“3-year LTROs – the first assessment of a non-standard policy measure”

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3-year LTROs – the first assessment of a non-standard policy measure

Abstract

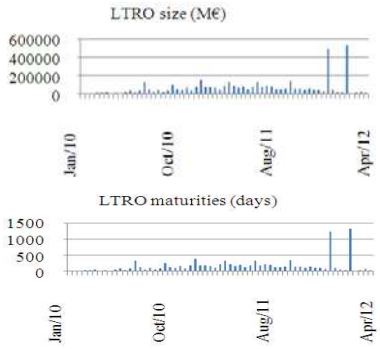
This paper provides a first preliminary assessment of the recent two 3-year long-term refinancing operations (3Y LTROs) conducted by the ECB by putting them into a broader context. For this purpose, this paper looks first at the risk of losses for the ECB, tries to assess inflation dangers stemming from the 3Y LTROs. The same section also looks at the effects of LTROs on real activity and government bond yields and on further impacts which might well consist of distorting the interbank and the capital market in the euro area. We then investigate potential side-effects of the LTROs such as the effects on the real economy and on sovereign bond yields via the so-called Sarko trade and the increasing dependence of national banks in the euro area on ECB funding.

Keywords: European Central Bank, inflation, interbank market, long-term refinancing operations, monetary transmission mechanism, Sarko trade, sovereign bond yields.
JEL Classification: E52, E58.

Introduction

On December 8, 2011, the Governing Council of the ECB decided on unprecedented nonstandard policy measures. The measures aimed mainly at a stabilization of the interbank market and easing the funding pressure on banks by a massive liquidity injection into the banking system. The target was to hook up euro area (EA) commercial banks with liquidity which they could not obtain in a reliable fashion from the usual sources such as the interbank money market.

The measures included inter alia the long-term refinancing of banks and an increased availability of collateral. Long-term refinancing of banks took place via two long-term refinancing operations (LTROs) with an exceptionally high maturity of 3 years and an option of early repayment after 1 year as a fixed rate tender at full allotment. The first allotment took place on December 21 (volume EUR 489 billion); the second allotment has been enacted on February 29, 2012 at a volume of more than EUR 500 billion, although estimation about the expected volume differ tremendously beforehand (Figure 1).



Source: http://www.ecb.int/mopo/implement/omo/html/top_history.en.html.
Notes: LTRO = Long-term refinancing operations. The ECB actually conducts these operations with a monthly frequency. They typically mature in three months.

Fig. 1. LTRO size and LTRO maturities

Increased availability of collateral was realized by the ECB through reducing the rating threshold for certain asset classes and allowing national central banks to accept additional performing credit claims (bank loans). These measures embrace (1) a lower rating threshold on ABS from AAA at issue to A-; (2) accepting non-traded bank debt to be employed as collateral; and (3) endowing national central banks with sufficient discretion to approve ancillary credit claims as collateral at their own peril. We will show in section 2 that particularly granting NCBs with collateral discretion will have a great bearing on the geographical allocation of risks in the euro area.

Finally, the minimum reserve ratio has been lowered from 2% to 1%. This freed up EUR 103 billion at European banks which have been frozen in deposit accounts at the ECB before (Credit Suisse, 2012).

This paper provides the first preliminary assessment of the measures by putting them into a broader context. For this purpose, we look first at the risk of losses for the ECB, try to assess inflation dangers stemming from the 3Y LTROs in section 1. In the same section, we also look at the effects of LTROs on real activity and government bond yields and on further impacts which might well consist of distorting the interbank and the capital market in the euro area. In section 2, we investigate potential side-effects of the LTROs such as the effects on the real economy and on sovereign bond yields via the so-called Sarko trade and the increasing dependence of national banks in the euro area on ECB funding.

1. Long-term refinancing operations

1.1. Increasing risks of loss for the ECB. The risk of losses has increased for the euro area central bank by the 3-years tenders. The provision of liquidity taken on its own does not represent the preponderant problem. More decisive in our context is the fact that – for purposes of bridge-financing[1] – the ECB

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[1] A bridge to where? For what purpose did the ECB buy time (as has so often been stressed by Draghi)? The answer simply is: officially until the dissolution of the euro area debt and balance-of-payments crisis, non-officially at a minimum until the German federal elections will have taken place in 2013. Although the LTROs appear well-placed especially in December 2011, they have done only a little more than merely buying time for the commercial banks to get their books in order. However, as expressed in section 2, they must have sufficient incentives to do so. This appears doubtful these days.

issues to a nearly unlimited extent money in circulation which more or less is backed by assets whose value will remain constant only if the euro area debt and balance-of-payment crisis will de facto be solved (as a kind of circular argument). Therefore, the ECB is caught in its current unconventional policies. The latter is path-dependent: the path cannot be left once it has been taken (Belke, 2010, Commerzbank, 2012). As a consequence, the central bank "puts all its eggs into one basket" and has to do evermore in order not to reduce its strategy ad absurdum ex post (similarly to the sequence of fiscal rescue packages for euro area Member States under financial distress).

In the meantime, some national central banks have – allegedly only transitorily – accepted the credit claims "Asset Backed Securities" as additional collateral. Nevertheless, ECB President Draghi generally tries to calm down the audiences these days by arguing that by this action the amount of collateral on the ECB balance sheets up to now increased by solely EUR 53 billion and that the haircuts applied by the ECB in this asset category after all amount to not less than two thirds. However, what he does not mention is that the haircuts applied by the ECB to debt instruments of central euro area Member States with a rating below A- on average take values of below 10 percent, although they have been declared as not even bankable at the ECB before the euro crisis. Hence, risks turn out to be much larger in the latter asset category. Moreover, bank bonds guaranteed by the government let the volume of collateral increase in the meantime by a significant number of EUR 160 billion (Commerzbank, 2012).

There are also impacts of extending the base of collateral with worse quality collateral which have to be taken into account when assessing the risks for the ECB and the National Central Banks (NCBs). Under these new rules, the euro area commercial banks will have an incentive to lodge their worst quality assets with the ECB for cheap funding – the ECB will de facto merge into a bad bank for the euro area (see Belke, 2010) –and, in turn, offering their better quality collateral to receive supplementary funding in the market. What is more, by granting NCBs additional leeway in defining the categories of assets which are eligible, the ECB is spreading default risk all across the monetary union (Gros, 2012). As the NCBs will also have to take the risk for taking in ancillary collateral, this new framework also significantly modifies the "level playing field" which was valid before, i.e. the ECB treats banks from all euro area Member States in a similar fashion.

