Monetary policy and redistribution: information from central bank balance sheets in the Euro area and the US

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Abstract

The exceptional measures by central banks during the financial crisis have led to renewed interest in the redistributive effects of monetary policy. This paper adopts the perspective of central bank balance sheets to assess such effects. It uses information from the euro area National Central Banks and the US Federal Reserve Banks to analyse the regional and sectoral effects of monetary policy. Central bank balance sheets capture sustained imbalances in payment flows across the euro area countries that peaked at 10% of GDP in the so-called Target balances, and across the US districts that reached 5% of GDP in the equivalent Interdistrict Settlement Accounts. These imbalances, combined with accommodative central bank liquidity, shifted risks from the private financial sector to the public sector and among taxpayers – yet, mechanisms are in place to mitigate such risks and the associated redistributive effects. The liquidity injection, while directly channelled at the stressed regions or sectors, has indirectly supported the financial sector at large. In different institutional contexts, the financial centres in Germany and in the New York district have been strengthened. They have been net recipients of payment inflows from the rest of the respective currency areas, equivalent in amounts to a third of the liquidity injection during the crisis. (JEL: E42; E50; E58; E63; F36. Keywords: Monetary policy; ECB; Federal Reserve System; Target balances)

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1. Introduction: the issue of redistributive effects of monetary policy

Renewed interest in the redistributive effects of monetary policy during the crisis

Monetary policy decisions always have distributional effects. Changes in interest rates distribute net worth between savers and borrowers; changes in asset prices through interest rate policy or outright purchases affect the wealth distribution in the economy more broadly; and decisions on collateral eligibility in central bank lending operations also have redistributive effects in an economy, as agents differ in their asset holdings and debt structures. The redistributive effects associated with interest rate policy, asset purchases or collateral eligibility operate directly through the balance sheets of the asset holders. They also operate indirectly by affecting the risks attached to holding those assets and by affecting prices and liquidity of a broader range of assets given potential portfolio rebalancing effects.

In the financial crisis and its aftermath, the redistributive effects of monetary policy have been even stronger than in other periods because the scope of monetary tools and policy actions has increased. Interest rate changes were large over short periods, asset purchases were conducted in dimensions not seen before and changes to the collateral pool were frequent and far-reaching. The Federal Reserve expanded its balance sheet in response to the crisis by a factor of three; the Bank of England, by two; and the Eurosystem (the system of the European Central Bank and the euro area National Central Banks), by two as well. As regards collateral, the European Central Bank (ECB) for example, made frequent changes to its collateral framework in 2008-2013.

The debate on redistributive consequences of monetary policy dates back to at least a century but has recently strengthened, particularly following the global financial crisis. Among the early contributions, Mises (1912) argued that “variations in the exchange value of money evoke displacements in the distribution of income and wealth because individuals are apt to overlook the variability of money and because variations in the value of money do not affect all economic goods and services uniformly and simultaneously”. The period since the emergence of the financial crisis in the US sub-prime market in 2007 and the exceptional measures taken by central banks as a response have given a renewed impetus to the literature on the redistributive effects of monetary policy.1 Exactly one hundred years after Mises’s writing, Brunnermeier and Sannikov (2012) analyse the “wealth-redistributive monetary transmission channel”

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1 A large literature addresses the effects of quantitative easing on financial markets, testing in particular the portfolio rebalancing effects in asset prices. On the specific issue of redistribution, the Bank of England for instance has analysed the distributional effects of asset purchases on savers, pensioners and pension funds (Bank of England 2012). Carpenter et al. (2013) use flows of funds data to analyse from whom did the Federal Reserve buy assets and find that not all investor types sell to the Fed uniformly. The largest sellers of US Treasury securities appear to be the households (a group that includes hedge funds), broker-dealers, and insurance companies; and for Mortgage Backed Securities these are households, investment companies, and to a lesser extent, pension funds.
and argue that monetary policy can help rebalance wealth after an adverse shock, notably as central banks can assume and redistribute tail risk. Thus, monetary policy can be seen as “a social insurance scheme for an economy beset by financial frictions” but for this it needs to follow an *ex-ante* well-specified policy rule that keeps moral hazard costs under control (e. g. so that it would not subsidise weak banking institutions).

Monetary policy is sometimes accused of contributing to rising inequalities. A causal link from monetary policy actions to rising inequality in the US has been found by GALBRAITH (2007). He argues that the disinflationary policies of the US Federal Reserve disproportionately affect employment and wages of those at the bottom end of the income distribution. Cyclical fluctuations in income and consumption inequality are examined by COIBION et al. (2012) who show that monetary shocks account for a significant component of the underlying variations in inequality in the US since 1980. They also argue that contractionary monetary policy actions, while contributing to macroeconomic stability, systematically increase such inequalities.

Even by doing nothing (or allegedly too little), central banks are accused of triggering far-reaching distributional consequences. For instance, central banks have been accused of “Getting off track” (TAYLOR 2008) by keeping interest rates too low for long and encouraging moral hazard, or of being “fire-raisers” (ARTUS 2007) by paying insufficient attention to asset prices. The alleged lack of determined action is seen as having encouraged excess investments and boom-bust-cycles in asset prices in which those who benefit in the boom phase do not bear the costs in the burst phase. AGLIETTA (2008) pushes the argument on distributional effects further, arguing that capitalism is bound to yield inequalities because financial excesses are inherent to capitalism, and that central banks cannot prevent such financial excesses by solely focusing on maintaining price stability.

A normative view on the role of monetary policy may reconcile those who describe the central bank as having large redistributive effects through its activity and those who describe it as having similarly large redistributive effects through its passivity. According to such a normative view, monetary policy should focus on countering unwarranted distributive effects associated with monetary and financial developments. Thus, BRUNNERMEIER and SANNIKOV (2012) argued that “redistributive monetary policy should be strictly limited to undoing the redistribution caused by the amplification effects and by moral hazard considerations”. Similarly, Cœuré (2013) noted that the redistributive effects of monetary policy are temporary and unintended, and that a central bank operating in a fragmented area should aim at repairing monetary policy transmission, thereby restoring the distributional neutrality of monetary policy.

A new perspective to analyse redistribution: the central bank balance sheet

The literature on the redistributive effects of monetary policy has essentially addressed the effects on the redistribution of wealth between savers and borrowers, or between different income groups in society. This paper adopts a different perspective. It takes the perspective of the central bank balance sheet to address the issue of redistribution.
Such perspective appears promising to analyse the redistributive effects of monetary policy, along three main dimensions. First, over time. For instance, a lengthening of the maturity of the central bank assets or liabilities would counter the short-term effects of an economic shock or large asset price movements, thereby also mitigating their adverse consequences over the longer term. Second, across economic sectors. For instance, an extension in the volume of assets or underlying collateral from a specific sector on the central bank balance sheet can benefit the entire economy by supporting de facto its most vulnerable sector. It also implies a shifting of risk exposure from the balance sheets of other economic sectors to that of the central bank. Third, across space. For instance, the provision of central bank liquidity to certain regions can similarly benefit the entire area by supporting its most vulnerable places.

The focus of the analysis from the perspective of the central bank balance sheet in this paper is on the spatial dimension: the redistributive effects of monetary policy within the various parts of a currency area, considering both the euro area and the US. The literature on the spatial redistributive effects of monetary policy within a currency area is rather scarce. Instead, redistributive effects across countries with different currencies have been considered. For instance, using balance sheet information, the valuation changes on bilateral external positions in financial and direct investment portfolios (whose valuations benefited from central bank actions) have been analysed by GOURINCHAS, REY and TRUEMPLER (2011) to assess who benefited and who lost on their external exposure.

