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Impact of a Low Interest Rate Environment

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NOTE

Abstract

Low interest rates over an extended period of time put long term investors, such as insurance companies and pension funds under pressure from low returns. They also encourage investors in search for higher yields to take up more risk, with potential adverse effects for financial stability.

Monetary policy can affect short-term nominal rates, but spending decisions are mostly taken on the basis of long-term real interest rates. However, the relation between short and long-term interest rates is still unclear as standard theory is often rejected by empirical research.

The euro area is not yet facing the risk of a low-interest environment. The policy rate is above the level set by other major central banks and it is unlikely to be reduced before the monetary transmission mechanism is repaired in the periphery. Fiscal policy would be the appropriate tool to deal with asymmetric shocks, but the fiscal space available in the euro area periphery is limited by consolidation measures being adopted to correct unsustainable budgetary positions.

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1. INTRODUCTION

Low interest rates over an extended period of time put long term investors such as insurance companies and pension funds under pressure from low returns. They also encourage investors in search for higher yields to take up more risk, with potential adverse effects on their financial stability.

The Bank of England Financial Stability Report (2012) mentions that, "in a low interest rate environment, households and businesses may have very little incentive to deleverage and also may end affecting banks' incentives to forbear on non-performing loans". The Bundesbank Financial Stability Review (2012) mentions as a major threat to the financial stability of German banks "the tight negative feedback loop between banks and governments in Italy and Spain" and only speaks about low interest rate environment "as a threat for insurers, which suffer from lower investment income and tend to pursue new investment routes and enter into greater competition with banks".

According to relevant international institutions, the euro area is not yet facing the potential risks of a prolonged period of very low interest rates. Such an outcome is envisaged only after "protracted low interest rate periods" (OECD, 2011) or "prolonged periods of unusually low interest rates" (BIS, 2009/10) and mainly with reference to the US (IMF).

The euro-area policy rate (currently at 0.75%) is not even close to the "lower zero bound". And it is unlikely to be reduced before the monetary transmission mechanism is repaired in the periphery. The ECB has kept the policy rate above that of other major central banks (US, Japan, the UK) through the current crisis, despite most forecasts anticipate only a mild recession in 2013 in the euro area against positive growth in the US, Japan and the UK.

There is a key difference between these countries and the euro area in terms of policy instruments: in the former, both (national) monetary and fiscal policy can be used; in the latter, only (common) monetary policy is available as fiscal policy falls largely under the responsibility of euro area Member States. Fiscal policy is therefore the appropriate policy instrument to deal with the adverse impact of asymmetric shocks in the euro area. Unfortunately, the consolidation measures being adopted in several Member States of the euro area periphery to correct unsustainable budgetary positions considerably reduce the fiscal space available. The only way the ECB can help is by using unconventional monetary policies to compensate for the lack of common fiscal policy. Therefore, the ECB has to do almost all the work to stabilize the euro-area economy and minimise the effect of both symmetric and asymmetric shocks.

Fiscal policy, if available, may represent a useful policy tool in situations where policy rates are close to the lower zero bound and the level of economic activity is well below potential (depressed economies). This point is made forcefully by Martin Feldstein (2002). He claims that, "although there is widespread agreement in the economics profession that discretionary "counter-cyclical" fiscal policy has not contributed to economic stability and may have actually been destabilizing at particular times in the past, there is one important situation when discretionary fiscal policy can play a constructive role: in a sustained downturn, when aggregate demand and interest rates are very low and when prices are falling or may soon be falling. A fiscal stimulus can work and can be achieved without increasing budget deficits, if the fiscal policy acts providing an incentive for increased private spending".

2. IS THE PRESENT LOW INTEREST ENVIRONMENT IN THE EURO AREA A THREAT TO LONG-TERM INVESTORS?

First, according to available research, it is still unclear how short-term interest rates affect long-term interest rates. Economic theory states that the long-term interest rate is a weighted average of present and expected future short-term interest rates. According to the rational expectations hypothesis (Sargent, 1972) forward interest rates are forced into equality with short rates that investors expect to prevail in subsequent periods. Alternatively, the expected, one period holding return on riskless bonds of all maturities are the same, or only differ by a constant risk premia. Most empirical research, however, rejects the joint hypothesis of rational expectations and expectations theory behind the term structure of interest rates.

R. Shiller (1979) performed volatility tests, using six different data sets on US and UK interest rates. The expectations hypothesis posits that the long-term interest rate can be approximately represented as a long average of rationally expected future short-term rates plus a liquidity premium term. According to Shiller, however, long-term interest rates are too volatile to be consistent with the expectations theory. Even more, long rates show a slight tendency to fall when they are high relative to short term rates, rather than rise, as predicted by the rational expectations models.