Hence, high risks of loss emerge for the ECB which will probably intensify with an enormous increase in its balance sheet total: the equity capital of the ECB has been leveraged by the factor of about 30. Its balance sheet amounted to around EUR 2.4 trillion at the start of December 2011 and it has now grown to a figure beyond EUR 3 trillion in March 2012[1]. This development is contrary to the behavior of the US Fed's balance sheet that has remained unchanged across 2011.

Even if losses of equity capital will be avoided in the end, confidence in the ECB'S ability to guarantee price and financial stability and to act financially and politically independent from the respective governments may severely suffer (Belke, 2010a).

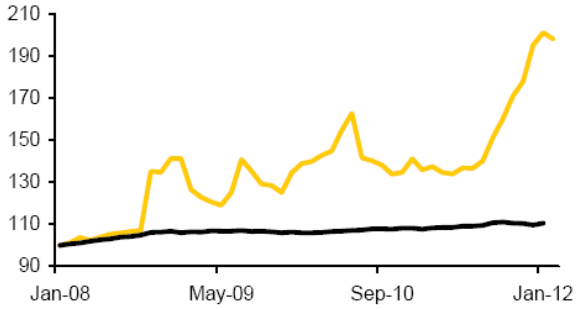
Additional risks of the unconventional monetary policies going alongside with low central bank interest rates (which are relevant for the settlement of target balances) emerge from the strong liquidity imbalance between NCBs in the core and the periphery of the euro area (see also the point related to emergency liquidity assistance (ELA) granted to Greek banks in section 2). The overall Target2 claim of Germany, Luxembourg and the Netherlands takes a value of over EUR 700 billion and will only be reimbursed if negotiations in case of euro area exit of a Target2 deficit country or in case of a break-up of EMU are successful. Target2 claims in these cases are claims against institutions which do not exist anymore. At least from the point of view of the Northern euro area Member States this presents a worrying scenario since it accumulates default risk at the Northern euro area NCBs (Sinn and Wollmershäuser, 2011). Admittedly, it will materialize only with a low probability. But in case it will happen, it would imply the risk of loss for Germany, Luxembourg and the Netherlands.

1.2. Danger of inflation? Beyond the risks of loss there is also the non-deniable risk that the extension of the ECB balance sheet will finally fuel inflation in the medium run. It can anyway not be debated away referring to the argument that the only viable and, hence, most probable solution of the current balance-of-payment crisis consists of deflation in the South and inflation in the North of the monetary union and, hence, inflation will level out at the euro area level.

Admittedly, the majority of members of the ECB Council correctly argue in this context that the change in money in circulation (M3) and not the change in the monetary base determines (future) inflation. Whereas there was significant growth of the monetary base over the recent years (signaling inflation potential or the future, see Belke and Polleit (2010) for the so-called p-star model), this cannot be established in the case of M3 (see Figure 2). Furthermore, the empirical model of the German

[1] See http://www.ecb.int/press/pr/wfs/2012/html/fs120306.en.html.

Commerzbank based on the M3 growth rate of the preceding year does not signal any current inflation risks (Commerzbank, 2012). In the same vein, the Bank for International Settlements (BIS) ascertained yet in its Annual Report 2010/11 that there are fortunately only few pieces of empirical evidence that an expansion of central bank balance may trigger contemporary inflation (BIS, 2011).



Source: Commerzbank, ECB.
Note: The dark line denotes the development of euro area M3, the other one traces the development of the euro area monetary base. Indexed (January 2008 = 100).

Fig. 2. Growth of monetary base compared with M3 growth (euro area)

But the litmus test concerning inflationary dangers will consist of the answer to the question: (how) will the ECB be able to re-collect all the money in the banking sector before it will lead to high inflation in the real economy in the wake of an economic recovery and, thus, a more dynamic loan and M3 development in the euro area (DIW, 2012; and ECB Survey of Professional Forecasters, 2012[1])? There is sufficient money in the pipeline: The ECB let EUR 1 trillion which amounts to 10% of M3 pour into the system within not more than 3 months. Since euro area economic growth is forecasted to revive at the end of the year 2012, there is a menace of growing inflation which is already now still higher than 2% due to this enormous and sudden increase in money supply – which actually corresponds to an increase in M3 supply once the loan and credit dynamics will have picked up in the euro area (Belke and Polleit, 2010).

Moreover, the ECB is – as argued further above – caught in the current situation and taken hostage by its chosen strategy. It has slipped into a strong symbiosis with politics. Even supposedly hard-nosed German central bankers like Jens Weidmann or Joachim Nagel re-iterate that unconventional monetary policies will stay in place until the euro area debt crisis will finally be resolved (and to receive evidence for this may take a rather long time). The ECB is probably not able any more to completely refuse the politicians', US portfolio managers' and rating agencies' strive for inflating away public debt (Belke, 2011). As soon as markets will anticipate this constellation, inflation expectations will rise immediately and find expression in new contracts.

The enormous volume of the measures taken clearly makes reaching the target of price stability in the medium run more difficult – apart from evident potential technical difficulties with sterilization. The overall situation at the start of the business cycle upturn – which will finally lead to inflation if the monetary policy stance is too expansionary – will be characterized by still high uncertainty. Hence, the ECB will most probably still stick to its expansionary policies, thus following a precautionary motive well-known as the "option value of waiting under uncertainty" (Belke, 2009a). In principle, the ECB must switch over to a neutral policy stance the earlier, the more expansionary its policies have been before. Moreover, there is a conflict of goals for the ECB because from the perspective of financial market stability a soft exit from unconventional measures appears preferable (Commerzbank, 2012). This is because it becomes clear from a careful inspection of the ECB's behavior under Draghi that under the current regime the financial stability target markedly dominates the goal of monetary stability in the short and also in the medium run. That ECB strategy is, however, not sustainable because it clearly torpedoes euro area financial stability in the long run with too high credit and M3 growth in the future. The ECB thus risks to tap in the same trap as the ECB under Mr Trichet before Lehman Brothers (Belke, 2011a).