The issue of spatial redistribution in a currency area

The sharing of a common currency brings with it the possibility for transfers of funds or financial risk between various parts of the currency area. The fundamental reason for this is that, by definition, the currency must have the same value throughout the area. As recalled by AGLIETTA and ORLÉAN (2002), money is a constitutive element for social relations. Money yields “confidence” – it is a promise of harmony in trade. At the same time it yields “violence” – the power of money triggers crises and associated disorders for the entire society –, which calls for appropriate regulation of this common good subject to the abuse of private hands. Similarly, the sharing of a common currency can foster confidence but also disorders if the rules governing the currency area are not clear or not respected. The sovereign debt crisis in the euro area has highlighted those features which many observers had tended to forget after the first ten years of an apparently smooth functioning of the Economic and Monetary Union.

The spatial dimension of redistribution within a currency area has far-reaching economic, financial and political implications. The possibility for such redistribution to emerge on a large scale is a sign of an integrated economic area. It normally cre-

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2 The three dimensions in the redistributive effects of monetary policy are similar to those of COEURÉ (2013), who distinguished the vertical (or intertemporal) dimension, the horizontal (or interpersonal) dimension, and the spatial (or cross-country) dimension.
ates a sentiment of belonging to the whole, which also brings financial investors to
treat the entire area as a level-playing field, in turn paving the way for further eco-
monic and political integration. At the same time, the emergence of spatial redistribu-
tion on a large scale can become a political issue of significant importance if, as some
observers argue, the people perceive redistribution as implying permanent, unidirec-
tional transfers across regions or a form of forced solidarity that they are not ready to
support as taxpayers and for which they were not consulted as citizens.

History has shown that cross-regional transfers implied by certain choices of a
monetary policy nature require enough democratic backing to ensure that integration
projects are politically viable despite asymmetric implications for taxpayers (e.g. con-
version of the Ost-Mark to the Deutsche Mark in the German reunification). History
has also shown that without the backing of populations cross-regional transfers of a
financial nature can create separatist forces (e.g. calls for independence in regions
such as Cataluña in Spain or the Flanders in Belgium). Even in the federal union of
the US that is a single nation, financial transfers across states are sometimes brought
up as an issue in the political debate, albeit the limited availability of state-level sta-
tistics hinders their analysis.

In Europe, regional redistributive effects of monetary policy have raised major con-
troversies, focused on asymmetric benefits and costs of the ECB’s monetary policy
across different euro area countries. Potential government bond market interventions,
the accommodative liquidity provision by the ECB and the temporary, crisis-induced,
widening of the pool of collateral were seen by observers as benefiting only a subset of
countries within the euro area, thereby creating unwarranted and allegedly even illegal
regional distributional effects. This perception may also have triggered the allegation
that the ECB measures in the crisis would inadvertently bring about a “transfer union”
between countries in the “core” and countries in the “periphery” of the euro area.

Spatial redistribution through the balance sheets of systems of central banks

This ‘transfer union’ debate has crystallised around balance sheet developments
among Eurosystem central banks, which reflect a degree of asymmetry that has never
been experienced before in the European Economic and Monetary Union. Some of the
euro area central banks have become major debtors within the system, others have
become major creditors. These asset and liability positions are essentially reflected in
the payment system of the Eurosystem, called TARGET, and the respective positions
have therefore been labelled as “Target balances”. At the height of the crisis in mid-
2012, those balances amounted overall to more than €1 trillion, or 10% of euro area
GDP. For some National Central Banks (NCBs), the individual Target balances ex-
ceeded 20% of GDP. The NCBs of Spain and Italy, for example, held Target liabilities
of around €430 and €290 billion respectively, and the Target claim of the Deutsche
Bundesbank amounted to around €750 billion. These imbalances are at the core of the
European debate about redistributive effects of monetary policy within the euro area –
understood as policy-induced asymmetries in the distribution of net worth positions.
In this debate, it is sometimes forgotten that the central banking system has mechan-
isms in place to mitigate the risks from its operations (see for instance ECB 2013). The regional imbalances have been seen as having a direct bearing on taxpayers, as in the case of potentially large losses associated with exposure to other countries taxpayers in surplus countries would have to recapitalise their central bank. Because of the potentially distortive effect of taxation, the redistributive effects among taxpayers are also related to the traditional concept of redistribution within economies.

Also in the US, balance sheets in the central banking system reveal that a substantial spatial redistribution of central bank liquidity has taken place. The US Federal Reserve System has a federal structure similar to that of the Eurosystem. It consists of a central unit, the Federal Reserve Board of Governors in Washington plus twelve Reserve Banks in twelve geographical districts in the US. Balances in the ‘Interdistrict Settlement Accounts’ (henceforth called ISA balances) emerging from imbalanced payments across districts also increased significantly during the financial crisis, but they are settled and brought back to more neutral positions once a year. Abstracting from the impact of such a settlement, an interesting pattern emerges during the crisis, whereby some Reserve Banks have persistently negative ISA balances, and one Reserve Bank, in the financial centre of New York, a persistently positive balance.

This paper uses the information on internal imbalances in the balance sheets of the Eurosystem and the Federal Reserve System to analyse the redistributive effects of monetary policy across the euro area countries and the US districts respectively. The Target balances and the ISA balances that used to be small and stable have increased significantly during the financial crisis. This paper sheds light on the distributional effects involved and shows how in the euro area like in the US the actions of the monetary authority during the crisis have implied a transfer of risk through the central bank balance sheets, recognising that central banks have mechanisms in place to mitigate the risks from their operations. The risk exposure has been transferred from the private financial sector, itself concentrated in some parts of the euro area and the US, to the public sector, and thus to the entire population of taxpayers in the respective currency areas. For a review of the literature on the issue of Target and ISA balances, I refer to COUR-THIMANN (2013), from which several figures are also borrowed and updated.

Sections 2 and 3 analyse Target balances and the associated redistributive effects in terms of financial claims across the euro area countries and the US districts respectively. The Target balances and the ISA balances that used to be small and stable have increased significantly during the financial crisis. This paper analyses the equivalent of Target balances in the US and proposes a novel interpretation of their implied redistributive effects. It further addresses the issue of the transfer of risk exposure reflected in such balances on both continents. Section 5 concludes with a proposition to interpret the actions of the monetary authority as moving away, even if this has been unintended, from the pure stabilisation function (as understood in the pre-crisis central banking paradigm) towards taking all three functions identified by MUSGRAVE (1959) for the government: stabilisation, redistribution and allocation. The internal balances in the Eurosystem and the US Federal Reserve System offer one powerful manifestation of those three functions which, even if not intentional and resulting from the pursuance of stabilisation, are at stake in central banking.
Large Target balances arose because of three key features in the euro area crisis: first, a virtual collapse in the interbank market implying that liquidity is not evenly redistributed in the market; second, the ECB’s accommodative liquidity measures, including in particular the full allotment of the demand for liquidity by banks; and third, the continuous large macroeconomic and financial imbalances among the euro area countries. This section focuses on the first two elements – the impairment in the interbank market and the ECB’s accommodative liquidity measures – and discusses the associated redistributive effects across the euro area.

