

ECONOTE

Société Générale
Economic studies department

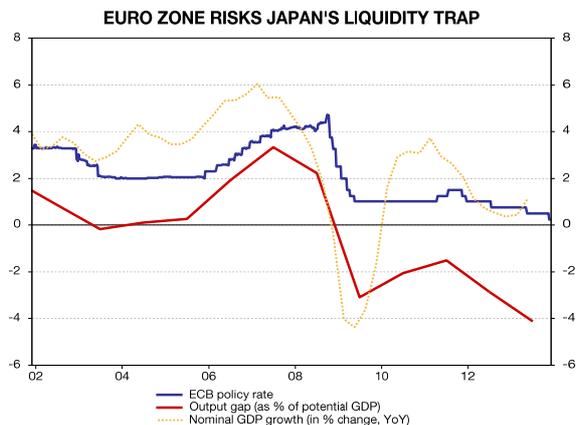
THE EURO ZONE: FALLING INTO A LIQUIDITY TRAP?

— An economy is said to be in a “liquidity trap” when the ability to use conventional monetary policy to stimulate demand has vanished, because short-term interest rates are close to zero. Nearly five years after the onset of the global credit crisis, the European Central Bank (ECB)’s key policy rates have been reduced close to their zero floors but the euro zone’s economy is still producing well below its productive capacity.

— The immediate problem facing the euro zone is one of inadequate demand, which can be the result of the ongoing fiscal withdrawal in most countries, but could also be indicative of a liquidity trap. When the global financial crisis erupted in 2007, a “sudden stop” of private capital inflows in peripheral Europe forced a rapid deleveraging process in the private sector. Yet a large deleveraging shock can easily push an economy into a situation where the zero short nominal interest floor becomes a binding constraint.

— The ECB has made extensive use of so called “non standard” policy measures injecting record amounts of cash into the banking system, but this has failed to induce the resumption of normal bank credit to support growth. The ineffectiveness of the bank credit channel of monetary transmission, which is reminiscent of the liquidity trap phenomena, reflects weaknesses in both bank and corporate balance sheets, notably in peripheral Europe.

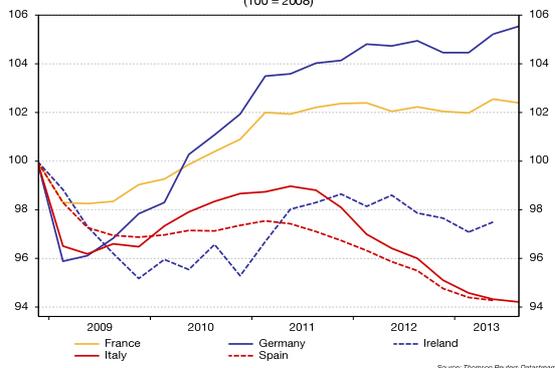
— As Japan has demonstrated, an economy caught in a liquidity trap doesn’t automatically return to potential growth path. Japan’s decade-long slump in the 1990s has sparked a vivid debate among economists on how a central bank can do more to boost the economy, once its policy interest rates are at zero. Imaginative forms of monetary easing have been proposed, most notably 1) raising inflation targets, 2) taxing currency.



Marie-Hélène DUPRAT
+33 1 42 14 16 04
marie-helene.duprat@socgen.com

Since 2010, two crises (at least) have threatened the very existence of the euro: 1) a confidence crisis, which has given rise to self-fulfilling speculative attacks on euro zone periphery countries' bonds, capable by themselves of precipitating a breakdown of the currency union, and 2) a growth crisis, which has been feeding a negative feedback loop between unemployment and indebtedness. The first danger has been drastically reduced by the European Central Bank (ECB)'s "Outright Monetary Transactions" (OMT) – announced in September 2012 –, which includes potentially unlimited purchases of government bonds in secondary markets¹. By making it clear that its unlimited financing capacity will be mobilized, should that be necessary, the ECB has greatly reduced the euro zone's vulnerability to self-fulfilling panic. But the lack of growth remains today a critical concern.

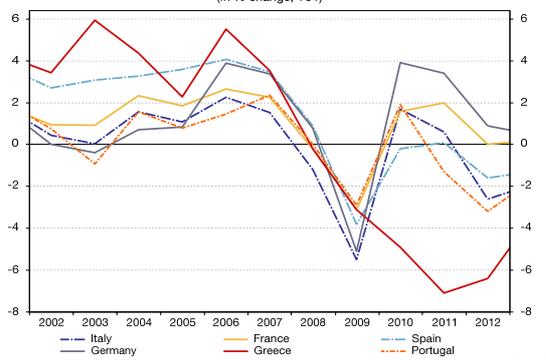
Gr1. REAL GDP LEVELS
(100 = 2008)



THE SPECTRE OF A "LOST DECADE"

The euro zone's 18-month recession ended in the second quarter of 2013, thanks to a rebound in manufacturing. But the recovery is too sluggish to fix the euro zone's multiple woes, including still-rising debts and record-high unemployment.

Gr2. REAL GDP
(In % change, YoY)

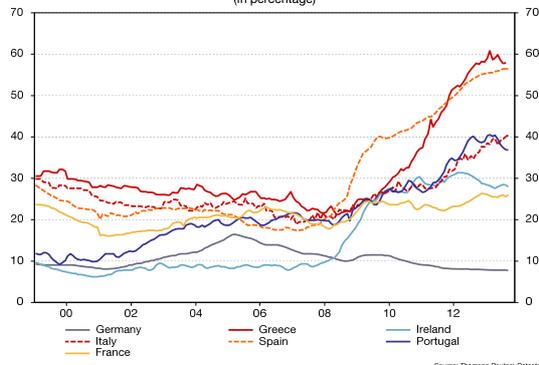


By the second quarter of 2013, the level of real gross domestic product in peripheral Europe remained well below its pre-crisis peak. Prosperity levels have fallen

¹ Noticeably, not a single country has actually used OMT yet.

dramatically across Southern countries during the past half a decade, while prospects for economic growth remain dull. The euro zone seems to be on-course for a Japanese-style lost decade of slow growth, and output persistently below potential²

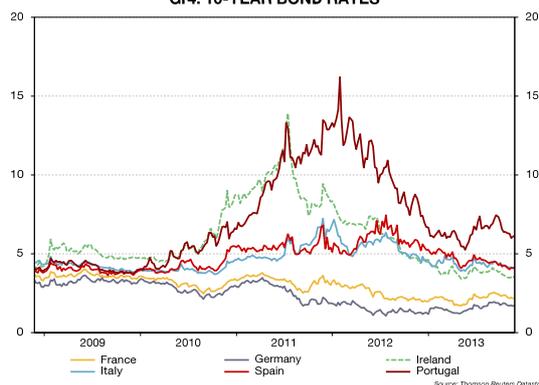
Gr3. YOUTH UNEMPLOYMENT
(In percentage)



THE "DELEVERAGING SHOCK"

When the global financial crisis erupted in 2007, the euro zone's decade-long domestic demand boom came to an abrupt end. Confidence evaporated, liquidity was withdrawn. And when in late 2009-early 2010 the true scale of the disarray in Greek public finances was revealed, Europe faced its "Minsky moment" – i.e. a sudden downward revision of acceptable levels of debt forcing widespread deleveraging. Levels of debt that were deemed adequate the day before the disclosure of the true Greek fiscal situation became, all of sudden, unsustainable in the eyes of investors. The spreads in the euro zone's peripheral countries shot up, as the perceived risk of default escalated.

Gr4. 10-YEAR BOND RATES

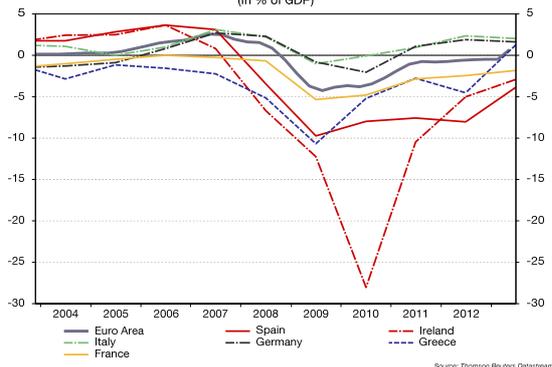


The euro zone crisis was initially diagnosed by European leaders as stemming primarily from government profligacy on the periphery. Consequently, Europe's south was required to put in place draconian

² It's worthwhile to note that there are some significant differences between Japan and Europe. For one thing, Japan's unemployment problem has never reached the magnitude that it currently has in Europe. For another thing, Japan suffers from chronic deflation, while European inflation is still positive.

