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An ECB's Staff Narrative of Two Decades of European Central Banking: a critical review

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Abstract

Monetary Policy in Times of Crisis (Rostagno et al. 2021) presents a useful narrative from inside the ECB of the monetary policies adopted from 2007 to 2018 in a continuing conflict between hawks and doves. Relevant is the criticism of the absence of a European fiscal policy and the consequent loneliness in which the ECB has been left to act. Unfortunately, the technical assessment of monetary policy measures is of difficult access not only for the informed reader but also for the professional economist. This may also be due to certain analytical limitations of the authors with regard to the transmission channels of monetary policy.

JEL classification: E11, E12, E52, E58, N14

1. **Introduction**[*]

The authors of *Monetary Policy in Times of Crisis* (Rostagno et al. 2021) are a group of Sherpas at the ECB.[1] Participation in the making of the ECB's monetary policy, particularly in the tormented decade 2007-2018, has certainly provided them with a wealth of details that escape the academic economist. Although the authors operate within a mainstream theoretical framework, one can see from their pages the ongoing clash between the ECB hawks and doves. Above all, the accusation peeps out that European political governance has left the ECB largely alone in combating the crisis. This had a cost for some European economic and monetary union (EMU) countries, and often symmetrical benefited some others. In this review we shall mainly focus upon the chapters reporting the 'inside story' of the events and related policies. Unfortunately, we found the chapters assessing the outcomes of these policies poorly written and full of technicalities not only for the educated general reader but also for the more specialised one.

1.1. Between tradition and rupture

In some opening remarks Rostagno et al. (2021) place monetary policy in the context of the management of aggregate demand (ibid, p. 22), and criticise the European fiscal stance that has to some extent worked against the ECB's efforts (ibid, p. vii). However, the authors' interest seems mainly to emphasise the autonomous power of monetary policy rather than the fact that it has been more effective precisely when it has allowed more room for fiscal policy as in 2017, especially in countries like Italy. The impression is that the ECB authors are careful not to overstep the boundary between monetary and fiscal policy. Yet, in a genuinely Keynesian view, monetary policy has *direct* effects on autonomous household spending financed by bank credit, but not on investment (which does not depend on the interest rate but on the expected trend in aggregate demand). Above all, monetary policy is ancillary to fiscal policy by facilitating, through the containment of interest costs, deficit spending. It also affects the exchange rate.[2]

In actual, other passages in the book bear signs of a conservative bias in the authors' and, more importantly, ECB's analytical background. Take for instance the definition of the "Bundesbank's

[*] I thank Giancarlo Bergamini for help in editing the paper, and Eladio Febrero, Marc Lavoie, and Domenica Tropeano for advice on some specific points. A list of abbreviations is available at the end of the paper.

[1] Rostagno et al. (2019) is a free available WP version of the book.

[2] On the fiscal effects of what monetary policy does or does not do, and the price paid by Italy for the ECB's failure to act promptly cf. Orphanides (2018), Cesaratto 2021).

inheritance" as "the best monetary tradition available in Europe" (ibid, pp. 2, 53).[3] The authors seem to forget how the Buba served Berlin's "monetary mercantilism" as defined by the German economic historian Holtfrerich (1999), a destabilising factor for the euro and the global economy (Franzese and Hall 2000¸ Cesaratto and Stirati 2011). Mercantilism as an analytical notion is probably alien to the authors (Robinson 1966; Cesaratto 2013b). To take another example, the authors present as part of the ECB's "paradigm" the statement that the crisis had clear "fiscal roots… and so was the ultimate remedy: fiscal consolidation" (Rostagno et al., 2021, p. 224). Even with Draghi, according to the authors, this conviction did not change (ibid, pp. 244-245), replaced rather by the curious belief that preventing the dissolution of the euro was part of the ECB's inflation stabilisation target.[4] The alleged fiscal roots of the euro area crisis are also at odd with the authors' support to the widely shared interpretation as a "current account crisis" (ibid, p. 170). As many authors have argued, fixed exchange rate regimes make a perfect breeding ground for financial crises when combined with freedom of capital movements.[5] The convergence of eurozone interest rates towards the German floor, on the assumption that, regardless of the Treaties, no European state would be allowed to go bankrupt, triggered peripheral real estate bubbles and subsequent foreign indebtedness of banks in certain countries, and of governments in others. To take the most important case, that of Spain, the crisis had its roots in the financial laissez faire that accompanied the introduction of the euro, not in fiscal laziness. The authors and the ECB also appear to be very doctrinaire in espousing as a model of the economy the so-called *New Keynesian Model* (NKM) which, they confess with appreciable candour, "despite the 'K' part of the NKM acronym, was uncompromisingly monetarist" (ibid, p. 40).

1.2. Inflation? Which inflation?

For a central bank whose primary mandate is price stability, the definition of the inflation target is the criterion for determining what it can and cannot do. The European Treaties left to the ECB the details of the objective. The book stops at 2018, and thus does not take into account the recent revision of the ECB's monetary policy strategy adopted in July 2021. This review is the result of a long journey from the initial, 1998 definition of price stability as a "year-to-year positive inflation

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[3] The German Otmar Issing (2002), the ECB's first chief economist, explicitly rejected flexibility and coordination of fiscal and monetary policies, which the authors timidly claim are necessary.

[4] Of course, should the euro disappear, little would remain to be stabilized. The question is that there must be something deeply wrong in a monetary union that fights so hard to survive.