How central bank balance sheet positions emerge in the payment system TARGET

Target is the payment system operated by the Eurosystem, the system of central banks in the euro area. Target (or Target2 for its second generation since 2007) is an acronym for Trans-European Automated Real-time Gross settlement Express Transfer system. The payment system allows banks to conduct their payment transactions in euro in real time. Transactions in Target are very large, amounting in four working days to the equivalent of the euro area’s annual GDP. There are also other payment systems, but Target is the one used by the Eurosystem to conduct its operations, and payments conducted through Target, or net payments imported in Target from other payment systems, are settled in central bank money.

A simple example illustrates how Target balances emerge on the balance sheets of the central banks: when an individual makes a payment, his/her bank account is debited by the transaction amount. The same happens with the account that the bank holds with its central bank – because the central bank is the bank of the commercial banks in a given country. This account is debited. If the payment is cross-border, this reduces the Target position of the central bank and increases the Target position of the central bank in the other country where the account of the recipient bank is credited. Target balances are thus positions on the balance sheets of the central banks in the euro area, which reflect cross-border payments between banks in euro.

The Target balances are intra-Eurosystem positions: they sum up to zero across all the euro area central banks. When an NCB has a Target claim, it means that overall there has been a net inflow of euro payments to that country’s banking system; in case of a Target liability, a net outflow has taken place.

The role of monetary policy in the emergence of Target balances

It is important to note that sustained payment flows out of a national banking system are only possible if there is a supply of euro, that is, if banks which do not obtain the necessary liquidity in the market can obtain it at their central banks. Before the financial crisis, Target balances were relatively small and stable. Cross-border payments tended to be balanced. Banks that faced net payment outflows could find compensating funds in the market. Notably, they could borrow in the cross-border inter-
bank market. With the financial crisis, the interbank market ceased to function properly. Having doubts about the financial strength of other commercial banks, the banks with liquidity surpluses were no longer willing to lend to banks with liquidity needs as they did in the past, preferring to keep the surplus funds with their central banks. Thus, banks that faced net payment outflows turned to their central bank for liquidity. The segmentation in the funding market for banks was both domestic (that is, within the individual national banking systems) and cross-border (that is, across the national banking systems).

When the interbank market became impaired, the ECB increased its intermediation role in the funding of banks. Leaving such intermediation in the sole hands of the market would have meant that solvent banks could rapidly become illiquid. Asset fire sales and severe constraints to the supply of credit to households and firms would have followed, resulting in a disorderly deleveraging in the banking sector and the economy as a whole. The ECB decided to serve in full the demand for liquidity of solvent banks, against collateral pledged by the banks in return for liquidity (see Cour-Thimann and Winkler 2012). Such full servicing of the liquidity demand had already been used in several monetary policy operations at the time of the first tensions in the money market in the summer of 2007, and in the crisis from October 2008 on it became generalised in the form of ‘fixed rate full allotment tender procedures’ that were eventually also applied in longer-term refinancing operations. The earlier practice to systematically absorb the ensuing excess liquidity was also discontinued, so that the Eurosystem was providing more liquidity than needed on aggregate by the euro area banking sector. The banks with excess liquidity (for instance because they received net payment inflows) would keep the excess funds at their central banks. The balance sheets of the NCBs and the consolidated balance sheet of the Eurosystem expanded.

Providing credit to solvent banks against collateral is the basic function of central banks. The provision of credit to banks in the euro area is done at conditions decided by the Governing Council of the ECB. Those conditions are the same for all banks, wherever they are located in the euro area. This also means that the amount of liquidity provided by a particular NCB is not necessarily related to the size of the respective country. In fact, before the financial crisis more than half of the liquidity was provided by the Deutsche Bundesbank, a share which was about twice that of Germany’s economic weight in the euro area (see Figure 1).

With the financial crisis, the distribution of central bank liquidity throughout the Eurosystem became highly uneven in the “opposite” sense, less to banks in the core countries but more to banks in the crisis countries, with Greece, Ireland, Portugal, Spain and Italy receiving some 80% of the funds in the monetary policy operations from early 2010 onwards.

The cross-border payments in the private sector mostly went in one direction, from the countries whose sovereigns were under financial strain to the more resilient countries in the euro area. Continued payment outflows corresponded to payments for net imports, to the reimbursement of credit that was falling due as foreign creditors were reluctant to roll over their exposure, and to other forms of capital outflows, including capital flight.
To sum up, the imbalanced cross-border payments between national banking systems in the euro area thus gave rise to large Target balances as the Eurosystem accommodated the ensuing liquidity needs of banks, with larger demand from the banking systems in crisis countries. Imbalances in the payment system Target – claims and liabilities vis-à-vis the ECB – accumulated on the balance sheets of the various euro area central banks.

**Target balances and the Eurosystem intermediation**

When the market segmentation essentially arose along national borders, the evolution in the Target balance of an NCB began to broadly match the evolution in its volume of net liquidity provision. Thus, on aggregate, the evolution in overall Target balances also began to match the evolution in the volume of Eurosystem’s liquidity provision and therefore in the size of the Eurosystem’s balance sheet (Figure 2).

The intermediation function taken by the Eurosystem implied an intermediation across national borders, between banking systems in countries under stress (relying on Eurosystem credit) and banking systems in the more resilient countries (depositing...
the excess liquidity at the Eurosystem). As in any form of intermediation, there is an element of risk redistribution attached to it, to which Section 4 will return.

**Figure 2**: Overall Target balances versus Eurosystem liquidity provision and liquidity absorption

Figure 3 shows the evolution of Target balances for the individual euro area central banks since 2002. The individual balances are staggered and the sum of the positive balances corresponds to the aggregate ‘overall Target balances’ of Figure 2. The Target balances became highly negative for the NCBs in the euro area countries under strain, like Greece, Ireland, Portugal, Spain, Italy and Cyprus, and highly positive in countries where payments are inflowing, like Germany, the Netherlands, Finland and Luxembourg.
The total of Target liabilities had reached €1.1 trillion in mid-2012 before declining. This was equivalent to 10% of euro area GDP. The large increase in Target balances in the first half of 2012 reflected a movement of private funds from the stressed countries to the so-called core countries, in part related to safe-haven flows and fears of the reversibility of the Economic and Monetary Union. The declaration of the ECB President in July 2012 that the ECB would do ‘whatever it takes, within its mandate, to preserve the euro’ (see Draghi 2012) and the subsequent announcement of the Outright Monetary Transactions as a monetary policy measure ready to be activated under specific conditions, helped to ease tensions. Target imbalances narrowed thereafter. They declined by 30% in one year, reaching around €800 billion in mid-2013. For the Bundesbank, the Target claim which had reached a peak of about €750 billion fell by one quarter, to around €570 billion.