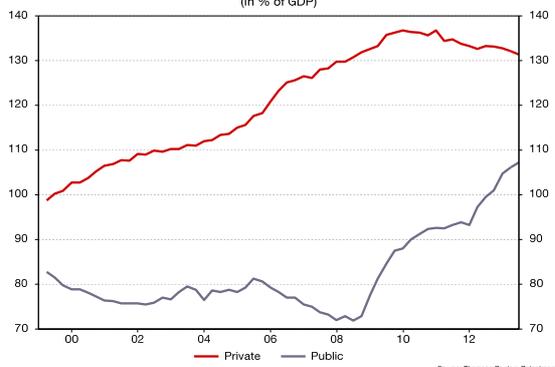
fiscal consolidation packages to bring down debt to output ratios, thus improving debt sustainability. However, except for Greece, excessive state spending was not the primary cause of the emergence of the euro zone crisis. Prior to the 2008 financial crisis, Spain and Ireland had low government debt and, in 2006 and 2007, both countries were running small fiscal surpluses. In these two nations the problem was not government debt but rather an unsustainable accumulation of private sector debt that was owed to foreigners.

Gr5. GOVERNMENT PRIMARY BALANCE (In % of GDP)



Because of the relaxation of the external borrowing constraint in the aftermath of the adoption of the euro, Spain and Ireland, but also Greece and Portugal, experienced an unprecedented credit boom which has left a legacy of large private debt overhang.

Gr6. EURO ZONE: NON-FINANCIAL DEBT (In % of GDP)



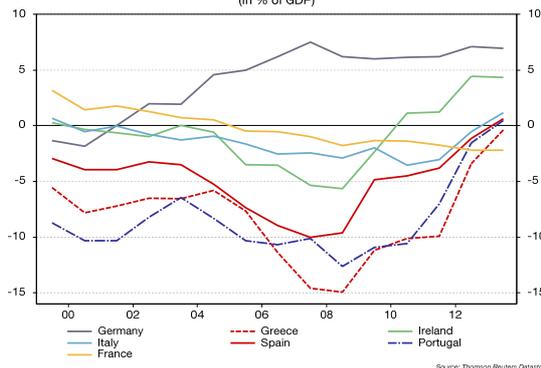
Whatever the origins of the debt crisis, however, the implications of the global financial crisis for crisis-ridden countries have been the same: the “sudden stop” of the large foreign private capital inflows has forced debtors (public and private alike) to endure excruciatingly painful spending cuts³. But debt reduction is a slow, long process, which takes years, if not decades.

³ Note that the overhang of debt is not the appanage of the euro-zone but rather plagues most advanced economies.

AUSTERITY ECONOMICS

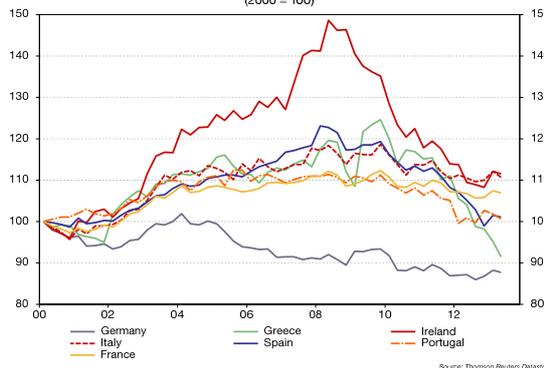
The standard policy prescription to buffer the effects of fiscal austerity is to devalue the currency (“external devaluation”), which renders exports more competitive (barring an inflation surge), leading to an increase in external demand that offsets at least in part the compression of domestic demand resulting from fiscal tightening. Devaluation in Europe’s south is additionally needed to reverse the large competitiveness losses vis-à-vis Germany and the other core countries, which had accumulated during the 2000s.

Gr7. CURRENT ACCOUNT BALANCES (In % of GDP)



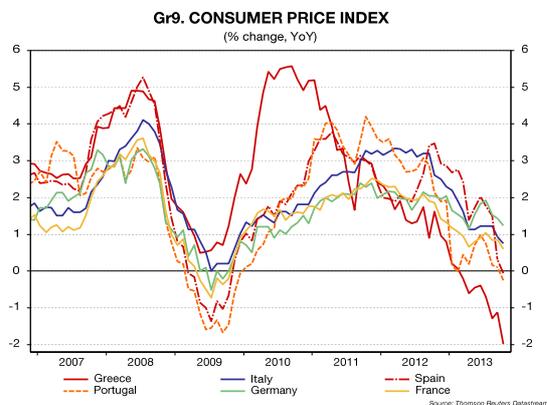
Currency devaluation, however, is not an option for the indebted euro zone countries, which must therefore resort to “internal devaluation” along with structural reform measures designed to boost productivity. Peripheral economies have to reduce nominal wages, pensions and other costs relative to the core, in order to achieve the competitiveness gains that are necessary both to correct external imbalances and to substitute external demand to internal demand. As shown in the chart below, unit labour costs have substantially receded from their peaks in most periphery countries (Italy excepted).

Gr8. REAL COMPETITIVENESS INDICATORS (2000 = 100)



The adjustment process has exerted substantial downward pressure on inflation. In October, the headline rate of inflation fell to 0.7% – well below the ECB’s official target of 2% – from 2.5% a year ago, while the annual core inflation slumped to 0.8%. In Greece, the inflation rate dipped into negative territory in April, and reached minus 1.1% in October. In other

peripheral countries however, the inflation rate is still positive – albeit low –, as the deflationary pressure stemming from wage reductions has been more than offset by the inflationary impact of changes in taxes and administered prices. Excluding food, energy and the effects of changes in taxes and administered prices, inflation in peripheral countries is close to zero.



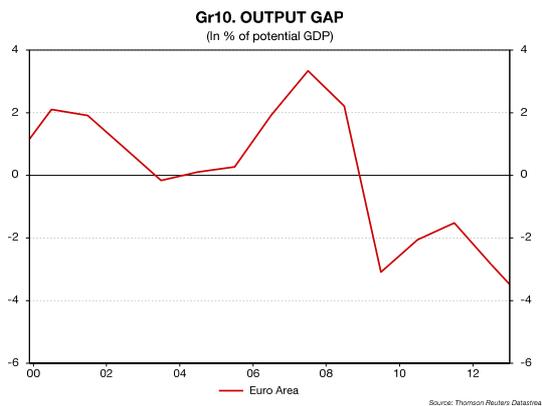
Crisis-ridden countries have, in fact, shown remarkable resolve in implementing budgetary consolidation measures. Fiscal deficits have been reduced, and some countries are now running primary budget surpluses (i.e. excluding interest payments from expenditure). Competitiveness positions in peripheral Europe have substantially improved, as wages have lagged productivity growth, thereby reducing unit labour costs. This has contributed to a sharp current-account rebalancing, and the external position of most peripheral countries is now back into balance, or even surplus. However, for all the progress made, the size of the internal devaluations that have so far been achieved in the south has fallen short of the adjustment required to foster a material economic recovery.