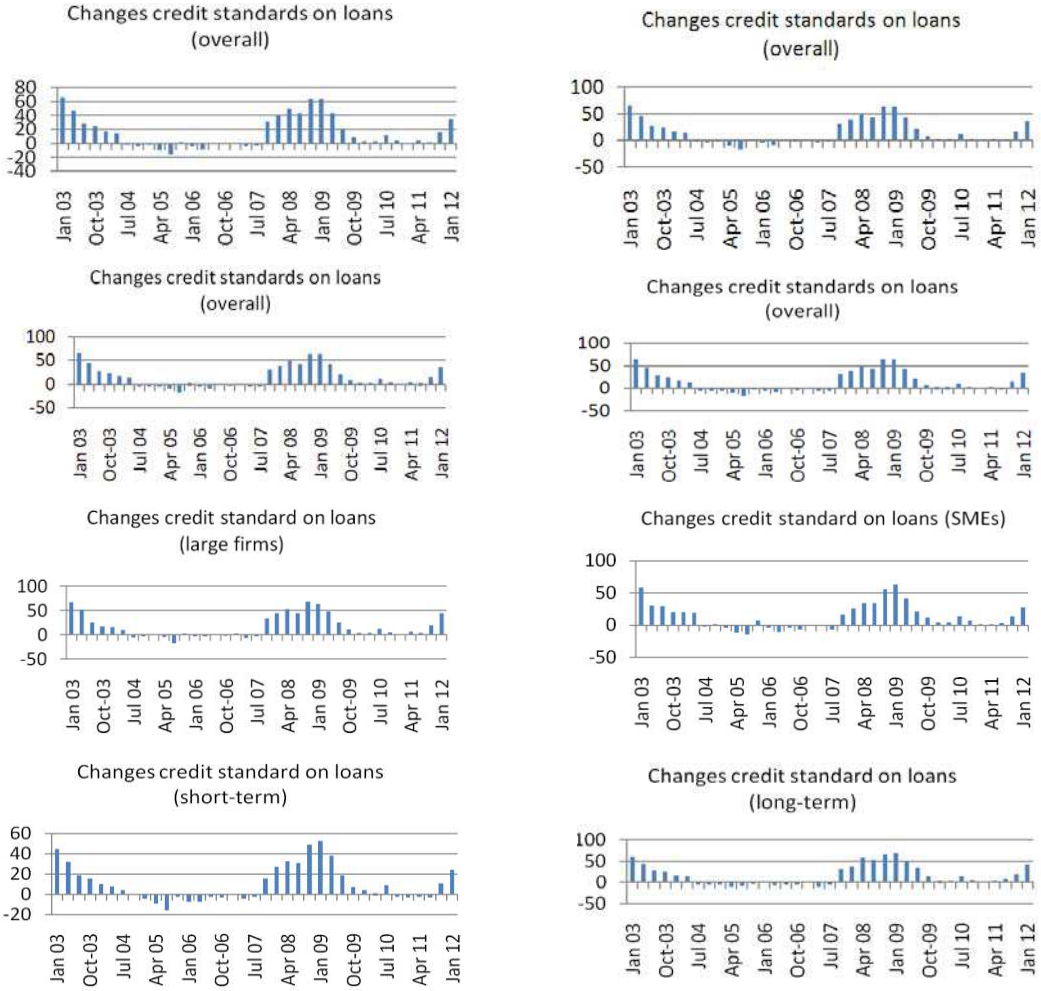
To summarize: the higher the degree of expansion of monetary policy is, the bigger is the probability that the ECB will react too late and to an insufficient extent in order to fight inflation dangers early enough (i.e., in the medium run).

1.3. Effects of LTROs on real activity and government bond yields. *1.3.1. Effects on real activity. Have the large scale liquidity provisions via the LTROs been effective in influencing the real economy?* According to the transcripts of the ECB press conferences after the recent council meetings the central focus of the LTROs was to re-install the functioning of the monetary transmission process, i.e. to make sure that expansionary monetary policy impulses will have the potential again to finally reach the enterprises via additional credit lines (the so called Sarko-trade, i.e. sovereign bond purchases by the now liquid banks, allegedly representing only a side-effect of the LTROs). One candidate to look at with respect to impacts of LTROs on real activity is the change in lending to small and medium sized (SMEs) euro area enterprises. According to recent ECB data (available from the ECB Statistical Data Warehouse) significant increases in new lending can-

[1] See http://www.ecb.int/stats/prices/indic/forecast/html/table_3_2012q1.en.html.

not be established. On the contrary, the new lending volume has even diminished in January 2012, the date of the latest available entry. However, it is not overall clear whether this reflects a demand or supply effect.

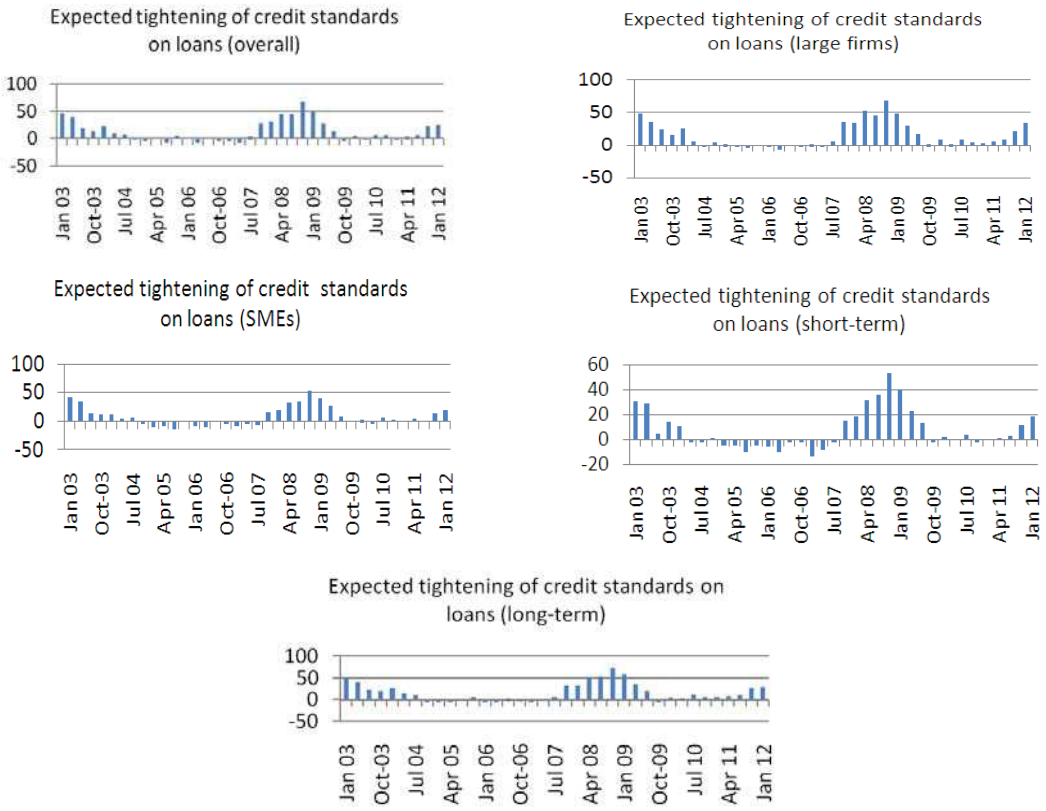
The newest available bank lending survey (ECB, 2012) is much more illuminating in this respect[1]. Figures 3 and 4 display an empirical measure of the evolution of credit standards – "tightening" or "easing" – based on a regular survey of euro area bank loan officers. In the figures below we differentiate between credit standards on overall firms and two categories of size: (1) large firms; and (2) SMEs, and two categories of maturity: (1) short-run or (2) long-run loans (with a maturity of more than one year). In order to be able to distinguish between a backward-looking perspective (without anticipation of the 3Y LTROs) and a forward-looking one (taking into account the LTROs) we display both the "realized" values (Figure 3), which refer to changes that have occurred, and the "expected" changes (Figure 4) that are anticipated by banks, i.e. by the respective loan officers. The difference between both empirical realizations should account for the effect of the LTROs on loans to the real economy.