The decline in Target balances essentially reflects the increasing ability of banks in the stressed countries to fund themselves in the markets. It is thus a sign of reduced fragmentation in the euro area. In fact, part of the decline in Target balances also reflects the compensating effect of the financial support to certain stressed euro area countries from the European countries (bilateral intergovernmental loans, EFSF and ESM loans) and the IMF. Such financial support involves official sector payment flows into the stressed countries and out of the more resilient euro area countries, which together contribute to a reduction in Target balances. Besides the im-
mediate and direct effect, the financial support should indirectly yield a further a decline in Target balances by contributing to a strengthening of the economies and their banking systems, and thus to the return of confidence of investors in stressed countries.³

3. Target balances and macroeconomic imbalances in the euro area

Section 2 presented two distributional aspects of the euro area crisis captured by Target balances: the uneven distribution of liquidity in the private sector associated with the tensions in the interbank market, and the uneven distribution of central bank liquidity associated with the Eurosystem liquidity measures in such context. This section focuses on the third distributional aspect, which finds a macroeconomic expression in the countries’ national accounts: the persistent macroeconomic and financial imbalances within the euro area. In the context of the financial crisis, such imbalances aggravated, and were themselves aggravated by, the lack of trust in the banking systems and sovereigns of certain countries. They fuelled the large payment imbalances that became reflected in Target.⁴

The accounting link between Target balances and the balance of payments

When creditors and market participants in general started to question the sustainability of macroeconomic imbalances and the viability of banks in certain countries, this triggered a sudden stop of capital inflows towards those countries, possibly aggravated by outflows in domestic capital. As noted above, banks in those countries compensating such net capital outflows with increased borrowing at their central banks,⁵ the Eurosystem increased its intermediation function in bank funding.

The macroeconomic relevance for the euro area economy of this intermediation function and the associated Target balances can best be illustrated using the national balances of payments. The balance of payments can be decomposed into its various main accounts, which are cumulated over time and in which the Target balance is distinguished. Figure 4 illustrates such decomposition for the group of deficit countries on the one hand, and the group of surplus countries on the other hand. The deficit group shows both Target liabilities and overall cumulated current account defi-

³ The envisaged euro area banking union should, ceteris paribus, contribute a further decline in fragmentation and Target balances. See for instance THIMANN (2013).
⁴ See in particular the special issue devoted by the CESIFO (2012) to the analysis of the link between Target balances and the balance of payments crisis in the euro area.
⁵ In this context, the ECB’s full allotment acted in some way as a “sudden backstop”, using the expression of Agnès Bénassy-Quéré, in her discussion of the paper “Target balances and the crisis in the euro area” at the Club du CEPII in Paris on 27 May 2013. See also MERLER and PISANI-FERRY (2012), TORNELL and WESTERMANN (2012) as well as CECCHETTI, McCauley and McGuire (2012).
cits; the surplus group shows both Target claims and cumulated current account surpluses.

The decomposition uses the following identity (3), itself derived from two other identities. For simplicity, the amounts cumulated are at face value, and not in present value terms; in the first identity the capital account is merged together with the financial account since it tends to be relatively small in developed countries and essentially differs from the latter with respect to the longer maturity of the financial flows.

\begin{align*}
(1) \quad & \text{Current ac}_{t} + \text{Financial ac}_{t} + \text{Net errors and omissions}_{t} = 0 \\
(2) \quad & \text{Financial ac}_{t} = -\Delta \text{Target balance}_{t} + \text{Official loans}_{t} \\
& \quad + \text{Other financial ac}_{t} = 0 \\
(3) \quad & \text{Current ac}_{t} - \Delta \text{Target balance}_{t} + \text{Official loans}_{t} + \text{Other Financial ac}_{t} \\
& \quad + \text{Net errors and omissions}_{t} = 0
\end{align*}

The second identity deserves some explanation. A reduction in the Target balance or, equivalently, an increase in the Target liability, makes a positive contribution to the financial account of a given country. As a result, a Target liability appears above the time axis in Figure 4. The reason is that a reduction in the Target balance of an

![Graph showing cumulative Target balance and balance of payments accounts](image)

Notes: Cumulated accounts since 2005. ‘Deficit’ countries include Greece, Ireland, Portugal, Spain, Italy and Cyprus. ‘Surplus’ countries include Germany, the Netherlands, Finland and Luxembourg. Last observations: 2013 Q2.

The balance of payments is broken down using identity (3). ‘Other financial account’ is equal to the financial account excluding net financial inflows in the form of two items that are shown separately: a change in the Target balance (with the opposite sign) and, where relevant, the official loans.

Source: ECB, NCBs, IMF and author’s calculations. Essentially updated from COUR-THIMANN (2013).

Figure 4: Cumulative Target balance and balance of payments accounts
NCB being equivalent in accounting terms to a net financial inflow from the rest of the World to the country’s monetary authority, it is included in the financial account, specifically within the item ‘Other investment’, under the sub-item ‘Monetary authority’. The second identity further distinguishes the contribution of the official loans granted to certain countries during the crisis. Together with a reduction in the Target balance, the official loans constitute net inflows of a public source to a given country. The remainder of the financial account thus provides a proxy for the part of the net financial inflows that are of private origin. It is labelled ‘Other financial account’ here.

Although there is an accounting link between Target balances and the accumulated imbalances within the balances of payments, this does not mean that they would be a balance of payments facility. Indeed, there is no direct financing of those imbalances by the central bank, but instead, indirectly, a refinancing of imbalances between private banks through the Eurosystem operations (and official loans).

How the monetary authority substituted for the private sector in the countries’ external accounts

The illustrations for the deficit countries and the surplus countries appear to be mirror images of one another. The large cumulated current account deficits (the black area) were financed through capital inflows from abroad (captured by the financial account in the striped area), which were essentially of private origin. As the crisis hit, the banking systems of those deficit countries increasingly refinanced themselves by borrowing from the Eurosystem rather than in the private market, notably the cross-border interbank market. In practice, they borrowed funds at their respective domestic NCB that allowed residents to reimburse creditors for the past claims falling due and to continue to afford net imports for some time, as well as banks to offset additional net payment outflows stemming from capital flight. In doing so, the banks were substituting liabilities vis-à-vis foreign residents for Target liabilities vis-à-vis the ECB (the light-grey area). The official financial support to the crisis countries (the dark-grey area) substituted for an additional part of the former private financial inflows.

In turn in the surplus countries, exporters could also continue to find solvent consumers – the cumulated current account surpluses continued to widen. The creditors recovered their past claims and reduced their exposure to the crisis countries – the capital outflows reversed direction, implying a reduction in the cumulated financial account (the striped area contracted over a prolonged period of time). In so doing, the creditors in the surplus countries were substituting claims on residents in the crisis countries for Target claims vis-à-vis the ECB (the light-grey area).

The figure further shows that following mid-2012, the trends observed in the first years of the crisis partially reversed; at least the overall size of imbalances in the balance of payments stabilised. Current account surpluses in the crisis countries allowed a slight correction of past current account imbalances (the dark areas at least stopped widening); the Target balances declined (the light-grey areas contracted); pri-
vate capital flows started to reverse (the striped area re-widened at least in the group of ‘surplus’ countries). The features of Figure 4 are all the more striking at the country level. Figure 5 illustrates the balance of payments decomposition in selected individual crisis countries, Germany and France. In France, current account deficits have been relatively small compared with the size of the economy but have persisted. In general, Target balances appear broadly associated with cumulated current account balances (even if those are vis-à-vis the rest of the world, they are essentially vis-à-vis the rest of the euro area). But Target balances can become even larger if the direction of net private financial flows is reversed, as was the case in Ireland: there, the Target liability essentially offset a capital flight.

Thus, through the emergence of Target balances, the monetary authority largely substituted for the private sector in the refinancing of cumulated current account deficits, or beyond, as in the case of Ireland when financial inflows reversed direction. For the individual crisis countries, the sum of the Target liabilities and the official loans actually substituted for the essential part of private financial inflows, before the trends reversed in mid-2012 as noted above. Even Greece, for which all the euros that had entered the country had left by mid-2012, started to attract new private funds again.