DEBT TRAP

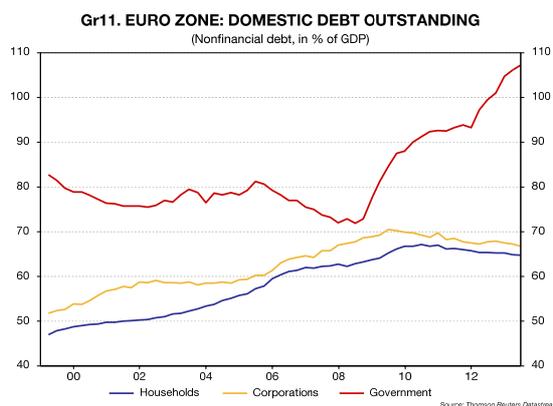
Still high unit labour costs in euro zone’s peripheral countries relative to the north, combined with a sharp contraction in aggregate demand have brought about depression-level declines in output and employment in these countries. As the deleveraging process and internal devaluations are not yet completed, the period of below-potential economic growth is set to continue. Richard Koo (2008)⁴ convincingly argued that one of the main lessons to learn from Japan’s “lost decade” is that balance-sheet distress matters a great deal. Japan has shown that recoveries from balance-sheet recessions are muted and take a long time, because businesses are more concerned with eliminating debt than with expanding investment. In this type of recession, the economy does not enter self-sustaining growth until private-sector balance sheets are repaid.

⁴ *The Holy Grail of Macroeconomics* (John Wiley, 2008).

The problem in crisis-ridden European countries is that persistent large output gaps could plunge these countries into a dangerous debt trap.



There is, in fact, a potential contradiction in the current European strategy: the decline in wages and costs which is necessary to improve competitiveness makes the problem of debt overhang worse⁵. This is because deflation reduces nominal income, while the value of inherited debt (both public and private) remains intact (absent a debt restructuring). Falling prices worsen the position of debtors, by increasing the real burden of their debts. Irving Fisher already made this point in his debt-deflation theory of great depressions (1933)⁶.

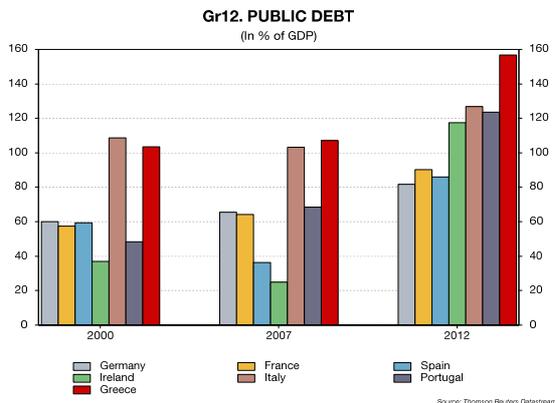


The more peripheral nations reduce wages and costs, the heavier their inherited debt becomes. And as the inherited debt burden becomes heavier, government spending must be cut further, depressing the economy even further. This, in turn, creates the need for more internal devaluations, which heighten the debt burden, in a vicious circle. The trouble is not just that deflation

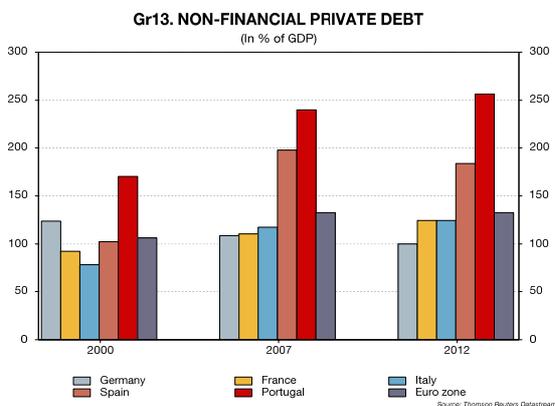
⁵ To circumvent this problem, some economists, such as Krugman, argue that inflation in the core countries should be higher to provide space for correcting intra-Euro-zone competitiveness imbalances without imposing to peripheral Europe deflationary policies which worsen the debt problem deflation. See Krugman (2012), “Internal devaluation, inflation, and the euro”, *New York Times*, 29 July.

⁶ Fisher, Irving, (1933), « The debt-deflation theory of great depressions », *Econometrica*, Vol. 1, n°. 4.

and outright recession drive up debt levels it is also that the debt overhang acts as a drag on the recovery⁷. The euro zone periphery seems to be caught in a circular debt trap.



The deflationary spiral, particularly in Greece and Spain, has led to a contraction in output which has been so severe that further spending cuts and tax increases have not reduced budget deficits and public debt relative to GDP. The public debt ratio in the euro zone has kept rising since 2008 to now stand at more than 100% (up from 70% in 2007), while the non financial private-sector debt ratio (households and non financial enterprises) remains stuck above 130% – virtually unchanged since the 2008 crisis. The overall situation in the euro zone contrasts to that in Germany, where private debt ratios have been falling since the early 2000s.



DEBT SUSTAINABILITY

The sustainability of the public debt dynamics requires that the primary fiscal balance (revenue less non-interest expenditure) offsets the so-called “snowball effect”, that is, the difference between the interest and

⁷ A public debt overhang acts is harmful for growth because it acts as an implicit tax on investment. See Eduardo Cavallo, Eduardo Fernandez-Arias, (2012), “Coping with financial crises: Latin American answers to European questions”, Vox, 17 October. Also see Carmen M. Reinhart, Vincent R. Reinhart, Kenneth S. Rogoff, (2012), “Debt overhangs: past and present”, NBER Working Paper N°. 18015, April.

the growth rate of nominal GDP. So, the trajectory of public debt to GDP going forward will depend critically on four variables:

- the primary fiscal deficit/surplus,
- the rate of inflation (GDP deflator),
- the rate of real GDP growth,
- the average interest rate on government debt.

Besides engineering a large primary surplus, on which so much attention has been focused so far, Europe would ideally have robust real GDP growth and low real (i.e. net of inflation) long-term interest rates.

As of today, despite substantial fiscal consolidation progress, the European peripheral countries have not been able to produce the primary surplus needed just to stabilise their public debt. And although most of European countries (excluding Greece) continue to exhibit a positive inflation rate, the level of inflation is not high enough to allow them to inflate their way out of their debt problems⁸. Most critically, the interest rate that the governments in peripheral countries pay to service their debt is well above the growth rate of these economies – a key factor behind the rise in the public debt to GDP ratio in these countries –, owing, in part, to the high sovereign risk premiums for these countries⁹. By contrast in Germany, the interest-growth differential is negligible, with a very low level of long-term interest rates (a result of the “safe haven” status of German public debt) comparable to the nominal GDP growth rate.



⁸ Note that higher inflation could ultimately prove counterproductive. Sooner or later, bond markets’ expectations will adjust and the cost of the new borrowing could rise. Nominal yields could even increase more than inflation (resulting in higher real interest rates) if investors request a larger premium in order to compensate for the risk of new inflation surprises.

⁹ Let’s note that Greece, Portugal and Ireland are not paying the market long-term interest rates since they have been shut out of the private capital market.

MONETARY POLICY IN A LIQUIDITY TRAP?

According to conventional wisdom among economists, the first line of defense against a downturn is monetary policy, that is, the ability of the central bank to cut its key policy interest rates¹⁰. Under normal circumstances, monetary policy impacts aggregate demand primarily through its effect on real interest rates, short and long¹¹. Lowering interest rates raises the amount of investment that businesses are willing to make, creates an incentive for businesses and consumers to borrow, and makes it cheaper for banks to borrow money, leading them to make more loans that, in turn, stimulate the economy.

CONVENTIONAL MONETARY POLICY BECOMES IMPOTENT IN A LIQUIDITY TRAP

However, there are circumstances where an expansionary monetary policy is ineffective at stimulating a depressed economy. That happened in the United States in the aftermath of the Great Depression of the 1930s and happened again in Japan after the bursting of its huge real-estate bubble in 1991 which left behind a legacy of high private-sector debt. Throughout the 1990s, the Bank of Japan eased monetary policy on several occasions and, by the end of the decade, short-term interest rates had been reduced all the way to zero. But there was no sign of a recovery, or of inflation. Economists refer to that situation as a “liquidity trap”¹².

¹⁰ The conventional monetary policy can potentially stimulate the economy through two types of channels: asset price channels (including interest rates, exchange rates and stock prices) and credit channels. The transmission of monetary policy through real asset prices (including the real exchange rate) depends on the ability of the central banks to influence real interest rates.

¹¹ Standard theories of the term structure of interest rates suggest that longer-term interest rates are determined mainly by current short-term rates and by market expectations of future short-term rates (plus a risk premium). Central banks largely control short-term rates by setting a target for the overnight rate, and market expectations of how central banks will set future targets for the overnight rate should determine the expected path of future short-term rates. In this framework, current and expected future policy actions play a key role in the determination of longer-term rates.