The term structure of interest rates is very important for financial economists given its close connection with the pricing of bonds of different maturities. It is also relevant for macroeconomists as it plays a key role in the assessment of alternative macroeconomic policies (G. Mankiw and L. Summers (1984)). Monetary authorities can most directly control short-term rates, but aggregate demand depends primarily on long-term interest rates. In the IS-LM model, the short rate enters the LM curve while the long term rate enters the IS curve. The monetary transmission mechanism, i.e. the effect of monetary policy on output, thus hinges upon the term structure of interest rates.

Mankiw and Summers find that the response of interest rates to money supply announcements is similar at all maturities. However, standard theory suggests that the response of long rates should be much more attenuated, as long rates are a weighted average of short rates. While not confirmed by empirical evidence, the rational expectations view prevails among bond market participants (the conventional wisdom being that "long-rates follow short-rates") and it is also implicitly shared by ordinary people (with the popular claim that financial markets "over-react" to news or are, in some sense, "myopic").

Mankiw's and Summers' results imply that short interest rates have a much lower (sometimes negative) weight than the theory suggests. The authors reject the notion that expected future short rates exert a disproportionate influence on long-term rates. Using data on three-month and six-month bills, they show that market participants place too little weight on the current short rates in forecasting future yields. Only one quarter of the variation in the spread between six-month and three-month Treasury bill yields is attributable to expected movements in short-term rates, while the remainder is attributable to movements in the area tautologically labelled "liquidity premiums"¹.

In the same line, B. McCallum (2005) finds the apparent drastic inconsistency of US data with expectations theory of the term structure of interest rates a major puzzle of financial economics. Both short-rate changes in long rates and long-rate changes in short rates fail

¹ A liquidity premium is a premium that investors demand for any given security which cannot be easily converted into cash. The higher the liquidity premium, the more illiquid is the asset.

to be related to the existing long-short spreads along the lines implied by the rational expectations theory.

This result had been documented previously also by Campbell and Shiller (1991). According to theory, a high yield spread between a longer-term and a shorter-term would imply rising shorter-term interest rates over the longer-term. However, the authors show that interest rate actually displayed a declining yield on the longer-term bond over the shorter-term one. This pattern is inconsistent with the expectations theory of the term structure. It would be consistent with a model according to which the spread is proportional to the value implied in the expectations theory.

Second, behavioural finance² provides a better framework to shed some light on the relation between short-term and long-term movements in interest rates. R. Rajan (2006) analyses examples of greater risk taken in a low interest environment by "investment managers" as a result of changes in "risk aversion". He shows how changes in the structure of incentives affect the investment strategies of financial managers (e.g. in insurance companies or hedge funds). Changes in the stance of monetary policy may represent an important driver of these "behavioural" changes. To the extent that monetary policy has effects outside the traditional channels, the behavioural channel will amplify traditional effects. Rajan offers two examples of why institutions may take more risk when interest rates are expected to remain low for a long period and how this risk-taking behaviour is reversed when interest rates are high. In this way, he finds a link between monetary policy stance and the behaviour by financial actors.

One behavioural response is "risk shifting". Rajan shows two different types of "risk-shifting". The first type of risk-shifting is typical of insurance companies which are forced to take more risks whenever the long-term interest rates remains for a protracted period well below the promised premium holders. The second type risk-shifting is typical of hedge funds, whereby the hedge fund manager is induced to take more risk to the extent his compensation is linked to risk-free returns and not only to the fund performance. In the first case, pro-cyclicality of risk taking behaviour is induced by the level of interest rates because of the nature of pre-contracted liabilities. In the second pro-cyclicality is induced by the nature of compensation.

Another behavioural response is "alpha and illiquidity seeking". The typical manager of financial assets generates returns based, first, on the systematic risk that he takes ("beta" risk), and second, on the value of his abilities to contribute to the investment process ("alpha" risk). Shareholders in any asset management firm are unlikely to pay a manager for "beta" risk returns because the same return could be achieved investing in index funds while paying a fraction of the fees. What the shareholders really pay for is for the manager to outperform the indexes regularly, without taking more risk. Hedge fund managers often claim to produce returns that are uncorrelated with the traditional market (market neutral strategies), i.e. they generate excess returns or "alpha", which deserve to be compensated.