Nevertheless, the correction of past imbalances in the current and financial accounts in the euro area is small compared to the experience historically observed in crisis countries that are not part of a monetary union. Countries struck by a classical balance-of-payments crisis generally experienced a sharp exchange rate depreciation and an ensuing boost to exports, coupled with a reduction in imports. From this perspective, the Eurosystem’s liquidity support – which is reflected in the associated Target balances – has helped to smooth the balance of payments adjustment substantially in the Economic and Monetary Union. Hence, the ECB’s monetary policy measures have also had a stabilising effect on the external financial accounts of the euro area countries. Whether this stabilisation function for external accounts is appropriate depends on whether the underlying imbalances and capital flight represented a distortion or not, and on how the costs of an abrupt adjustment compare with the costs of an unduly slow adjustment. To the extent that the ECB’s actions have de facto given policy-makers time to address the underlying causes of the imbalances, the question is also whether this time has been used effectively.

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6 Such re-widening overstates the reversal of private capital flows since part of it corresponds to the financing of the official loans to the crisis countries that is not distinguished here for the surplus countries. As Figure 5 will show, certain crisis countries attracted private capital flows again.

7 Part of the inflows related however to the recapitalisation of Greek subsidiaries by foreign banks before they could sell them, generally at a loss.

8 The Target balances would play the role of foreign exchange reserves in countries subject to currency pegs, albeit the latter are limited contrary to the former.
Note: Cumulated accounts since 2002. The last observations are at end-September 2013 and, for Ireland, end-Q2 2013. The balance of payments is broken down using identity (3). ‘Other financial account’ is equal to the financial account excluding net financial inflows in the form of two items that are shown separately: a change in the Target balance (with the opposite sign) and, where relevant, the official loans. For Spain, ‘Official loans’ captures financial assistance from the EFSF/ESM.

Source: ECB, NCBs, IMF and author’s calculations. Essentially updated from Cour-Thimann (2013).

*Figure 5*: Cumulative Target balance and balance of payments: selected countries
4. Target balances, their US equivalent and risk transfers through central banks

The balance of payments analysis shows the extent to which the Eurosystem liquidity support and the associated Target balances imply a transfer of risk from private creditors to the Eurosystem. When economies are interconnected, persistent and large external imbalances always indicate a source of vulnerability for the country, and thus for its partners. This is all the more the case in a monetary union. If the intermediation in the market becomes impaired and the central bank steps in to take over this intermediation role, there can be a transfer of risk exposure from private creditors to the central monetary authority and its shareholders. This has been the case in the euro area like in the US during the crisis.

On both sides of the Atlantic the risk transfer also has a spatial dimension, which in the euro area has crystallised around the debate on Target balances. The notions of financial risks and financial transfers are omnipresent in this policy debate. Given the concentration of monetary policy operations and the associated Target claims of the ECB on the stressed countries, the Target balances are sometimes seen as a way for the ‘North’ to finance the ‘South’. In particular Sinn in many writings since 2011 (see for instance SINN 2011a,b and 2012a,b,c) and SINN and WOLLMERSHÄUSER (2011 and 2012a,b) argue that Target balances represent a hidden bailout for countries under strain, which reduces incentives for reforms and the economic adjustment, and entails enormous risks for taxpayers in countries with Target claims, such as Germany. Target balances would be “Dangers for Our Money and Our Children”, which is the subtitle of his book ‘The Target trap’ (SINN 2012a, cited expressions translated from German).

Target balances are intra-Eurosystem claims and liabilities that are not foreseen to be settled. The perception of risks of financial losses, financial transfers and adverse incentives attached with Target balances led several authors to call for constraints on the system. For example, to levy surcharges on Target liabilities (SCHLESINGER 2012) 9 or to settle Target balances against assets as done in the US (see for instance SINN 2012d and EEAG 2013). As explained further below, the Federal Reserve System settles intra-district imbalances once a year by adjusting assets holdings. Other authors, such as BINDSEIL, COUR-THIMANN and KÖNIG (2011, 2012), KLOSE and WEIGERT (2012) and COUR-THIMANN (2013) show that such settlement in the US is in fact merely of an accounting nature. Settlement is not constraining in the US, but it would be constraining in the euro area, essentially given its multi-country setup without a single fiscal authority, and with central bank profits accruing to separate national fiscal authorities.

This section compares the internal imbalances in the Eurosystem and the US Federal Reserve System and highlights similarities between imbalances in payment flows across the euro area countries and the US districts during the crisis. It further makes the following two points regarding Target balances and risk transfer. First, even if such a risk transfer takes place, Target balances cannot be avoided in monetary union.

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9 Similarly, BINDSEIL and WINKLER (2012) consider in theory an increase in the marginal rates of remuneration on Target balances, in relation to their ratio to GDP.
The implicit insurance mechanism allowing such risk transfer should be associated with appropriate and strong incentives to avoid moral hazard, but the existence of an implicit insurance is no argument against a monetary union – in fact there is a case for asserting the contrary. Second, the moral hazard is not simply what it seems to be, namely implying a risk transfer from the crisis countries to the more resilient countries. Rather, it also involves a transfer of the risk exposure vis-à-vis crisis countries from private investors and creditors in the more resilient countries to the taxpayers of the entire euro area. This is because the risk has shifted from being bilateral to being multilateral, borne by the central banking system as a whole.

**Internal balances in the US Federal Reserve System**

Every country or currency area needs to have a payment system to settle the payments between the central bank and the banking system. In a federal currency area with several central banks, such as the euro area or the United States, regional imbalances can emerge in the payment system if payments are larger in one direction than another. They are reflected in the balance of payments of the various central banks, the Target balances in the euro area (Figure 2) and so-called Interdistrict settlement accounts (ISAs) in the US (Figure 6). In this case it depends on the institutional setup of the system if and when these accumulated payment imbalances are settled.

![Graph showing internal balances in the US Federal Reserve System](image_url)

Note: Last observation: 2 October 2013.

Source: Archival Federal Reserve Economic Data.

*Figure 6: US Federal Reserve System: Interdistrict Settlement Accounts*
Before the crisis, payments across central banks evened out over time and the imbalances in the system at any point in time were comparatively small, amounting normally to less than 0.5% of GDP. The imbalances became very large in the crisis as payment flows became highly imbalanced. In both areas, single constituencies have been the main recipients of payment flows since 2007: in the euro area, Germany, as reflected in the Target claim of the Bundesbank; and in the United States, the district of the New York Fed.

The key difference is that in the US, imbalances among Federal Reserve Banks (the so-called district Feds) are settled once a year, whereas in the euro area they are not settled and can accumulate without limits. Settlement in the US implies an adjustment in the shares of the district Feds in the pool of assets held in common by the Federal Reserve System. The district Feds with ISA liabilities see their shares reduced in the common pool of securities held by the US Federal Reserve System at the benefit of the district Feds with ISA claims.\(^\text{10}\)

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10 This pool of securities holdings results from the asset purchases conducted in the context of the implementation of monetary policy and is called the System Open Market Account. The shares of the various district Feds in the System Open Market Account that determine their
Interestingly, if the Fed had not settled the flows regularly, the imbalances would have reached the equivalent of around 5% of GDP ($700 billion, see Figure 7), hence not far below those seen in the euro area, of around 7% of GDP (and 10% at the peak in mid-2012). Net payment inflows to the New York Fed district coming from various parts of the US would have cumulated at some $750 billion, broadly comparable to the €570 billion Target claim of the Bundesbank (at the time of this writing).