Source: ECB (2012). See http://www.ecb.int/stats/money/surveys/lend/html/index.en.html.
Note: "Realized" values refer to changes that have occurred. Net percentages are defined as the difference between (1) the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" and (2) the sum of the percentages of banks responding "eased somewhat" and "eased considerably". Long-run loans have a maturity of more than one year.

Fig. 3. Euro area realized credit standards on loans

[1] The survey is run with a quarterly frequency among 124 euro area commercial banks. It poses an array of questions to loan officers about, for instance, the change in their credit standards for their loans to firms. The reactions of the loan officers are quantified by the percentage of answers in five classes ranging from "tightened considerably" to "loosened considerably". See http://www.ecb.int/stats/money/surveys/lend/html/index.en.html.



Source: ECB (2012). See http://www.ecb.int/stats/money/surveys/lend/html/index.en.html.
Note: "Expected" values are changes anticipated by banks. Net percentages are defined as the difference between (1) the sum of the percentages of banks responding "tightened considerably" and "tightened somewhat" and (2) the sum of the percentages of banks responding "eased somewhat" and "eased considerably". Long-run loans have a maturity of more than one year.

Fig. 4. Euro area expected credit standards on loans

According to this survey, net tightening of credit standards by euro area commercial banks as reported by their loan officers significantly increased in the 4th quarter of 2011 for credit standards on *loans to enterprises* (to 35% from 16% in the 3rd quarter, in net terms). This increase is even larger than anticipated by the loan officers participating at the previous survey round when the net share stood at 22%. The same is valid for loans to households[1] for the purchase of real estate (rising to 29% as compared to 18% in the 3rd quarter), and in a lesser dimension also for consumer credit (13% instead of 10%). This implies a u-shaped pattern of tightening due to the financial crisis from Q3 2007 which vanished at the start of 2010 and came back on the scene at the end of 2011. At the end of 2011, this pattern rightly conveyed the impression to policymakers that commercial banks were still hesitant to lend to enterprises if confidence would not improve significantly. This exactly represented the main motivation and starting point of the LTROs.

In our context it is interesting to note that, comparing the 4th with the 3rd quarter of 2011, the net tightening of credit standards obviously was applied more to large firms (19% to 44%) than to SMEs (14% to 28%). Credit standards were raised both for long-term loans (20% to 42%) and short-term loans (11% to 24%), albeit tightening was imposed more often onto long-term loans with a maturity of more than one year than on short-term ones. Obviously, this also may serve as an argument in favor of the multi-year LTROs.

Exploiting the expectation part of the survey, it can be stated that euro area commercial banks anticipate a further (net) tightening of credit standards, however at a slower speed than in the 4th quarter of the preceding year (maybe due to anticipated confidence-raising effects of the LTROs?). According to the survey, the surge in the tightening of credit standards was due to a weakening euro area overall economic outlook, the euro area sovereign debt crisis and the self-accelerating combination of both, all of which tended to weaken the banking sector's financial position further. Steadily growing market awareness of bank solvency risks in the final quarter of 2011 has probably added to the commercial banks' funding problems. As a reaction, euro area commercial banks significantly tightened credit terms and conditions and raised interest rates on loans to enterprises and households. Tightening was significant throughout the larger euro area countries, except Germany (ECB, 2012).

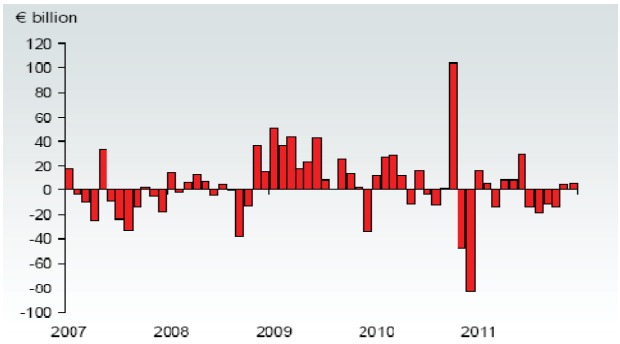
[1] See ECB (2012), http://www.ecb.int/stats/money/surveys/lend/html/index.en.html.

Access to wholesale funding slightly eased in the 4th quarter of 2011. However, the number of euro area banks (in net terms) reporting grave difficulties is still large (ECB, 2012). Relative improvement was more evident for access to debt securities and securitization markets than for access to money markets (again a central argument in favor of the LTROs). According to the survey, commercial banks across the euro area overall anticipate a certain improvement in access to wholesale market funding in the 1st quarter of 2012, most probably *mirroring the anticipated*, i.e. expected and transformed into contracts, *effectiveness of the LTROs* implemented by the ECB (ECB, 2012). However, this statement appears to be still speculative and the coming Bank Lending Surveys will have to be awaited in order to settle things here.

Seen on the whole, thus, there is *only first tentative* evidence that the first LTRO served the purpose to stabilize loans to the real sector in large parts of the euro area. However, there are up to now no data except expectation datasets available to judge about the real economy impacts of the second LTRO.

