with a historical crisis. The logical implication is that interest rates will return to normal levels once the crisis is over. A counter-argument is that normal interest rates will remain low because world savings have increased – the saving glut hypothesis. Given the huge uncertainty of this prediction, it would seem wise to wait and see.

4.4. What should governments do?

A key conclusion from Section 4.2 is that the ECB now explicitly faces more than one objective: financial stability and integrity of the Euro Area must be added to its price stability mandate. This creates a very challenging trade-off, with no good solution. With one instrument, the policy interest rate, the ECB cannot achieve more than one objective. While, in the short run, the flexible inflation targeting strategy allows for some trade-off, this is not a sustainable approach. More instruments are needed.

Financial stability requires its own instruments: regulation, supervision and resolution authority backed by adequate resources. These instruments have been so far in the hands of national governments but the crisis has shown that this is a major source of externalities. The answer is the creation of full-fledged banking union. Current proposals are totally inadequate. Government failure to create a banking union is the reason why the ECB is now in an impossible situation.

The ECB should be able to conduct its monetary policy without being unduly burdened by structural considerations. It should be able to keep interest rates low for as long as necessary, with the certainty that governments will deal with the implications. Asset price bubbles can be dealt with appropriate regulation of financial markets, including taxation of capital gains. Pension funds are regulated by governments, which can put in place a large number of measures, ranging from a delayed retirement age to switching from defined benefits to defined contributions when and if needed.

5. CONCLUSION

This note has made the following points:

- The real long-term interest rate, which matters for the macroeconomic effect of monetary policy, is about zero in some countries, but not very low in others, especially in the Euro Area crisis countries. Thus monetary policy is not universally accommodative.
- If it lasts, a very low nominal short-term rate can disrupt financial markets by encouraging investors to increase risk taking and promoting the emergence of asset price bubbles. In several countries stock prices appear very high.
- Investors have few alternative options. Investing in other parts of the world disturb exchange rates.
- The ECB faces an uncomfortable situation given the asymmetric situation of Euro Area member countries. Given the depth and duration of the depression under way in several countries, it needs not worry about inflation at this stage.

- The ECB cannot be asked to deal alone with financial stability and the integrity of the Euro Area. Governments need to go beyond their underwhelming actions. A full-fledged banking union is needed. They must also deal with the difficulties faced by pension funds, although action is not urgent.