**Imbalanced payment flows and strengthening of the financial centres in the crisis**

With the financial crisis, the redistribution of central bank liquidity was no longer fully, or even primarily, in the hands of the market. The central bank took over that role to a large extent, and it has been providing more liquidity than needed on aggregate to avoid liquidity scarcity in a financial system where liquidity would not flow smoothly. In the case of the US and globally, liquidity had evaporated from certain asset markets. Additionally in the case of the euro area, the interbank market was confined to a few countries’ banking systems and essentially excluded others; hence, *de facto*, the central bank has provided liquidity to certain banking systems and absorbed it from other banking systems, as illustrated above. The increased volume of liquidity provision has therefore raised important redistributive effects, as liquidity has been channelled to various parts and sectors in the economy.

As far as private flows are concerned, Germany and the New York Fed district, which operate as the two main financial centres of the respective currency areas, have been persistent net recipients of private sector liquidity. In the US, the redistribution implied by liquidity moving towards the respective financial centres is ultimately reflected in the increased share of the New York Fed in the common pool of securities holdings of the Federal Reserve System; and in the case of Germany it is reflected in the large accumulated Target balance of the Deutsche Bundesbank.

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11 Market functioning meant that financial institutions with liquidity surpluses would lend to those with liquidity needs (as noted in Section 2 in the context of the euro area); the liquidity which the central bank provided in the context of its monetary policy operations was matched to the aggregate needs of the economy.

12 Such channeling is both direct, through central bank operations, and indirect, as central bank liquidity is intermediated by various economic agents.

13 The financial industry is also large in other places in the respective currency areas, but Germany and the district of the New York Fed are the most prominent places. Nevertheless, relative to GDP the net distribution of funds towards Luxembourg was much larger: its central bank had a Target claim of 243% of GDP at the end of 2012.

14 Public, non-central bank flows have also played a role. For instance, governments have been channeling substantial amounts of liquidity to the financial sector, through the large government recapitalisation of financial institutions in the US (notably in New York) and in the euro area.
The large movements of funds in net terms towards certain regions would not have been possible without a large supply of central bank liquidity. Figure 8 illustrates the substitution in the flow of funds of private and central bank origins that took place in the euro area and similarly in the US. The presentation is stylised because for the US financial account data are not available at the district level.

Note: The dashed arrow represents a funding flow of private origin, from a financial institution to a borrower or an asset holder. The cross over this arrow signals that with the crisis financial institutions are no longer willing to lend to agents in crisis countries (in the euro area) or to buy assets in a downward asset price spiral (in the US). (Borrowing and asset purchases take place both in the euro area and the US, but this stylised presentation focuses on the main mechanisms in the respective areas). The central banks take an intermediation role in the funding markets, which is illustrated by the pairs of diagonal arrows. The imbalanced payment flows across regions (countries in the euro area and districts in the US) of the currency area lead to the emergence of Target balances and ISA balances on the balance sheets of the respective central banks.

Source: Author’s conception.

Figure 8: Stylised presentation of flows of funds of private and central bank origin in the euro area (top) and the US (bottom)
Hence, the increased central bank liquidity provision, directly channelled to the areas’ weakest parts (such as the crisis countries in the euro area\textsuperscript{15,16}) has indirectly supported the financial sector at large. The findings that the financial sectors are ultimate beneficiaries of the central bank liquidity appear consistent with the perception of rising inequalities to the benefit of income in the financial industry, including during the financial crisis. In the US, this perception has nourished a debate epitomised by the shorthand “Wall Street versus Main Street”. In the euro area, the perception is coherent with the balance of payments analysis, which shows that private creditors (in particular financial institutions) have shifted their risk exposure vis-à-vis the crisis countries to the Eurosystem.

It is important to note that the different ways of implementing monetary policy in the euro area and the US do not make a difference for the pattern of payment flows, which is similar in both areas. In the euro area, the Eurosystem essentially lends the liquidity in a decentralised way to the various national banking systems. In the US, one district Fed implements monetary policy on behalf of all others, essentially in the form of outright purchases of assets in the market. The fact that this district Fed is the New York Fed has no bearing on the interpretation given here.\textsuperscript{17} When the New York Fed purchases assets, the central bank liquidity reaches first the intermediaries who are selling those assets, essentially primary dealers with a bank account in New York, but in the end the liquidity reaches the originators of the assets, who can be residing anywhere in the country. For instance in the case of mortgage-backed securities (MBS), the underlying mortgages can be generated anywhere in the US. In the case of Treasury securities, the originator has its bank account in New York: the New York Fed actually manages the Treasury for the US government. Thus, the Fed purchases of Treasury securities are a priori neutral for the net payment flows between the district of New York and the rest of the country – but what the Treasury does with the money it borrowed when issuing the Treasuries is not neutral.\textsuperscript{18}

\textsuperscript{15} As noted for instance by HIGGINGS and KLITGAARD (2013), “Absent policy action, the outflow of commercial bank reserves would have translated into shrinking banking systems in the periphery.”

\textsuperscript{16} In the US, the central bank liquidity was directly channelled in part to specific institutions and, for a large part, to specific asset classes, thereby supporting the generators and sellers of the assets. It could be argued that this support would be \textit{a priori} larger in the geographical areas where risk (e.g in mortgage markets) was higher.

\textsuperscript{17} The fact that the ISA balances are settled against assets in the pool of securities held in common by the Federal Reserve System does not matter either for the direction and interpretation of net payment flows across districts, the redistribution of assets among the Reserve Banks on their balance sheets not involving payment flows in the other direction. On the contrary, an increased share of assets implies a future inflow of interest payments for a given Reserve Bank (albeit channelled \textit{in fine} to the US Treasury as part of the Reserve Bank’s profits).

\textsuperscript{18} The location of the US Treasury account in the district of New York affects the payment flows for this district. However, on balance the payment flows on the US Treasury account are not expected to explain the large net payment inflows towards the district of New York.
The large net payment flows to the district of the New York Fed during the crisis means that in net terms the central bank liquidity ended up, directly or indirectly, in alimenting this district relatively more than the other parts of the country. This surplus alimentation has amounted to some $750 billion and thus to the equivalent of over a third of the around $2 trillion of outstanding central bank liquidity provision at end-September 2013 (corresponding to the amount of purchased assets). This share is similar to that in the euro area, where some €650 billion ended up in the Bundesbank’s Target claim, compared with around €1.7 trillion of central bank liquidity provision outstanding at end-September 2013.19

The comparison underlines that what has happened in the euro area during the financial crisis is not unique. Also in the US, the statistics of the Interdistrict Settlement Accounts reveal that a large redistribution of funds has taken place within the country, and that in net terms the ultimate recipient has been its main financial centre, which is itself the home of financial institutions that have been blamed for triggering or exacerbating the global financial crisis.

It is quite surprising that the main financial centres would ultimately absorb significant amounts of liquidity in the two respective currency areas and that these centres have been strengthened as a result of central bank actions, at a time when the financial industry had feared, and in part incurred, enormous losses. The strengthened position of the financial centres in the recent crisis stands in contrast with the experiences of the 1929 crisis and the banking crises in Finland, Norway and Sweden in the early 1990s.