1.3.2. Effects on government bond yields. The second field of usage of the huge amounts of injected money by the commercial banks is bank purchases of sovereign bonds as indirectly suggested by ECB President Draghi and more or less frankly demanded by French President Sarkozy (thus pushing for the now-famous "Sarko trade") with the hope that the LTROs will deliver a double dividend. The latter would consist of both a defreezing the interbank market and the market for loans to the real economy and an alleviation of some important euro area governments' funding problems, above all in the periphery but also in the core (Spain and Italy).

In the first days after the implementation of the first LTRO it could be observed that the recovery of the sovereign bond yield curve of the peripheral euro area Member States recovered exactly alongside the maturity of the 3Y LTRO, i.e. especially for maturities of up to three years. This reminds us again that the debt problems of these countries are of course not fundamentally solved by unconventional monetary policies. But the evidence for large-scale sovereign debt buying by banks using LTRO funds is limited to date. Data for December 2011 shows that euro area commercial banks increased their holdings of sovereign debt only modestly – albeit this is an improvement over the significant net sales in most of 2011H2 (Figure 5). A complementary visual inspection of the time series of sovereign bond holdings in the euro area (ECB Statistical Data Warehouse) corroborates this view. Indeed, sovereign bond holdings declined since mid-2011 only to go up again since December 2011, the date of the first LTRO, by a limited amount of less than EUR 100 billion[1].



Source: Oxford Economics/Haver Analytics.

Fig. 5. Euro zone: bank government bond purchases

Concerning regional dispersion the broad pattern emerges that above all the stocks of Spanish and Italian bank and with some arrear also Irish bonds have been piled up (Citi Investment Research and Analysis, 2012). Joint with the market observation that Spanish and Italian banks absorbed a dominant part at least of the first 3Y LTRO this leads us to the conclusion that the ECB has indirectly contributed to the financing of government debt of the just mentioned countries.

Data which will be made available after publication of this Note may well disclose bigger net purchases of sovereign debt. However, overly huge additional net purchases of sovereign debt due to the second 3Y LTRO seem to be clearly out of reach in spite of the apparently high "carry" among sovereign bond yields and the low LTRO interest costs. The reason is that the latter can only be realized by accepting positions in euro area government debt which are not hedged. Some euro area banks may find this critical, preponderantly if their intention is to invest in cross-border sovereign debt (Oxford Economics, 2012).

These euro area banks may instead prefer a carry trade which involves the use of sovereign debt as collateral, since the ECB haircut imposed on sovereign debt collateral is still surprisingly low and much lower as if lower quality assets would be used and the "true" cost of funding the carry trade may well be higher than only 1% (see section 1.1 of this note). However, with an eye on the fact that the fiscal problems of euro area governments appear far from solved right now, banks take the substantial risk of a declining market value of their holdings of sovereign debt and, thus, to be forced to lodge additional collateral at the ECB. This makes also this

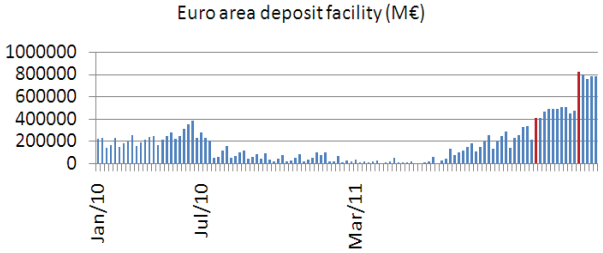
[1] The detailed figures are available on request.

kind of trade quite unattractive[1]. It may appear more attractive for euro area commercial banks to simply take LTRO funds to "substitute for existing (more expensive or riskier) financing of sovereign debt positions such as interbank debt or repo financing" (Oxford Economics, 2012).

Finally, it has to be taken into account that foreign investors have reduced their investments in euro area sovereign bonds significantly in the preceding quarters[2] and that the perspectives will not improve in this respect due to the unfavorable risk profile of the peripheral euro area Member States. Hence, even if euro area banks increase their holdings of euro area sovereign debt even further, the net effect on sovereign bond yields will be meager (Oxford Economics, 2012).

It was the prior of many analysts that once the LTRO flows were taken in by the euro area commercial banks, the "peripheral debt rally" would immediately stop. But with the benefit of hindsight it does not appear a cause for complaint that LTROs have actually not significantly tightened the relationship between the euro area banks and the sovereigns. If the banks would have been buying significantly and sustainably more sovereign debt, that would have made their fortunes even more intertwined than they have been already before. It was exactly the common fate of banks and their sovereigns which had to be fought against by means of the LTROs.

1.4. Further effects of the 3Y LTROs: distorting the interbank and the capital market. The third field of usage of the huge amounts of injected LTRO money by the commercial banks apart from lending it to other banks is to put it into the ECB's deposit facility. The additional money did up to now not pour into additional loans to the real economy and only to a limited extent into additional sovereign bond holdings (probably less than EUR 100 billion), it does not come as a surprise that the utilization of the ECB deposit facility rapidly increased after both recent LTROs (see Figure 6). In week 51 of the year 2011, after the first large 3Y LTRO became effective, the deposit facility immediately rose from EUR 214.1 billion to EUR 411.8 billion. And in week 9 of 2012, after the second 3Y LTRO, the surge in the deposit facility amounted to EUR 820.8 billion minus EUR 477.3 billion (comparing the respective levels of the deposit facility). This makes up for an instantaneous difference of roughly EUR 200 billion for the first 3Y LTRO and of about EUR 343 billion for the second 3Y LTRO[3].



Source: ECB Statistical Data Warehouse.
Note: Dark grey bars mark the dates of the two 3Y LTROs in week 51 of 2011 and week 9 of 2012, respectively.

Fig. 6. The euro area deposit facility and the two 3Y LTROs

In principle one has to subtract the impact of the decrease in reserve requirements decided in December 2011 on the deposit facility from that part of the increase in the deposit facility which is imputed to the 3 LTROs. The reason is that the additional money available from this source – an estimated EUR 103 billion (Credit Suisse, 2012) – is now put into the deposit facility. Thus, as a net consideration, the December 2011 3Y LTRO caused a smaller surge in the deposit facility balance than the February 2012 3Y LTRO.

Seen on the whole, thus, one feels legitimized to argue that the 3Y LTROs have contributed to a significant distortion the interbank market (which has already been dysfunctional) in the sense that a multitude of commercial banks is now shunning the interbank market since they enjoy ECB funding (and the lowering of standards for collateral also does not contribute to a revival of the interbank market since only high-rated collateral is counting on this market). The 3Y LTROs appear to impact on the real economy only to a limited and not easily identifiable extent, since commercial banks all across the euro area tend to hoard their cash. This speaks in favor of the ECB prolonging its easing cycle also in 2012 since the euro area periphery is still facing a certain risk of a prolonged recession.