According to Rajan, however, there are only a few sources of "alpha" risk for investment managers. One is their "ability to identify undervalued financial assets". But this is a very difficult task as most investment managers are very sophisticated investors. Another may be called "activism", which means using financial resources to create, or obtain control over real assets and to use that control to change the payout obtained on the financial investment. An example could be "a vulture investor, which buys defaulted emerging

² Behavioural finance integrates insights from psychology with neo-classical economic theory to study economic decisions of individuals and institutions and the consequences for market prices and the resource allocation. The field is mainly concerned with the bounds of rationality of economic agents. R. Thaler, D. Kahneman and A. Twersky are among the main contributors to the field,

market debt and presses country's authorities through various legal devices to pay more. A third source is "financial engineering" or "financial entrepreneurship". Investing in exotic financial assets that are not easily available to the ordinary investor or creating securities or cash flow streams that appeal to particular investors or creating securities or cash flows that may appeal to certain investors or particular investor tastes. Finally, "alpha"-risk can also arise from "liquidity provision". For instance, investment managers, having relatively easy access to finance, can hold illiquid or arbitrage positions to maturity. For instance if a closed end fund is trading at a significant premium to the underlying market, they can short the fund, buy the underlying market and hold a position until the premium dissipates".

Overall, Rajan shows that "alpha" risk is very difficult to generate since it mostly relies on the investment manager possessing unique abilities to identify more profitable opportunities. "Liquidity provision" is probably the easiest way to achieve it. In sum, Rajan shows that extremely accommodative monetary policy engenders "illiquidity seeking" behaviour, which has close parallels to "risk seeking" and "risk shifting" mentioned above. Rajan believes that this "behavioural channels" introduce a new dimension of analysis for monetary policy, as it adds to the traditional "money channel", the "borrower balance sheet channel" (Bernanke and Gertler, 1995), the "bank lending channel" (Bernanke and Blinder, 1988 and 1992) or (Kashyap and Stein, 1997) and the "liquidity channel" (Diamond and Rajan, 2006).

Third, interest rates have to be maintained at very low levels for a long time to be able to affect decision making by long-term investors. Antolin, Schich and Yermo (2011) show that a period of protracted low interest rates "would adversely affect pension funds and insurance companies. Protracted low interest rates affect investment opportunities and have potentially significant adverse effects on life insurance companies and institutions whose liabilities consist on a fixed investment return or benefit promises, such as the case of defined benefit pension funds. It cannot be ruled out that the financial institutions affected, engage in "gambling for redemption" in an attempt to match the level of return promised to beneficiaries when financial markets were more elevated".

A prolonged period of low interest rates is not the most likely outcome according to recent data on interest rate futures which indicate a gradual increase in nominal interest rates going forward. Nonetheless, such a scenario cannot be excluded according to Antolin, Schich and Yermo, as in a number of countries the level of economic activity remains well below the peak attained in the pre-crisis period.

3. WHY IS THE ECB KEEPING ITS MAIN REFINANCING RATE UNCHANGED?

In December 2012 and January 2013, the ECB decided to keep the policy rate unchanged in the euro area, despite ongoing recession and contained inflation expectations. The severe impairment of the monetary transmission mechanism (MTM), which operates through the banking system, in the euro area periphery is the main argument behind ECB choice. This is a serious problem, as banks represent about 75% of the total euro area financial system and probably a higher percentage in the periphery.

Standard monetary policy (i.e. acting on the main refinancing rate) thus cannot be used. Non-standard monetary policy, e.g. through the so-called Outright Monetary Transactions (OMT)), is unlikely to be useful either as the program can be activated only under strict conditionality by the requesting Member State. The Securities Markets Programme (SMP) program is not being used at present.

The adverse feedback loop between banks and sovereign debt prevents the adequate working of the monetary transmission mechanism in the periphery of the euro area (Adler, 2012). In addition, the euro area interbank market is seriously damaged as capital is not flowing smoothly from the surplus countries to the periphery, where is much needed. This is partly the result of the "liquidity ring-fencing policy" of northern euro area Member States which inhibit the pre-crisis inflow of deposits to outflow to the crisis-stricken countries. For the time being, the ECB LTRO has allowed banks in the periphery to withstand their liquidity crisis and to do "carry trade" with their sovereign debt holdings. Nevertheless, the ECB needs to find a way out of this serious situation because the monetary policy mechanism is not functioning.

4. SHOULD THE ECB ENGAGE IN FURTHER QUANTITATIVE EASING?

At the moment, the ECB is trapped in a difficult dilemma: it cannot reduce its main refinancing rate as the monetary transmission mechanism is not working properly and, at the same time, it cannot apply its OMT programme unless a Member State of the periphery applies for it.

For the time being, President Draghi's magic words "whatever it takes", the new "OMT program" and "positive contagion" have been enough to limit contagion. They have given more comfort to investors, by reassessing their appraisal of the peripheral sovereign debt risk and producing a drop in their spreads, without the need to apply for the OMT program.