¹² The notion of a liquidity trap was conspicuous in economic research in the wake of the Great Depression but then gradually receded into the background until it came to the fore again in the economic literature under the impetus of the Japanese “lost decade”. The issue of a liquidity trap has been resurrected by Nobel prize winner Paul Krugman. See notably Paul Krugman (1998), “It’s baaack: Japan’s slump and the return of the liquidity trap”, *Brookings Papers on Economic Activity*, 2, pp. 137-205. Also see Gaulti B., Eggertsson and Michael Woodford (2003), “The zero bound on interest rates and optimal monetary policy”, *Brookings Papers on Economic Activity*, 1, pp. 139-233, and Ben S. Bernanke, Vincent R. Reinhart, and Brian P. Sack (2004),

In a liquidity trap, conventional open-market operations (purchases of short-term government debt by the central bank) have lost traction on the real economy, because nominal short-term interest rates are zero or close to zero. In that situation economic agents become virtually indifferent between holding money and holding bonds¹³. So their demand for liquidity becomes virtually endless and therefore, any money injection chiefly results in a reduction of money circulation velocity. When an economy is in a liquidity trap, money printed just gets hoarded, and bank credit does not expand, as banks hold excess reserves instead of extending loans. As John Maynard Keynes put it, monetary policy seems then to be “pushing on a string”¹⁴.



The problem is that even though policy rates are at zero, the real (short) interest rate is too high. The nominal interest rates that conventional monetary policy would imply is negative (as implied by the Taylor rule¹⁵), but nominal interest rates cannot ordinarily be negative, as no one would lend at a negative rate.

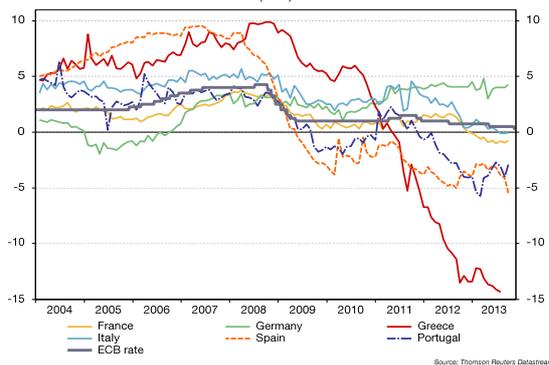
“Monetary policy alternatives at the zero bound: an empirical assessment”, *FEDS Working Paper*, September. In more recent years, this notion has received increasing attention both from the academic community and the central banks, as policy rates in main developed economies have been brought down to zero or close to zero. See Paul Krugman (2010), “How much of the world is in a liquidity trap?”, *New York Times*, March 17.

¹³ Under “normal” circumstances, economic agents make a trade-off between yield and liquidity. They hold money—on which they do not earn interest—for its liquidity, but their holdings of money is limited by the opportunity cost of lost interest earnings. However, when short-term interest rates are zero there is no cost to liquidity and, consequently, people hold money as a store of value.

¹⁴ Keynes, John M (1936), *The General Theory of Employment, Interest and Money*, Macmillan.

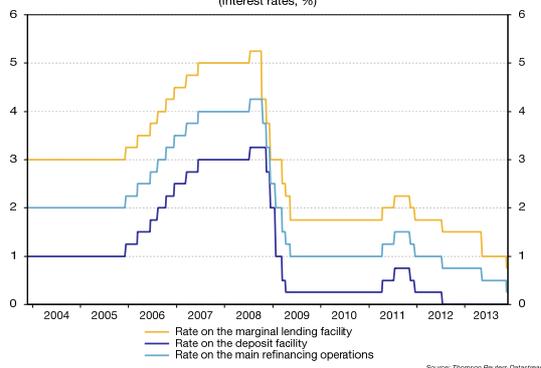
¹⁵ The Taylor rule (named after John B. Taylor who was the first to describe these mechanisms) relates the nominal policy interest rate to 1) the gap between actual inflation and the inflation target, 2) the output gap, and 3) the purely random residual from the equation (called “economic policy shock”).

Gr16. TAYLOR-RULE IMPLIED INTEREST RATES (In %)



An economy finds itself in a liquidity trap if effective demand consistently falls short of productive capacity despite essentially zero short-term nominal interest rates. In the euro zone today, official policy rates are effectively more or less at their zero floors¹⁶. The interest rate on the Eurosystem’s main refinancing operation was cut to a record low of 0.25% on November 7. The rate at which the Eurosystem remunerates liquidity placed on its deposit facility is zero. And the rate at which banks borrow from the ECB through its regular lending facility was cut by 25 basis points to 0.75%. The overnight interest rate (as measured by the Eonia) is virtually at zero (0.092% on November 1st).

Gr17. HOW LOW CAN YOU GO? (Interest rates, %)



Yet the euro zone economy continues to operate well below capacity. The European Commission (EC), the OECD and the IMF all share the view that the size of the output gap (the extent to which actual output differs from potential output) in the euro zone is quite substantial, lying somewhere between -2.9% of GDP (for the EC) to -3.8% (for the OECD) in 2013¹⁷.

¹⁶ The ECB sets three key policy rates: the rates for the deposit facility, the main refinancing operations and the marginal lending facility. These rates constitute the corridor in which the Eonia (the overnight rate at which banks lend to one another) fluctuates.

¹⁷ While the output gap (which is an indicator of the extent to which an economy can grow without inducing inflationary pressures) is an important concept in economics, the methods for estimating its size are not always agreed upon. As a result, output gap estimates are fraught with uncertainty.

OUTPUT GAP (As % of potential GDP)

	2009	2010	2011	2012	2013
France	-2.7	-2.0	-1.1	-2.1	-2.9
Germany	-4.0	-1.2	0.8	0.0	-1.0
Ireland	-4.4	-4.8	-2.5	-1.3	-0.9
Italy	-3.6	-1.8	-1.5	-3.2	-4.5
Portugal	-2.7	-0.9	-1.8	-3.6	-4.6
Spain	-4.2	-4.7	-4.4	-5.1	-5.2
Greece	-1.2	-4.7	-9.1	-12.2	-12.8

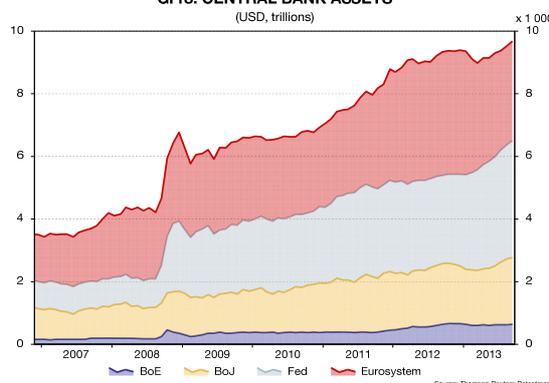
Source: European Commission, Autumn 2013

So, there is a case to be made that the zero lower bound may indeed be a binding constraint on the ECB’s interest rate setting today.

TURNING TO UNCONVENTIONAL POLICIES

Japan has provided an example of how a developed economy caught in a liquidity trap tends not to self-correct with positive aggregate demand shocks from the private sector. Japan entered a liquidity trap in the mid-1990s and has since then experienced decades of deflation and output persistently below potential. Once in a liquidity trap, an economy is thought to require expansionary fiscal policy (i.e. some positive aggregate demand shock from the government)¹⁸ and/or unconventional monetary policy.