But negative (side-) effects are not limited to the interbank market but might also extend to the medium-term capital markets. The argument simply runs as follows.

Investment banks such as Baring Asset Management, BNP Paribas and Goldman Sachs are current-

[1] In addition, euro area commercial banks might have learned an important lesson from the confidence crisis in 2011 and are again afraid of negative reactions of outside investors or depositors to their increasing exposure to sovereign debt (which might lead to lower creditworthiness) and that this interwinedness, in turn, may set in motion other balance sheet and funding bottlenecks. Some mark-to-market requirements on sovereign debt that may let EA commercial banks critically think about any growing exposure to this asset category do one more thing. See Oxford Economics (2012).

[2] Data provided by the Bank for International Settlements conveys the picture of net sales of over USD 70 billion of Spanish and Italian sovereign debt paper just in the period from the first quarter and the third quarter of 2011. See http://www.bis.org.

[3] In principle, it is still open to debate which share of LTROs is lent to other banks (as another field of LTRO liquidity usage. However, due to the overly large dimensioned LTROs other banks will not need this liquidity and we can neglect this field of usage in our above considerations.

ly warning that the 3Y LTROs could lead to a sharp contraction in corporate debt markets since euro area commercial banks are now effectively pre-funded for three coming years (Johnson, 2012). Starting from the fact that ECB funding takes place at a cost of only 1%, compared to yields on senior debt of 3.5% or yields on bank bonds which are currently trading at even 10%-11%, it makes much sense for euro area commercial banks to simply let large parts of their senior debt mature instead of rolling it over and feeding the capital market. Since the commercial bank sector makes up for 46% of the European corporate debt market, pension funds and insurance companies might get into significant trouble. In the medium run, they have due to their regulation little investment opportunities alternative to holding corporate debt. The same is valid for other investors[1]. However, bank issuance could well diminish by less than the full amount of liquidity poured into the commercial banks since banks can be assumed to strive for maintaining relationships with the pension funds and related investors from whom they will have to borrow again once the LTRO has expired and no additional LTRO will be issued (Johnson, 2012). However, much of the big amount of money not rolled over by the banking sector due to the LTROs could find its way, for instance, into high-yielding blue-chip equities[2].

2. Sustained extension of the central bank balance sheet: immediate side-effects

Analysts agree nearly unanimously that the ECB's EUR 1 trillion injection into the euro area financial system has smoothed the eminent funding worries for a significant couple of the euro area commercial banks. "*Fear and fatigue have been replaced by cautious optimism*" (Watkins, 2012). But although commercial banks and investors in the short run profit from this year's markets rally, a debate about the potential side-effects of the ECB's delivered medicine is highly indicated.

- A rather important aspect is that the ECB has "led the horses to the watering place" but have not full impact on whether only the thirsty take the chance and drink, i.e. those which have been cut off from liquidity provision during the crisis. The rich liquidity provision by the ECB's LTROs has clearly diminished the incentives faced by commercial banks (euro area governments) to expedite the urgent consolidation of their balance sheets (government deficits and debt) – a fact that has been also recognized by ECB Chief Economist Mr Praet more recently in several interviews[3].

De facto, the ECB has passed the red line since one cannot exclude with an eye on the 3-year maturity (which can, according to Figures 3 and 4, be clearly categorized as long run) that it de facto delivered a medicine against collateral of doubtful quality which aims at restoring solvency instead of only liquidity. By exactly this mechanism, the ECB is delaying the restructuring efforts of several commercial banks in the Southern euro area and, thus, prolonging the existence of a couple of non-viable banks. Furthermore, it turns away from the central principle of a level-playing field between banks stemming from central and from peripheral euro area Member States.

Even the emergence of zombie banks and of zombie non-financial institutions like those which emerged in Japan in the 1990 cannot be excluded in the end (see, in detail, Bank for International Settlements, 2010, pp. 7 and 41; and Caballero, Hoshi and Kashyap, 2008). But even worse: not only less competitive commercial banks but (as a consequence) also less competitive firms are further supported by cheap loans which makes market access for newcomers more difficult.

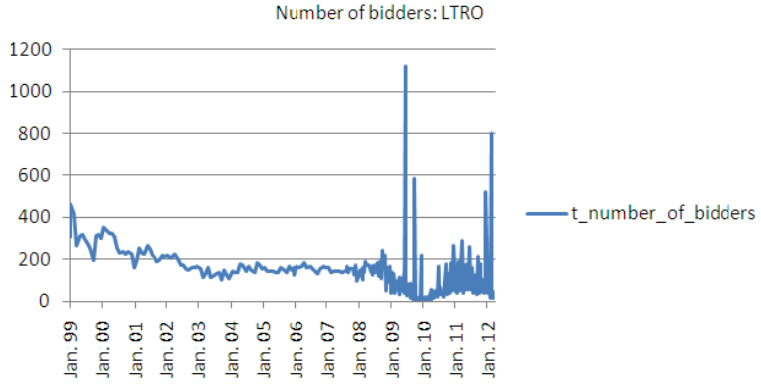
- Notably, ECB President Draghi stressed at the ECB council meeting press conference at the beginning of March 2012 that especially German commercial banks engaged numerously in the February 2012 LTRO. He further argued that this increases the chance of small and medium-sized enterprises to have access to loans. However, the ultimate purpose of the LTROs was to prevent a credit squeeze. But just in Germany, there was no sign of a credit squeeze or even a credit crunch at all (as has been shown convincingly by the Ifo Institute, 2012).
- It appears quite natural and reasonable for banks to have taken advantage of these LTRO funds

[1] Note that the 3Y LTROs probably reduce potential income from the bond market investments still further. European senior bank bond yields have already fallen by one percentage point in 2012 since the LTROs have revived and enhanced confidence, even before any potential breakdown of bank bond issuance. See Johnson (2012). Hence, private investors are crowded out in this segment which might be harmful in the case of sovereign bonds because the respective countries are permanently de-coupled from private capital markets.