The possibility for intra-system balances to emerge is inevitable in a currency area

In the US like in the euro area, the possibility for internal balances to emerge in the respective systems of central banks is inevitable. But, as mentioned, in the US Reserve Federal System the internal balances in the Interdistrict Settlement Accounts are settled once a year against assets, and thus brought back to more neutral positions.

observed in the crisis. If anything, the payment flows on the US Treasury account would rather have a compensating effect through net payment outflows, if such can be the interpretation of the persistently negative ISA balance observed for the New York district prior to the crisis. In general, a public deficit involving larger government spending in the rest of the country than revenues collected there would imply net payment outflows. By contrast, the selling of government bonds to end-buyers outside the district of New York would imply net payment inflows.

19 This share has remained broadly unchanged since mid-2012 when the Eurosystem balance sheet reached a peak in its expansion. Indeed, at end-August 2012 the Target claim of the Deutsche Bundesbank reached a peak of €751 billion, corresponding to the equivalent of 32% of the Eurosystem liquidity provision at the time (which amounted to €2339 billion, using the aggregate defined in Figure 2). The shares are discussed for comparison purposes: through financial intermediation in the economy, money is created whose volume is not necessarily related to the amount of central bank liquidity injected.
Some authors call for settling Target balances in the same way in the euro area, or at least shifting assets accordingly. But monetary policy in the euro area is implemented in a decentralised way, by all (now 18) NCBs: the Eurosystem cannot settle the balances by shifting the collateral assets against which liquidity has been created. The NCBs hold the collateral against which they extended the credit. Now, even if the liquidity has left the country, the NCB still has the legal claim on the domestic commercial bank. If it were to transfer the collateral, say to the Bundesbank, it would do uncovered lending, whereas the Treaty explicitly demands that lending always be based on “adequate collateral”.

Other authors ask whether the central bank could not shift other assets, so that a central bank like the Deutsche Bundesbank has some tangible backing for its Target claim. Some even mention gold. The problem here is that a requirement to settle Target balances with such high-quality assets would not be viable in the absence of commensurate assets available to NCBs. Greece for example has only a few billion euro worth of gold but a Target liability which was once above €100 billion. Contrary to the case in the Federal Reserve System, a settlement in the Eurosystem would mean transferring assets that are not related to the implementation of monetary policy.

A requirement to settle balances with high-quality assets would allegedly operate ex ante in discouraging Target balances. However, under the single monetary policy, an NCB cannot, with a view to contain the widening of its Target liability, impose more stringent conditions in the implementation of the single monetary policy than another NCB. In addition, in the absence of commensurate assets available to NCBs, the very expectation that an NCB may not have the means to settle its balance and may thus attempt at discouraging the debiting of commercial bank accounts would imply that a euro deposited at that NCB would be valued less than a euro deposited at another NCB in the euro area. This would mark de facto the end of the single currency.

Likewise, imposing surcharges on Target balances would not be compatible with the single monetary policy and the associated principle of equal treatment of banks throughout the euro area, as it would introduce national-specific considerations in the treatment of banks.

This is why the idea of asset transfer is simply not compatible with the current setup of the Eurosystem. What one could do is to centralise monetary policy implementation at the ECB. In this case, one would not have any Target balances in the first place. But this is not foreseen in the Treaty.

The history of the US Federal Reserve System itself shows that episodes of large imbalanced capital flows across the US districts implied a flexible application of the settlement constraint. It actually led to a process of strengthened integration of the central banking and financial system to ensure the stability of the currency area, not to new arrangements that would constrain internal capital flows (see in particular Cour-Thimann 2013 and Eichengreen et al. 2013).
A transfer of risk from the private financial sector to the public sector: example of the euro area

Through their balance sheet expansion during the crisis, the Eurosystem and the Federal Reserve System have increased their risk exposure, facilitating the necessary deleveraging in the rest of the economy (see for instance Praet 2012 and Courthimann and Winkler 2012). Section 3 showed that the accommodative liquidity provision in the form of lending operations or asset purchases has implied a transfer of risk away from the private sector (notably the financial sector) to the public sector, through the central bank balance sheets. This can be seen as having a bearing on taxpayers, especially given the entire system’s allegedly increased exposure to financial assets or to relatively weak banks putting forward relatively risky assets in return for central bank liquidity. The remainder of this section discusses the issue of risk transfer associated with intra-system balances in the case of the euro area and argues that settling Target balances is not only difficult in the euro area context as noted above, but also inappropriate if based on the view that Target balances would specifically reflect a transfer of risk from the ‘South’ to the ‘North’.

Target balances are not risky as long as all countries stay within the euro area. The financial risk is not associated with the Target balances themselves, but with the underlying provision of central bank funds to banks as part of the Eurosystem operations (see for instance Ulbrich and Lipponer 2011, Deutsche Bundesbank 2011 and ECB 2013). By definition, lending money cannot be done entirely without risk, but the central bank protects its balance sheet, both through its collateral framework (the eligible collateral assets are valued daily and haircuts are applied) and financial buffers.20 The haircuts imply that a bank can only borrow liquidity in a smaller amount than the market value of the collateral it provides as a guarantee; they are commensurate with the risk (in particular, the different haircuts applied for the different assets aim at achieving risk equivalence across the eligible collateral assets). In a cohesive monetary union, it also makes no difference in the euro area whether a central bank has a positive or negative Target balance. The residual risk attached to the monetary policy operations is shared among central banks according to their shares in the ECB’s capital – that is, in proportion to countries’ weights in euro area GDP and population.

Even when presuming existing risks, it is misguided to argue that central banks with negative balances should be penalised to the benefit of those with positive balances. The notion of “cross-border payment” is blurred in a financially integrated area: the banks involved in the transaction may be part of the same banking group.

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20 In the case of asset purchases, the risk taken by the central bank in providing liquidity is mitigated by the ownership of the assets themselves. More generally, central banks like in the Eurosystem and the US Federal Reserve System hold capital and have mechanisms in place to protect their balance sheets, such as the retention of profits that allows the build-up of financial buffers over time as well as financial guarantees from their governments, which for instance ensure a recapitalisation in case of losses.
For instance, if a subsidiary of a German bank refinances itself at the NCB of another euro area country and repatriates the funds to Germany, this generates a Target claim for the Deutsche Bundesbank and a Target liability for the other NCB. The liquidity provision by a certain NCB and its associated Target balance is not entirely connected with the domestic funding needs of the respective country.

Most importantly, Target balances do not specifically reflect a transfer of risk from the ‘South’ to the ‘North’, or from the ‘periphery’ to the ‘core’. When assessing the nature of the transfer of risk exposure associated with Target balances, it is important to consider the origin of the risks that have been transferred to the central banks’ balance sheets as well. In the first place, the risk exposure originated from private residents in the ‘core’ who had cumulated claims on the ‘periphery’ as they invested the proceeds from current account surpluses there. Hence, what subsequently took place when investors reduced their exposure towards the ‘periphery’ and the Eurosystem in its stabilisation function for the economy intermediated the funding market for banks, is that the risk was shifted to the Eurosystem. It is the Eurosystem that now holds claims on banks in the ‘periphery’ through the central bank operations. That is, the Eurosystem liquidity measures (and the associated Target balances) implied a shift in risk exposure from the private sector to the public sector.21

In such a shift, the original exposure of investors in the ‘core’ and the original risk from debtors in the ‘periphery’ were not shifted to their respective own countries, but to all euro area countries and thus *in fine* to the euro area population in general. Now, the risk (that is mitigated through specific mechanisms) is borne by the Eurosystem, and thus behind it essentially by all 18 sovereigns in the euro area in proportion to their NCBs’ shares in the ECB capital. Thus, the risk transfer through the central bank operations was not specifically from the stressed countries to the ‘core’ countries despite the concentration of the operations on banks in the stressed countries.