Gr18. CENTRAL BANK ASSETS (USD, trillions)

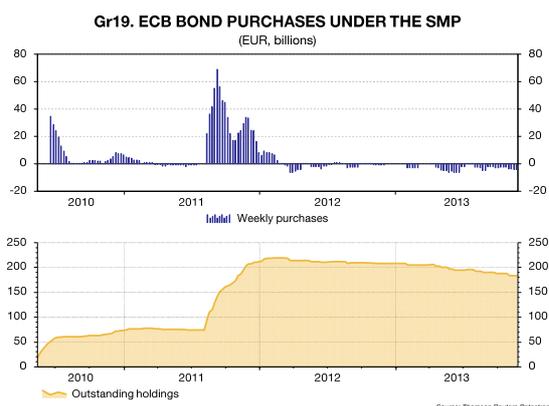


With the difficulties of policy coordination excluding fiscal stimulus in the euro zone as a whole, this puts the whole burden on monetary policy. The ECB (like all of the other major central banks) has made extensive use of unconventional monetary policy measures in addition to reducing its key rates to almost zero. Unconventional monetary policy measures have been aimed at both restoring the functioning of financial

¹⁸ For discussion and references, see J. Bradford Delong and Lawrence H. Summers (2012), “Fiscal policy in a depressed economy”, *Brookings Papers on Economic Activity*, Spring. Fiscal policy, however, can fail to stimulate aggregate demand if there is Ricardian equivalence, so that tax cuts financed by new issues of government debt have no effect on private consumption (debt being just deferred taxes). It may also be the case that the government cannot borrow because of poor creditworthiness.

intermediation following the outbreak of the global credit crisis and providing monetary stimulus to the economy once the zero lower bound has been hit.

The more common form of unconventional monetary policy across the developed world has been the creation of money to buy assets – a strategy that has come to be known as “quantitative easing”. With short-term rates at zero, main central banks have tried to boost the economy by expanding their portfolios, buying long-term government debt, bonds backed by home mortgages and so on, in an effort to drive down the interest rates on these assets and push up the price of riskier assets (through portfolio effects). Central banks have also adopted “enhanced forward guidance” in which they signal that short-term rates will stay low for a long period of time. The ECB, however, given the much greater reliance of the euro zone on bank-finance (as opposed to market-finance)¹⁹, has mostly relied upon huge injections of cheap loans into the banking system. Compared to other central banks the ECB’s outright purchases of private and government assets have been limited in scope²⁰.



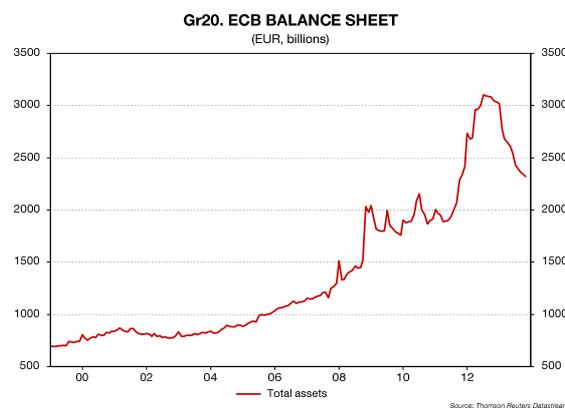
The supply of liquidity to banks in the euro zone has been carried out through increasingly enhanced repurchasing operations, including the introduction of a fixed-rate full allotment tender procedure to grant unlimited access to central bank liquidity at the main refinancing rate (subject to adequate collateral)²¹, the

¹⁹ In the euro-zone, about 75% of financial intermediation goes through the banking system while in the United States 75% of credit is intermediated by capital markets.

²⁰ In 2012, the ECB’s Covered Bond Purchase Program (CBPP) along with the Securities Markets programme (SMP), which was launched in May 2010 in response to the heightening of the euro zone sovereign debt crisis, amounted to only 3% of GDP.

²¹ With banks’ demand for liquidity at the fixed-rate tender determining the amount of new liquidity created, the ECB’s policy has been characterised as “endogenous credit easing” (rather than “quantitative easing”) by Lorenzo Bini Smaghi. See Lorenzo Bini Smaghi (2009), “Conventional and unconventional monetary policy”, Keynote lecture at the International Centre for Monetary and Banking Studies (ICMB), Geneva, 28 April.

extension of the maturity of liquidity provision²², and the expansion of the list of eligible collateral. The ECB used its “Big Bazooka” in December 2011 and March 2012 when it conducted two three-year longer-term refinancing operations (LTROs) to lend massive amounts (more than 1 trillion euro) to banks of peripheral states, which had effectively been cut off from the inter-bank market. This led to a sharp increase in the ECB’s balance sheet which surged to about 3 trillion euro. Since the end of the summer 2012, however, the ECB’s balance sheet has significantly shrunk, as banks have been repaying LTRO loans at a rapid clip²³. The ECB has flagged the possibility of more three-year LTROs in 2014, but no decision has been taken to date.



The ECB’s highly expansionary monetary policy has largely succeeded at countering financial instability and reducing pressure on bank debt and government bonds markets²⁴. The central bank’s huge injections of cash into troubled banks in the periphery has stabilized the financial system, reduced tail risks and helped distressed euro zone countries raise financing, contributing to ease the sovereign debt crisis. In September 2012, the (sole) announcement of the ECB’s OMT program of potentially unlimited government bond purchases was very effective in calming down financial markets paving the way for the return of much-needed capital flows to crisis-hit countries which contributed to a marked decline in borrowing costs for governments and companies alike.

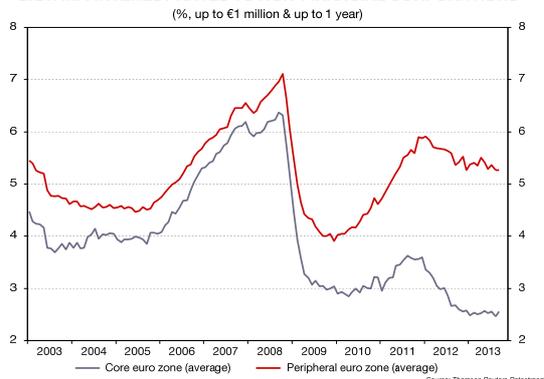
²² The Eurosystem progressively enlarged its longer-term operations (liquidity provided for three-months and six-months): three one-year long-term operations were conducted in 2009 (in June, October and December) followed by two three-year longer-term operations in December 2011 and March 2012.

²³ Note that other factors, such as the decline in the value of gold reserves (without monetary consequences), have contributed to the decline in the size of the ECB’s balance sheet.

²⁴ See Ursula Szczerbowicz (2012), “The ECB unconventional monetary policies: have they lowered market borrowing costs for banks and governments?”, CEPII Working Paper, N°2012-36, December.

High risk premiums on public debt and private-sector debt in the euro zone, however, have ensured that borrowing costs have remained at elevated levels in peripheral countries.

Gr21. MFI INTEREST RATES TO NON-FINANCIAL CORPORATIONS

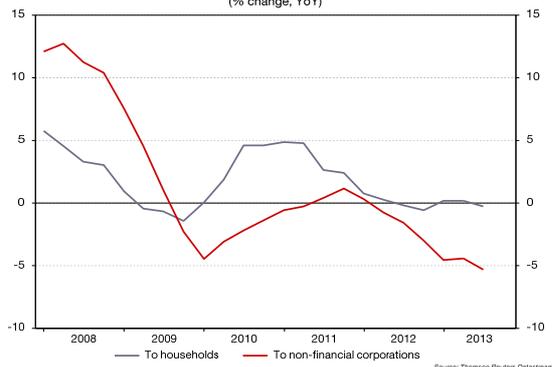


Moreover, hugely accommodative monetary policy has so far failed to raise bank lending availability in peripheral countries, due to persistent credit markets' fragmentation along national borders.

CREDIT CRUNCH IN THE PERIPHERY

Despite the ECB's ultra-low rates and aggressive liquidity provision, the euro zone's more troubled areas are experiencing a worsening credit crunch. In October 2013, euro zone bank loans to the private sector fell by 2.1%, after shrinking by 2% in September. Household loan growth remained sluggish at +0.1%, while loans to non-financial corporations continued to accelerate their drop (-3.7% after -3.6% in September). In Greece, Spain and Italy, bank credit to the private sector continued to dip deeper into negative territory.