But what could happen in the case of a sudden external shock, e.g. Cyprus being forced to leave the euro area? One likely outcome is that Spain and Italy end up applying for the OMT program, with the conditionality clause focussing of accelerating structural reforms rather than asking for additional austerity measures given the current massive slack in demand. Another possible solution is that the ECB uses temporarily its SMP program (without conditionality).

5. WHY SHOULD THE ECB MAIN REFINANCING RATE BE LOWER?

The are both pro and cons for a lower policy rate in the euro area. First, the ECB policy rate (0.75%) looks comparatively high in the euro area in the light of GDP growth projection for 2013 (-0.2%), according to IMF(1). Other major central banks have set their policy rate at a lower level and closer to the "lower zero bound", notwithstanding a better growth outlook envisaged for this year. In the US, the policy rate is 0.25%, GDP growth is 2%; for Japan, policy rate is 0.1%, GDP growth is 1.2%; in the UK, policy rate is 0.50%, GDP growth is 1%. Policy makers in the US, Japan and UK do not seem too worried about a pick up of inflation expectations

Second, spending decisions are taken on the basis of "real" not "nominal" interest rates. Correcting (nominal) policy rates for inflation, the previous picture changes substantially. In 2013, consumer price inflation in 2013 is expected to be 2.0% in the US, -0.2% in Japan, 1.9% in the UK and 2.3% in the euro area, according to IMF(2). This implies a slightly positive real interest rate in Japan (0.3%), but negative real interest rates in the US (-1.75%), the UK (-1.4%) as well as in the euro area (-1.5%). Japan is currently loosening its policy stance, aiming at 2% inflation target to push real interest rates back into negative territory and stimulate growth.

Third, given their high level of government debt, stronger growth is needed in all these four economies to pay back the services of the debt. According to the IMF (3) debt levels in 2013 will be 111, 7% of GDP in the US; 245% of GDP in Japan; 93% of GDP in the UK and 94.9% of GDP in the euro area. These figures exclude future "contingent liabilities" related to population ageing and which represent an additional threat to the sustainability of public finances. The only orthodox way to reduce the high levels of debt in the long term is to fulfil the "long term State debt sustainability golden rule". According to W.Buiter (2009) this must include both sovereign and the central bank debt. This requires, first, that the stream of government primary surpluses equals the outstanding stock of sovereign debt (sustainability) and, second, that the long-run real interest rate on sovereign debt equals the long-run rate of growth of real GDP (stability).

Fourth, a high policy rate may hamper growth via the exchange rate channel. In the short term, exchange rates tend to respond to interest rate differentials: a positive interest differential strengthens the currency.³ Currently, the US dollar, the British pound and the Japanese yen benefit from lower policy rates compared to the euro. The relative strength of the euro makes euro area exports more expensive and euro area imports cheaper, eventually dampening euro area growth via a deterioration of the trade balance. Exports of goods and services represent as much as 46.8% of GDP in the euro area compared to 34.4% in the UK, 14.7% in the US and 15.6% in Japan. Imports represent 44.5% of GDP in the euro area, compared to 18.7% in the US 17.0% in Japan. However, a significant proportion of euro area exports are intra euro area trade. .

³ In the medium term, exchange rates tend to respond to productivity differentials. In the long run, they tend to respond to inflation rate differentials.

6. CAN THE EURO AREA LEARN FROM THE PRESENT US EXPERIENCE?

Karl Whelan (2012), on commenting the recent decision by the Federal Reserve to keep the target range for the Fed Funds at 0.25%, argues that that level should be considered appropriated as long as the unemployment rate remains above 6.5%. Inflation expectations do not seem to represent a major threat: Forecasts for inflation one and two years ahead remain relatively close to the Committee's 2 per cent longer-run goal.

In sharp contrast to the FED, the ECB puts a strong focus on past high levels of inflation, even if inflation in the euro area never exceed 3% since inception of the euro area. Moreover, in 2008 and 2011 the ECB raised the policy rate at a first signed of inflation, even if the source was a temporary increase in commodity prices.

According to John Makin (2012), the FED very accommodative monetary policy of virtually zero interest rates is hitting US savers hard, but at the same time is having a positive stabilizing effect on the economy. Given the significant slack in demand, the current loose monetary policy stance is likely to be continued to avoid any adverse effect on growth and on the still depressed housing market. In such a context, financially constrained households have only one option left to improve their earnings: work more and spend less. Households which are less financially constrained can improve their welfare by digging into their savings and/or and taking on riskier investments, according to Makin.

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