[2] A further point worthwhile to discuss in the context of the 3Y LTROs would be the observation that the ECB balance sheet suffers from a grave and potentially harmful *maturity mismatch*. The central bank injected a huge amount of central bank money at a medium run, i.e. three-year maturity. At the same time, important items on the liability side of the ECB balance sheet (among them the deposit facility) are of a rather short-run (i.e. overnight) maturity. As known from similar constellations for commercial banks, the endogeneity and the lack of controllability of major parts of the ECB balance sheet might pose huge challenges. See Eisenschmidt and Holthausen (2012).

[3] The argument that the interventions of the ECB lessen the incentives for banks to consolidate is equally valid for governments. This was an important reason for the Bundesbank to comment repeatedly on the Securities Market Program (SMP) of the ECB.

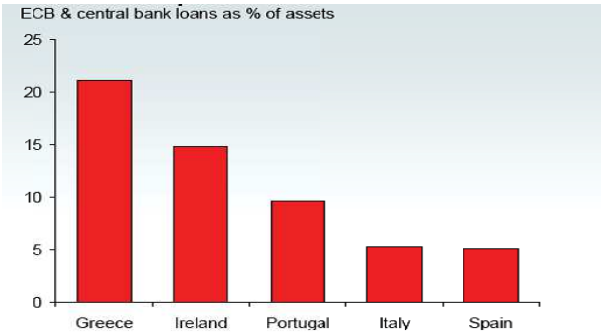
under the currently prevailing circumstances, especially with an eye on the fact that the ECB has relaxed some collateral requirements just before the February 2012 3Y LTRO. But apart from that it seems legitimate to state that a "*dual banking market*" has been created in the euro area in the sense that banks in some countries have become dangerously dependent on ECB financing in general in the wake of unconventional monetary policies. Since the ECB does not disclose data on which specific banks took part in individual liquidity auctions, it is not possible to exactly identify which euro area commercial banks made use of the LTRO facility. This becomes a little bit easier in case of the second 3Y LTRO where several (but not all) banks publicly declared their activity (but not the exact amount) in the second round because in the current mood they are stigmatised to a lesser extent for borrowing the cheap LTRO money. It has also been revealed that the number of banks participating in the second 3Y LTRO was higher than in the first round (in Figure 7 the second last spike is smaller than the final one). There are speculations that, for instance, a couple of Italian banks has not been really prepared for the December 2011 LTRO and, for this reason, just participated later on (only) in the second one (Wall Street Journal, 2012).



Source: European Central Bank. Web: http://www.ecb.int/mopo/implement/omo/html/top_history.en.html.

Fig. 7. Number of bidders in ECB LTRO operations

But many euro area NCBs actually reveal how much liquidity all banks in their country received together. According to these data sources, a large portion of the funds offered by the first LTRO appear to have been allotted to Italian, Spanish and French commercial banks. Their general dependence on financing through the ECB is now significantly more unusual since 2011. For instance, around 5% of the assets on the balance sheets of Italian and Spanish commercial banks are now financed by the ECB. But also Greek and Irish banks have absorbed a large part of the LTRO, although this has not led to a large increase in purchases of Greek and Irish sovereign bonds (see Figure 8). The bigger this share gets, the more intricate it may prove for commercial banks to attract other kinds of financing, above all because the ECB de facto enjoys a preferred creditor status. Ultimately, decoupling the euro area banks from ECB funding may prove increasingly intricate (Oxford Economics, 2012). Our interpretation of all this is that the commercial banks in the euro area periphery are still not capable of raising funds in the interbank market and, hence, these banks are confiding to a too large extent in the ECB. Our guess is that the market pressure will convolve on Spain and maybe even on France with its poor performance in terms of development of public debt and financing of its excessive public sector after the elections and the ECB will see itself under continuing pressure to use the printing press. Hence, we have clearly not arrived at the brink of realizing any exit strategy yet (Belke, 2009, 2010).



Source: Oxford Economics/Haver Analytics.

Fig. 8. Euro area dependence on ECB funds

The ECB cannot differentiate among Greek and other euro area banks and, hence, is not able to stop the flow of cheap money to Greece under the current framework of rules (which in itself is harmful because it does not put an end to the deposit flight and overconsumption in Greece). Usually, the ECB tries to calm down the markets by arguing that high-value collateral is as a quid pro quo deposited with the central bank. But in the case of Greece and Ireland also commercial

banks do not dispose of sufficient high-rated collateral (Gros, 2012). Moreover, Greek banks are not financed anymore via the ECB lending against good quality collateral as the normal channel but by the "Emergency Liquidity Assistance" (ELA) – a fact which is quite hidden in/by the official statistics. From the perspective of the ECB, the most important collateral is the guarantee granted by the Greek government (which has recently declared its default!) to back the Greek banks. In the view of Gros (2012), the Bank of Greece has been endowed with a license to print euros in an unlimited extent. It is clear to ECB officials that this cannot go on forever. One option for the ECB would be to instruct the ECB not to grant ELA to Greek banks any more at a certain point in time. However, this would immediately imply the breakdown of the Greek banking system. Hence, this constellation serves as a further piece of evidence of the hypothesis that the ECB is caught in her strategy and will not be able to exit so easily (see also Gros, 2012).

Some market participants more recently criticised that the ECB with its long-term tenders has prevented a liquidity squeeze but that the generous provision of covered loans has at the same time pushed the segment of uncovered debt out of the market (Commerzbank, 2012; Watkins, 2012). The reason is that by means of the ECB tender much more assets of the commercial banks are tied as collateral. By this, the credit risk of investors who traditionally invest in unsecured bonds has grown since the probability has increased that they would not be paid out in a recovery scenario (because more and more assets are encumbered and, in cases of doubt, the ECB will be senior in a situation of recovery). If the subordination of these bondholders will continue, this potentially increases the cost of issuing senior unsecured debt, which traditionally represents the cornerstone of any commercial bank funding. A larger degree of encumbrance might imply that unsecured funding costs for commercial banks will stay high and maybe stretch beyond the level of costs which make certain business models economically sensible (Watkins, 2012).

Generally speaking, euro area commercial banks are reserving (and thus de-activate) assets to approach the freshly and unlimitedly printed ECB money and encumbering their balance sheets. "To access the ECB's loan facility, lenders have had to pledge more of their assets at a time when the proportion of collateral being pledged by banks in so-called collateral swaps, covered bonds – a form of ultra-safe debt – and repo transactions has already risen significantly. The LTRO has provided a short-term fix for Europe's banks" (Watkins, 2012). But it could in the end render it more expensive for these banks to get their own funding and could make it harder for them to avoid running out of cash[1], "… *encouraging them to cut lending and shrink, hardly a recipe for emerging from the debt crisis*" (Watkins, 2012).