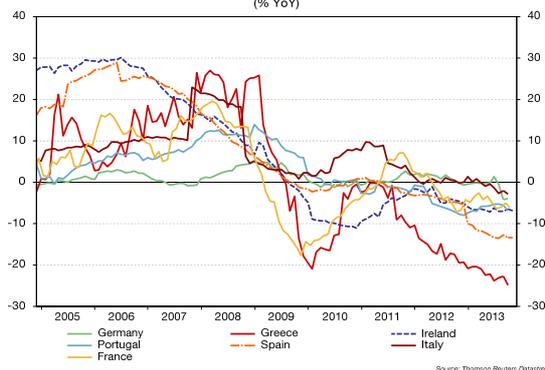
Gr22. EZ: CREDIT TO THE PRIVATE NON-FINANCIAL SECTOR



Crippling credit conditions in much of southern Europe is a result of both a lack of demand for borrowing, reflecting the endeavours of the private sector to cut its debt, and an underlying supply constraint on credit availability owing to a combination of increased regulatory requirements under Basel III, shortage of bank capital and financial sector deleveraging. With the economy weakening and the risk of defaults increasing, banks are reluctant to lend on concerns they may take on more credit risks. And weakly capitalised banks are

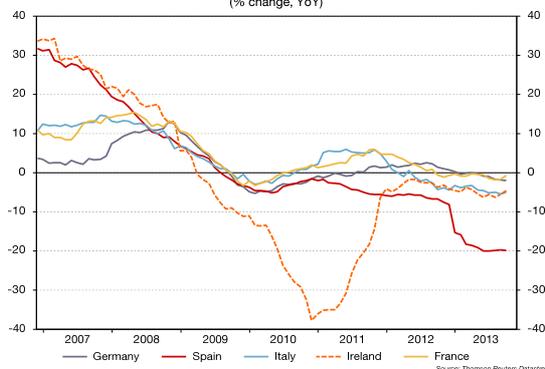
being forced to cut back on their lending in order to increase their capital ratios.

Gr23. CREDIT TO THE PRIVATE NON-FINANCIAL SECTOR



Critically, the ECB's flood of liquidity has failed to halt the financial fragmentation of the euro zone, which has resulted in important differences in credit conditions across the member countries, especially between the troubled peripheral countries and the large core countries (Germany, France). Banks in southern countries are charging companies and households much more for loans than their peers in the core, owing not only to a higher cost of risk (due to deeper recession, so weaker corporate balance sheets), but also to higher borrowing costs for banks in peripheral countries relative to core countries.

Gr24. CREDIT TO NON-FINANCIAL CORPORATIONS

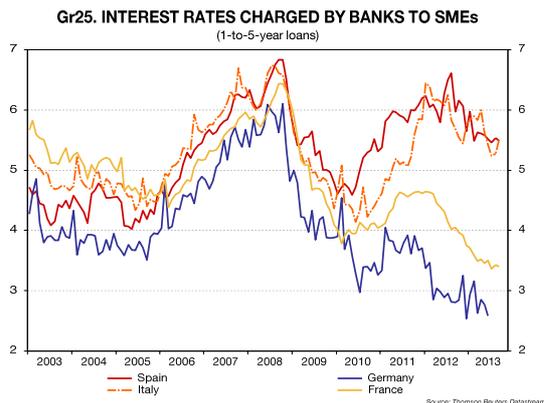


Small businesses have been more heavily impacted than large businesses, as the latter have increasingly been funding themselves directly through the capital markets ("disintermediation"). As the ECB's bank lending survey shows, small- and medium-sized enterprises (SMEs), which form the backbone of the euro zone's economy²⁵, continue to struggle to get bank lending in peripheral countries. Despite the ECB's virtually zero intervention rates, SMEs in Italy and Spain must pay over 5% to borrow, while the rates charged

²⁵ Small- and medium-sized businesses account for three-fourths of the employment and generate about 60% of total value added in the euro-zone. The respective percentages are 85% and 70% in Greece, 80% and 68% in Italy, 78% and 68% in Portugal and 76% and 66% in Spain (source: ECB).

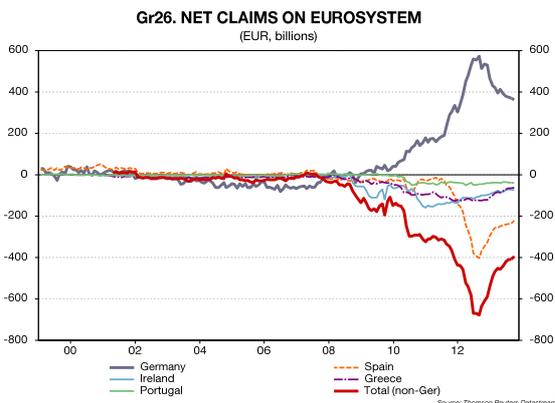
by banks to equally risky competitors in Germany and France are near record lows.

So, low policy rates are not being passed on by banks to SMEs in euro zone peripheral countries. While the ECB's injections of record amounts of cash has mainly been aimed at restoring the credit channel of monetary policy – by substituting the lack of market funding with the official funding – the credit squeeze in the euro zone is getting worse, with the SMEs in stressed economies being the worst hit, partly because of weaknesses in both bank and corporate balance sheets.

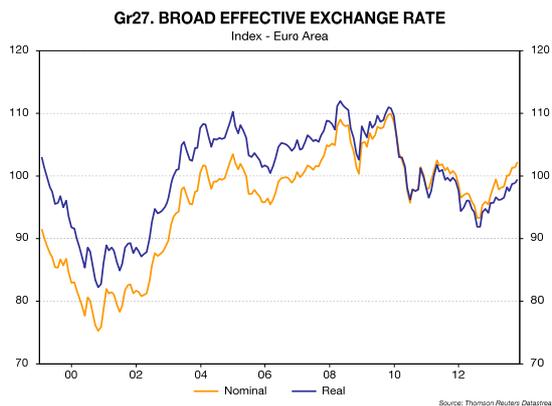


EXCESS LIQUIDITY

As is characteristic of a liquidity trap, financial institutions have been hoarding cash. Aggressive injections of liquidity by the ECB have just led to a build-up of excess reserves in euro zone banks which either have reinvested the monies back in the ECB, or have not withdrawn their excess reserves with the central bank. Revealingly, the distribution of excess reserves in the euro zone system is highly heterogeneous, with the bulk of excess reserves at the ECB held by banks in core countries.



Last but not least, the exchange rate channel of monetary transmission seems to be impaired too, as major central banks around the world are printing money to support their economies. The trouble, however, is that all nations cannot devalue their currencies at the same time.



APPARENT MONETARY POLICY'S INEFFECTIVENESS IN STIMULATING DEMAND

In total, despite virtually zero short-term nominal interest rates and huge injections of liquidity, the euro zone's economy is producing well below its productive capacity. Although the outlook for economic activity has improved somewhat in recent months, we expect only sub-trend growth in 2014 and 2015 at the euro zone-wide level. So, a large degree of slack will likely persist in European economies for the foreseeable future, except in Germany, where the output gap appears already nearly closed.

The most immediate problem facing the euro zone as a whole is one of inadequate demand, which can be the result of the ongoing fiscal withdrawal in most countries but could also be indicative of a liquidity trap, in which monetary policy becomes impotent at the zero lower bound on nominal interest rates. Because the private sector simply holds on to the cash, supplying enormous amounts of money is not enough to stimulate additional spending. As shown in Krugman (2010)²⁶, a large deleveraging shock can easily push an economy into a liquidity trap. When the economy is grappling with the need to massively deleverage even a zero interest rate may not be low enough to induce economic agents to spend or borrow more.

The troubles in some parts of the European banking system, combined with the tightening of prudential norms add to difficulties, as the need for banks to deleverage leads to credit rationing, which impedes investment. A compounding factor is the fragmentation of euro zone financial markets. The wide disparity in lending interest rates between different countries in the euro zone has resulted in a shortage of credit in peripheral Europe, which remains a major obstacle to growth in these economies.

So, despite unprecedented loosening, monetary policy remains, overall, restrictive from the point of view of the

²⁶ See Paul Krugman (2010), "Debt, deleveraging, and the liquidity trap", *New York Times*, 18 November.

real economy, especially in peripheral countries. It may be the case, though, that the ECB's heterodox monetary stimulus has not yet been comprehensive enough or forceful enough to overcome the zero bound on interest rate.

TOWARDS MORE CHALLENGING FORMS OF MONETARY EASING?