By reflecting the Eurosystem liquidity support and its uneven distribution across the area, Target balances have been adjustment valves that have directed idiosyncratic pressures away from the real economy and the private financial sector and onto the monetary authority. This has stabilised the overall economy and allowed the maintenance of price stability over the medium term, but has also implied redistributive effects in risk exposure between private creditors and the public sector, and behind it the taxpayers. Those stabilisers are crisis-related and should only be temporary, so as to minimise moral hazard effects which could imply distortive allocation effects. The support to the financial intermediaries provided by the ECB’s non-standard monetary policy measures is a means – and should be limited to this – to ensure the fulfilment of the central bank’s mandate.

All in all, in terms of redistribution, Target balances would be a reflection of the insurance role of monetary policy described by *BRUNNERMEIER* and *SANNIKOV*

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21 See in particular *COUR-THIMANN (2013)* and *ECB (2013)*. Other authors argued in similar ways, such as *JOBST (2011)*, *BUITER and RAHBARI (2012)*, *DE GRAUWE and Ji (2012a,b)*, *WHelan (2013)* as well as *SINN (2012a)*.
(2012). As in any case of insurance, it is associated with issues of moral hazard: the stabilisation exercised by the monetary policy must have the appropriate dosage and design to avoid that redistributive effects go beyond the correction of market dysfunctions. Otherwise, the central bank risks being trapped with issues of financial dominance or fiscal dominance that conflict with the pursuance of its mandate. Specifically, the risk of financial dominance relates to moral hazard pertaining to the insurance given by the central bank to the financial sector, as the Eurosystem liquidity measures and the associated Target balances reflect a risk transfer from the private creditors to the public sector. The risk of fiscal dominance relates to moral hazard pertaining to the insurance given by the central bank to the governments, as the monetary authority may have, to fulfil its mandate, to step in when governments do not, or are not ready to take appropriate actions collectively or individually.

5. Conclusion

The central banks’ accommodative monetary policies during the crisis – and the associated large imbalances in net payment flows across the areas – helped to stabilise the real economy. The increased central bank intermediation in funding markets and the resulting emergence of Target balances in the Eurosystem and ISA balances in the Federal Reserve System have prevented disorderly adjustments within the financial sectors and the economies at large, despite the sudden reassessment of risks in private markets. This also allowed creditors to continue to be reimbursed by their debtors, and firms to continue to export to solvent consumers across the respective areas.

At the same time, the substantial liquidity injection by central banks has meant a redistribution of financial risks within the economies, and notably a risk transfer from the private financial sector to the public sector. In this process, the financial centres in the euro area and the US appear to have come out strengthened; they have been net recipients of payment inflows from the rest of the currency areas, amounting to the equivalent of a third of the central bank liquidity injection during the crisis.

The exceptional nature and scope of the measures taken by central banks since the emergence of the financial crisis have raised questions regarding their quasi-fiscal nature. By acting de facto as a backstop for the interbank market and the financial system in general, central banks have (temporarily) taken an intermediation role in the financial system. It is tempting to compare this to the (permanent) intermediation role of the fiscal authority in the economy. The latter can be measured for instance by the share of public expenditure in GDP, and the former could be measured by the share of central bank balance sheet expansion in GDP and – for its spatial dimension – by the share of intra-system balances in the financial accounts of the balances of payments.

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22 On this issue, see for instance Durré and Pill (2012).

23 In the euro area this can be done at the aggregate level or at the country level. In the US financial accounts are only available at the aggregate level as statistics are not available at
Drawing the analogy further between the crisis response of the monetary authority and the normal behaviour of the fiscal authority, the three functions of the government described by Musgrave (1959) can be applied, conceptually, to the monetary authority. In particular, as an outcome of the monetary policy actions in the context of the crisis, the intra-system balances can be interpreted along the three functions of stabilisation, redistribution and allocation, even if this outcome results from the sole pursuance of ‘stabilisation’, that is, in the case of the euro area, price stability. The central bank measures and the associated intra-system balances have had a stabilisation effect on the balance of payments and the economy in general, as reviewed in the case of the euro area in Sections 2 and 3. The increased intermediation by the central bank has also inevitably brought along redistributive effects, as reviewed in these sections and further analysed in Section 4. What is most controversial is whether central banks have also taken a role of allocation. If redistributive monetary policy is to be limited to countering undue redistribution as noted above, there would be little room for a conscious allocation function of monetary policy. However, through its intended stabilisation function and its redistributive effects, monetary policy inevitably has allocation effects as well. This issue goes beyond the scope of this paper; a few reflections are provided below for future analysis.

The allocation effects of monetary policy have been largely unintended. The monetary policy frameworks in place since the 1990s in general protect the central banks from pressure to conduct allocation policies. The consensus prior to the crisis was that central banks should refrain from having any allocation function: interfering with the pricing of assets by the markets would have distortive effects. In the case of the Eurosystem, the central bank independence and the prohibition of monetary financing protect the central banks from pressure by governments and from taking on the functions of the fiscal authority. In addition, the legal framework for the implementation of monetary policy is based on the principle of a market economy. For instance, as mentioned, the principle of risk equivalence underlying the Eurosystem collateral framework means that the risk should be the same across asset classes after haircuts. Nevertheless, when the central bank selects the assets that will be purchased or eligible in the monetary policy operations and the associated haircuts, it can have allocation effects. The selection of the assets eligible is not neutral; the calibration of haircuts under the risk equivalence principle relies largely on market valuations of the assets and their risks, which – if the assumption of perfect information does not hold – implies some allocation effects. Another example relates to the ECB’s extension of eligible collateral to credit claims on Small and Medium-Sized Enterprises (‘Additional Credit Claims’) in December 2011 that aimed at enhancing the supply of bank credit to the SME sector.24

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24 Further examples relate to the concept of a longer-term refinancing operation designed to reach the real economy discussed by ECB officials in late 2013 and, as concerns other central banks, to the “steps to facilitate corporate financing” taken by Bank of Japan at various district levels. For the intra-system balances in the US, the ISA balances would need to be adjusted for the effect of settlement as done in Figure 7.
The question remains open whether, despite the difficulty of the task and in domains where market forces would show distortions and other authorities are not in a position to effectively conduct such task, central banks should not seek to have a more conscious allocation function also in normal times in a view to fulfilling their mandates. For instance, the account of macroeconomic spill-overs in the criteria for the selection of counterparties and in the application of the principle of risk equivalence in the collateral framework could arguably help to reduce the likelihood of crises down the road when implementing monetary policy and thus at the same time protect the central bank’s own balance sheet. There would possibly be less need then for monetary policy to intermediate the markets at a later point in time, and thus less room for transfers in risk exposure from the private creditors to the public sector and for large intra-system imbalances. As always, and as recalled by the specific issue of Target balances, any intervention in the market is entailed with risks of moral hazard and the rationale and effectiveness of an intervention depends on its specific circumstances and design. A delicate balancing act is required to ensure that more good than harm is done when interfering in the market. This is all the more the case in a multi-country currency area.

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