The evidence concerning the LTROs clearly reveals that there is no such thing as a free lunch. Debt can simply not be eliminated with ever more debt. "*While the ECB's move means banks will not run out of liquidity in the short term, they could run out of collateral, "which is just as bad". The worry is that banks, notably in troubled euro zone peripheral countries such as Spain, would not have enough free collateral to tide them over in another crisis. According to recent Barclays Capital figures, even before the LTRO, on average 21 per cent of European bank assets were tied up or encumbered. In Spain the percentage of encumbrance increased from 12 per cent in 2005 to 20 per cent in 2011*" (Watkins, 2012).

But there is at least some legitimization to argue that "*encumbrance was a worry at the end of last year when there were serious concerns about the health of Europe's banking system. But the LTRO has changed the game*" (Watkins, 2012). Euro area commercial banks are in a much more stable shape now and their default probability has decreased, whereas, admittedly, the actual loss in case of recovery has grown due to larger encumbrance (Watkins, 2012). Calculating with a lower probability of a larger loss, the net effect of LTROs on markets may thus go either way.

Employing both 3Y LTROs, the ECB has granted euro area commercial banks additional time to sell assets, supported them with refinancing their maturing debt and allowed Italian and Spanish banks to purchase euro area sovereign bonds (the so-called Sarko trade)[2]. The recent (in case of Spain, more or less short-run) drop in Spanish and Italian bond yields, and the observation that exactly Spanish and Italian banks have been the dominant users of the 3Y LTRO liquidity, are (as this briefing paper argues, falsely) taken as empirical evidence that the Sarko-trade plan was actually materializing (Oxford Economics, 2012; Watkins, 2012).

In the short run, euro area commercial banks have returned to the public capital markets to a certain extent in the wake of the LTROs. "*There has been strong investor demand for both covered bonds and senior unsecured debt in northern Europe and, to a limited extent, in southern Europe*" (Watkins, 2012). In the medium term, however, a high degree of asset encum-

[1] A prominent example in this respect is the experience with the Franco-Belgian bank Dexia in the year 2011 when about 75 percent of its allegedly free assets were tied up in secured financing programs. See Oxford Economics (2012).

[2] As an alternative, commercial banks may deposit parts of their sovereign debt holdings as collateral at the ECB against a nearly costless loan. They can employ the latter to purchase still more sovereign debt. See Oxford Economics (2012).

brance induced by the LTROs might well pose a problem for the commercial banks. Not to speak even of the long run in which the danger prevails that commercial banks will become *addicted* to this secured funding (Bini Smaghi, 2012)[1]. From this perspective, continuously increasing "balance sheet encumbrance" all across euro area commercial banks may also give rise in the longer run to structural funding problems. Also from this point of view, the LTROs do de facto not deliver a long-term solution to the current euro area banking confidence crisis.

The next point is related to the exchange of bonds purchased within the Securities Market Program (SMP) by the ECB with the intention to be exempted from the haircut (avoidance of official sector involvement, OSI). This has the potential to raise fears that the ECB generally acquires a preferred creditor status (Bini Smaghi, 2012). The risk of investors not to be paid out in case of recovery increases the more, the stronger the ECB intervenes, i.e. the more it extends its balance sheet. This pattern might discourage investors from acquiring bank bonds on the markets.

Expansionary monetary policy measures of the Western industrialized countries have put downward pressure also upon the yield curves in Asia ("global liquidity") and have contributed to the emergence of financial market bubbles in this region. This is especially valid for the case of central banks that adopted large-scale asset purchase programs (Filardo und Yetman, 2011; Chen, Filardo, He and Zhu, 2011).

If central banks strive to finish the extension of their balance sheets, it appears to make sense from the perspective of the central bank – especially in the case of a large extension of its balance sheet – to issue its own longer-term debt securities. Using this device, the ECB would be able to adjust the structural position of the Eurosystem vis-à-vis the financial sector in order to set in place or enlarge a liquidity shortage in the market. But this puts prices of other firm and bank bonds under pressure and, thus, leads to a crowding-out of sound assets (Belke, 2009; Caruana, 2011). Such kind of papers have been called "lazy assets" because they delivered a yield without much effort to the commercial banks. However, this leads to the danger that the commercial banks develop such a high preference in favor of these lazy assets that they curtail their loans stronger than preferred (Mehrotra, 2011). A medium-term risk consists of the very liquid balance sheets which potentially causes bank lending behavior to change in modes which are difficult to forecast for policymakers (Mohanty and Turner, 2006). Finally, the building up of "lazy assets" (such as a central bank's own issued bonds and/or government bonds) on the balance sheets of commercial banks may incentivize these institutions to accept excessive risks (Filardo and Grenville, 2011). The Asian example thus demonstrates that the exit from a very expansionary monetary policy stance will be difficult to engineer in reality.

There are important side-effects of (near) zero interest rates. In this context it has to be noted that the call money rate in the euro area has dropped – not least due to the most recent ECB balance sheet extension – to about 0.35% and, thus, approaches the zero interest frontier. The build-up of too risky portfolios tends to be the consequence. What is more, the interest yield does not cover the costs of money market deals any more. This might lead to a dry-up of the money markets and to other problems (Coeuré, 2012). Earlier periods of low interest rates show that a too expansionary monetary policy can cause serious misallocations of resources materializing, for instance and typically, in excessive growth of the financial sector (Belke and Polleit, 2010). (Too) low interest rates foster striving for yield, incurring higher risks. For instance, insurance companies and pension funds are forced to fulfill their obligations vis-à-vis their clients which they incurred in times of higher interest rates (Börsenzeitung, 2012; Frankfurter Allgemeine Zeitung, 2012).

The main problem for monetary policy decision makers and analysts in today's context is to differentiate desired from undesired (unintended) effects at each decision point in time. Since in the current situation inter alia contagion effects have to be avoided, it can be interpreted as a success that asset prices are currently stabilizing or even start to increase again. However, it is very difficult to assess where the critical threshold of asset prices is located and where the build-up of too risky portfolios once more starts (Coeré, 2012).

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[1] "This can be prevented only if supervisors put sufficient pressure on bank managers and shareholders to continue adjustment" (Bini Smaghi, 2012). Moreover, ECB liquidity funding should be merely employed as an only temporary and last resort source of financing. But up to now true supervision in the EA is implemented still only at the national level. This pattern gives little incentive to strictly pursue these objectives on a level playing field. See Bini Smaghi (2012).

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