To overcome the zero bound on nominal interest rates, some economists have proposed more provocative forms of monetary easing. There is a growing body of literature analysing imaginative schemes for achieving monetary stimulus in a liquidity trap. Recent research proposals have focused on two possible strategies to dissuade cash hoarding and boost spending: 1) raising inflation targets to increase inflation expectations, and 2) taxing currency.

RAISING INFLATION TARGETS

This kind of out-of-the-box policy thinking has appealed to the Bank of Japan (BoJ) which has recently embarked on a new phase of aggressive monetary easing. In an attempt to pull Japan out of nearly 15 years of entrenched deflation and achieve a 2 percent inflation in about two years, the BoJ raised its inflation target from 1 percent to 2 percent in January. And, in April, it announced a radical overhaul of its policy framework, with a promise to double Japan's monetary base over two years by increasing purchases of government debt (the maturity of which will increase from an average of about three to seven years).

Krugman has been one of the most prominent advocates of inflation targeting in the hopes of reversing cash-hoarding in the economy²⁷. The transmission of monetary policy to the real economy depends on the ability of the central bank to influence real interest rates. If short-term nominal interest rates cannot be lowered further, a rise in the expected rate of inflation is the only way to bring down real interest rates. Inflation expectations, however, are not a policy instrument. To raise inflation expectations, the central

²⁷ See Paul See Krugman (1998), "Japan's trap", May, web.mit.edu/krugman/www/jpage.html. Further references are Krugman (1998), "Further notes on Japan's liquidity trap", memo, June. See also, for example, Bennett T. McCallum (2001), "Inflation targeting and the liquidity trap", NBER Working Paper 8225, April. To raise inflation expectations in an open economy such as Japan, Svensson advocates a price-level target path, currency depreciation and a commitment to an exchange-rate peg and a zero interest rate until the price-level target has been reached. See Svensson, L. (2001), "The zero lower bound in an open economy: a foolproof way of escaping from a liquidity trap", Bank of Japan, *Monetary and Economic Studies*, 19 (S-1), February, pp. 277-312. See also Svensson, L. (2003), "Escaping from a liquidity trap and deflation: the foolproof way and others", *Journal of Economic Perspectives*, 17(4) Fall, pp. 145-166.

bank can increase its inflation target. But a higher inflation target will lead to the inflationary expectations that the economy needs only if the public believes in the higher inflation target.

To persuade consumers and markets that inflation will return, Krugman makes the case that the central bank should credibly promise permanent changes in the monetary base, as opposed to temporary changes. Once the public truly gets the message that the central bank will maintain steady monetary expansion, even as the economy begins to recover, and permit a sustained increase in short-run inflation (that is, that it will engage in what would in other contexts be regarded as irresponsible monetary policy), forward-looking agents will start acting on the promise of an inflationary environment with negative real interest rates, hence boosting their spending and lifting the economy.

But will it work? Inflation targeting has usually been adopted by countries seeking to reduce inflation²⁸. So, for a central bank which has built a reputation for consistent low-inflation policy, it might be difficult to convince the private sector that it now wants sustained higher inflation. Current central bank orthodoxy is to aim for a 2 percent target inflation rate²⁹. Krugman, however, as well as other prominent economists, such as Blanchard et al. (2010), advocate a higher inflation target – typically, 4 percent – to overcome the zero lower bound³⁰. The problem is that many central bankers are strongly averse to adopting an inflation target of 4%, for fear that it would undermine the credibility of the hard-won emphasis on 2% inflation as the long-run anchor³¹. In particular, they fear that such a policy will result in an immediate increase in nominal interest rates, without decline in real rates.

²⁸ There are only a few examples of countries that have tried to increase prices using an inflation-targeting regime. Sweden in the 1930s pioneered inflation targeting to raise inflation. New Zealand in 1990 is another well-known case.

²⁹ Besides the BoJ, which has a 2 percent inflation target, Bernanke has a 2% inflation target and the ECB's inflation-rate target is below, but close to, 2 percent.

³⁰ See Krugman, Paul (2012), *End This Depression Now!* W. W. Norton & Company ed., April, and Blanchard, Olivier, Giovanni Dell'Ariccia and Paolo Mauro (2010), "Rethinking macroeconomic policy", IMF Staff Position Note SPN/10/03. See also Ball, Laurence (2013), "The case for 4% inflation", *Vox*, 24 May.

³¹ As Bernanke (2010) put it: "The Fed, over a long period of time, has established a great deal of credibility in terms of keeping inflation low, around 2%. If we were to go to 4% and say we're going to 4%, we would risk a lot of that hard-won credibility, because folks would say, well, if we go to 4%, why not go to 6%? It'd be very difficult to tie down expectations at 4%". See Bernanke, Ben S (2010), "Testimony before the Joint Economic Committee of Congress, 14 April.

TAXING CURRENCY

In recent months, the idea of negative nominal interest rates has attracted attention, with the ECB, in particular, showing openness to a negative interest rate at its deposit facility, which would be equivalent to a tax on banks' excess reserves at the central bank³². Going into negative interest territory is an old idea, originally proposed by the German economist Silvio Gesell in the late 19th century³³.

Gesell proposed a system of “stamped” money with the application of a so-called “demurrage charge”, which is a tax for not circulating the currency. He reasoned that if money lost its value – in other words, bore a negative interest rate – it would lose its attraction as a store of value and would thus circulate faster, thereby boosting spending. John Maynard Keynes rendered abundant homage to Gesell's idea of taxing money, which he considered as a means of escape from a liquidity trap, although he casted doubt on its practical relevance, due to administrative difficulties. Silvio Gesell's system of stamped money has been extensively applied in parallel local currency schemes over the past century (see Box 1), and has lately been taken up by prominent economists³⁴ as a way to remove the “zero lower bound” on nominal interest rates.

While there are practical difficulties to paying negative nominal interest rates on coins or other securities negotiable without endorsement, such as bearer bonds, cutting rates below zero on the non-bearer bond part of the monetary base (that is, banks' balances with the central bank) does not pose any technical problems. Here, interest payments just

³² At the end of 2012, Mario Draghi said that the ECB was operationally ready to cut deposit rates into negative territory. In May, asked in a press conference if the deposit rate might go below its current level of zero, he replied: “We will look at this with an open mind”.

³³ See Silvio Gesell, “The Natural Economic Order: a Plan to Secure an Uninterrupted Exchange of the Products of Labour”, 1911, Trans. Philip Pye. Berlin: Neo-Verlag. Irving Fisher was so enthusiastic of his ideas that he proposed the system to President Roosevelt in the context of the Great Depression. He wrote an entire book on the subject (see Fisher, I. and Fisher, H. (1934), “Mastering the crisis (with additional chapters on stamp scrip)”, George Allen & Unwin Ltd, London).

³⁴ See Willem Buiter and N. Panigirtzoglou (1999), “Liquidity traps: how to avoid them and how to escape them”, NBER Working Paper, W7245, Willem Buiter (2005), “Overcoming the zero bound on nominal interest rates: Gesell's currency carry tax vs Eisler's parallel virtual currency”, Discussion Paper 96, Hitotsubashi University Research Unit for Statistical Analysis in Social Sciences, and Willem Buiter (2009), “The wonderful world of negative nominal interest rates, again”, Vox, 4 June. See also Gregory Mankiw (2009), “It may be time for the Fed to go negative”, in: New York Times, April 18.

involve book-keeping transactions between known parties. The rationale behind implementing negative interest rates on banks' reserves (meaning that the central bank charges banks to hold their money) is that it provides banks with a disincentive to hoard cash at the central bank, thereby encouraging them to lend out more of their funds to consumers and businesses.

Whether a negative deposit rate would be effective monetary stimulus in the euro zone remains, however, an open question. By raising the opportunity cost of holding excess reserves, this would probably reduce the demand for base money of banks in core Europe (which hold most of the excess deposits in the euro zone), but this would also mean extra pressure on bank profitability, with the possible unintended consequence of actually lowering bank lending. Other possible unintended consequences of such a measure could include: i) encouraging euro zone's core banks to buy their own government's paper, with the risk of creating a bond bubble in these markets, or pushing German banks to become too generous with mortgages, with the risk again to feed a bubble in this market, while failing to reduce financial fragmentation and promote credit in peripheral countries; ii) leading to the closure of many money market funds (UCITS), which would then make it difficult to recreate an active and dynamic money market.

There are recent precedents of negative deposit rates in Europe. In July 2009, the Swedish central bank set its overnight deposit rate at -0.25%, but the experience lasted for just over a year. In July 2012, Denmark's central bank introduced a negative deposit rate, but that was to fight an appreciation of the krone, not to stimulate the economy. In practice, there are very few examples of central banks cutting interest rates below zero, partly because charging depositors rather than borrowers inverts the usual order of things.

BACK TO THE ZERO BOUND PROBLEM

In total, there are “things” that a more active central bank can do to try to stimulate bank lending and economic growth once the zero lower bound has been hit, but these moves are experimental, perceived as risky and, consequently, not being used to full potential.

In the euro zone, an additional constraint on monetary policy stems from the fact that unconventional monetary policy measures often interact with fiscal policy, and therefore may ultimately result in transfers from one country to another which, in the absence of a fiscal union, are difficult to implement. The fragmentation of financial markets is another big barrier to the effectiveness of monetary policy transmission that is specific to the euro zone. Because of the euro

zone's unique structure – a single currency without a fiscal or a banking union – the challenges facing monetary policy in Europe are not strictly comparable to those faced by other advanced economies.

But in all developed countries (in the euro zone and elsewhere), the established economic conventional

wisdom tends to thwart the full use of the unorthodox monetary policy tools. As a consequence, the zero lower bound on nominal interest rates is, in practice, a major constraint on policy.

BOX 1 – SILVIO GESELL'S THEORY OF "FREE-FLOWING MONEY" AND PARALLEL CURRENCIES

The idea of taxing money was pioneered by Silvio Gesell (1862-1930), an economist born in Germany, who worked as a successful businessman in Argentina. Gesell was concerned that during times of financial stress, people hoard money rather than spend it. To dissuade hoarding and boost spending, he argued that, just like other stocks of barren goods, money should have a carrying cost (a so-called "demurrage charge" or "negative interest"). He proposed a system of "stamped" money which attaches a maintenance cost to monetary wealth, ensuring that money "goes bad" – at a rate determined by the value of the stamps required to keep the currency valid – just like any physical commodity. Even if Gesell's proposal of taxing money has never been adopted at a national level, there have been, over the past century, many local demurrage-based currency schemes instigated by his theory of free-flowing money. These have been used with remarkable success in a variety of cultures and historical settings. So far, all of these schemes have operated in parallel with the conventional money system (usually referred to as national or fiat money).

In the 1930s, following the Crash of 1929, there was a major burst of "parallel" (or, "alternative") currency devices. The most famous example of demurrage-based currency was the Wörgl scrip printed in Wörgl (a small town in Austria). The "miracle of Wörgl" started on the 31st July of 1933, when the mayor of Wörgl issued stamp scrip called a "Ticket for Services Rendered". These Tickets (or Wörgl scrip) were redeemable on demand for the legal tender (or official currency) but at a cost (a 2% fee was to be paid if converted back) and there was a monthly demurrage (depreciation) of 1%. The introduction of the Wörgl paved the way for a sharp recovery in economic activity throughout the town. And within a few months unemployment fell spectacularly and six neighbouring villages copied the system. But on the 1st September of 1933, after a meeting of 200 mayors of other Austrian towns voted unanimously to adopt the Wörgl's system, the Austrian National Bank ordered the Wörgl's town council to close the scheme down, arguing that it would fuel inflation. Within a few months of the Wörgl's ban the town returned to 30% unemployment as the local economy relapsed into depression.

Since the end of the 2000s, heightened economic woes in the developed world have led to a strong spike of interest in these alternative currency devices. In crisis stricken euro zone, parallel currencies – which are perfectly legal, so long as income tax is paid – have proliferated. Germany holds a record for alternative currency in circulation, with the Chiemgauer, its leading alternative currency, being used in Southern Bavaria by more than 3,000 people including more than 600 businesses. The Chiemgauer is convertible into the euro, but a currency exchange tax of 5 or 10% is charged. The Chiemgauer is only valid for three months. If the notes aren't spent, they can be renewed by buying a stamp that costs 2% of the note's face value – so, over a year, the currency automatically loses 8% of its value. To avoid the payment of this fee, participants spend the notes as quickly as possible. It is estimated that the Chiemgauer is exchanged three times faster than the euro. The device, which has brought on board local cooperative banks and credit organisations, has turned into the world's most successful alternative currency, achieving a turnover of more than 5 million per year and an annual growth rate of 100%.

Typically, parallel currencies originate not in banks or central governments but in the community of its members (individuals, businesses, communities). But the most recent family of these monetary innovations has been directly related to local authorities. Many local authorities acknowledge the useful role that parallel currencies can play in the context of social support or in relocating economic activities and providing income opportunities to people at the lower end of the socio-economic spectrum.

Although parallel currencies have shown dramatic expansion over the past decade or so, their economic significance in turnover terms remains marginal. This is largely due to the lack of built-in dynamic in these systems to expand beyond the action of the community of their members. The fact that alternative currency devices have remained small and local explains, to a large extent, why central governments have not become overtly concerned about these schemes unlike what happened in the 1930s.

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ECONOMIC STUDIES CONTACTS

Olivier GARNIER

Group Chief Economist
+33 1 42 14 88 16
olivier.garnier@socgen.com

Olivier de BOYSSON

Emerging Markets Chief Economist
+33 1 42 14 41 46
olivier.de-boysson@socgen.com

Marie-Hélène DUPRAT

Senior Advisor to the Chief Economist
+33 1 42 14 16 04
marie-helene.duprat@socgen.com

Ariel EMIRIAN

Macroeconomic & Country Risk Analysis /
CEI Country
+33 1 42 13 08 49
ariel.emirian@socgen.com

Benoît HEITZ

Macroeconomic & Country Risk Analysis /
Euro zone and Europe
+33 1 58 98 74 26
benoit.heitz@socgen.com

Clémentine GALLÈS

Macro-sectorial Analysis / United States
+33 1 57 29 57 75
clementine.galles@socgen.com

Françoise BLAREZ

Macro-sectorial Analysis
+33 1 58 98 82 18
francoise.blarez@socgen.com

Constance BOUBLIL

Central & South-eastern Europe
+33 1 42 13 08 29
constance.boublil@socgen.com

Marc-Antoine COLLARD

Gulf States, Latin America, Commodities
+33 1 57 29 62 28
marc-antoine.collard@socgen.com

Marc FRISO

Euro zone, Northern Europe & Sub-Saharan
Africa
+33 1 42 14 74 49
marc.friso@socgen.com

Régis GALLAND

Middle East, North Africa & Central Asia
+33 1 58 98 72 37
regis.galland@socgen.com

Clément GILLET

Southern Europe
+33 1 42 14 31 43
clement.gillet@socgen.com

Emmanuel PERRAY

Macro-sectorial analysis
+33 1 42 14 09 95
emmanuel.perray@socgen.com

Sofia RAGHAI

Macro-sectorial analysis
+33 1 42 14 30 54
sofia.raghai@socgen.com

Sopanha SA

Asia
+33 1 58 98 76 31
sopanha.sa@socgen.com

Isabelle AIT EL HOCINE

Assistant
+33 1 42 14 55 56
isabelle.ait-el-hocine@socgen.com

Valérie TOSCAS

Assistant
+33 1 42 13 18 88
valerie.toscas@socgen.com

Sigrid MILLEREUX-BEZIAUD

Information specialist
+33 1 42 14 46 45
sigrid.millereux-beziaud@socgen.com

Tiphaine CAPPE de BAILLON

Statistic studies & Publishing
+33 1 42 14 00 25
tiphaine.cappe-de-baillon@socgen.com

Société Générale | Economic studies | 75886 PARIS CEDEX 18
<http://www.societegenerale.com/en/Our-businesses/economic-studies>
Tel: +33 1 42 14 55 56 – Tel: +33 1 42 13 18 88 – Fax: +33 1 42 14 83 29

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