[5] Post-Keynesian authors anticipated this interpretation, later become consensual (see e.g. Cesaratto and Stirati 2011)

rate *below 2%*" (ibid, p. 3, italics in the original), modified in 2003 as a rate below *but close* to 2%. Although the 2003 revision corrected to some extent the Bank's deflationary bias by suggesting "that not all positive inflation rates below 2% were equally desirable, but rather that policy would seek to deliver an inflation rate 'close to 2%' over the medium term" (ibid, p. 4), nonetheless the impression remained that the Bank would regard inflation overshoots with less tolerance than undershoots (ibid, p. 5). The 2021 revision in setting a target of exactly 2% was intended to give symmetrical importance to over and undershooting. Given the ECB's limited room for manoeuvre due to the overriding objective of price stability, small nuances can make a difference. For this reason the book gives large space to the definition of the inflation target.

Chapter 1 sets out to introduce the theoretical underpinnings of the ECB's economic governance (and to some extent of the whole of European economic policy). Unfortunately, the chapter is not plainly written even for the average informed reader. It is suggested that alongside the NKM-monetarist model the ECB has informed its actions by so-called *flexible inflation targeting* (IT). In this operational scheme, which has been very popular among important central banks in recent decades, the bank pursues the stabilisation of expected inflation around a target by also looking at other variables, such as the output gap, but always with the aim of chasing the main target (ibid, p. 39). The underlying assumption is that monetary policy and the objective of stabilising inflation are sufficient to ensure that the economy performs well, provided, of course, that the rest of the economy behaves consistently, in particular through a responsible fiscal policy, stabilizing the public debt dynamics (ibid, pp. 40-41). We may guess that the prescription of labour market flexibility, the cornerstone of full employment in the NKE-monetarist model is taken for granted. Fiscal policy would, however, be necessary where "inflation scares" or "deflation scares" occur: "These are types of vortex that can develop in the expectations formation mechanism in the model and destroy its equilibrium stability. Deflation scares are especially troubling" (ibid, p. 41). "In abnormal times", the book reports, "the role of fiscal policy becomes … essential" (ibid, p. 42). This would have been the occasion to recall how the deflationary pattern maturing in the euro area since 2013 was precisely exacerbated by the debt stabilisation policies adopted since 2010.

1.3. The initial strategy

The ECB's initial monetary policy strategy finalised at the meeting of the Governing Council (GC) of 13 October 1998 was a compromise between monetarist strategies of *monetary targeting*, *inflation targeting*, and a broader consideration of economic and financial indicators: "The strategy had three main elements: (1) a quantitative definition of price stability; (2) a prominent role for money with a reference value for the growth of a monetary aggregate; and (3) a broadly-based assessment of the outlook for future price developments” (ibid, p. 65). Elements (2) and (3) were later be defined as the “two pillars” on which action to reach objective (1) was based (ibid, pp. 69-70). More in detail:

(1) As recalled above, price stability was initially defined as follows: “Price stability shall be defined as a year-on-year increase in the Harmonized Index of Consumer Prices (HICP) for the euro area of below 2%. Price stability is to be maintained over the medium term” (ibid p. 65). A precise numerical commitment, characteristic of IT, was thus avoided, while a weak anti-deflationary sensitivity was suggested by the term "increase" (a fall of prices would not be acceptable). The medium term alludes to a certain caution in evaluating short-term signals, especially as the HICP index incorporates volatile prices such as energy and food.

(2) The monetary or “first pillar” (the control of growth in the money supply) can be taken as an operational objective or as a mere indicator (ibid, pp. 66-67). In the first sense it is a legacy of the Bundesbank's monetary targeting but, according to the authors, it was understood by the ECB as a middle ground between the two meanings. Probably in disrepute after the ECB's huge liquidity expansion since 2008 with no visible effect on prices, the fact is that the July 2021 Strategic Review deleted this "pillar" from monetary strategy for good.

(3) The ECB left itself ample room for reasoning and action within the "second pillar", which entrusted the forecasting analysis of expected price movements to a broad economic and financial analysis and not to mere "inflation forecasts".

Interestingly, the authors quote a monetary guru, Lars Svensson, as saying “that endogenous money growth is caused by exogenous inflation” (ibid, p. 73), and not vice versa as in the monetarist credo influencing the “first pillar”. This is music for Kaldorian ears. Svensson also proposed a symmetric target around 2%, giving equal concern to inflation and deflations threats, something that the ECB eventually welcomed in its July 2021 strategy review.

All in all, the ECB, as heir to the Bundesbank, begun with some degree of flexibility in its monetary strategy conditioned, however, by a deflation bias with the objective of price stability (or such it was perceived, ibid, pp. 69, 73-74). Noticeably, the ECB’s single mandate is in principle more restrictive than the Fed's double mandate (price stability and maximum employment).

Partly in the light of the above mentioned bias, in October 2002 the ECB’s chief economist Otmar Issing launched a strategy review that culminated in the famous 2003 (re)definition of the inflation target as "below but close to 2%", that accentuated the Bank's anti-deflationary credentials. If this choice was in a sense a compromise, so was the revision of the "two pillars" on which the bank's forecasts of inflation trends were based (ibid, pp. 96 and ff). Thus the second pillar, economic and financial analysis, was assigned the task of examining the short to medium-term situation, while the first pillar, in homage to the German monetarist tradition, was assigned the role of identifying long-term trends.

As a reference for the next pages, Figure 1 (figure 2.1 of the book) indicates the HICP inflation rate from 1990 to 2018 for the eurozone's four larger countries. The horizontal line is the "upper-bound of the inflation rate" as defined *before* the last ECB strategy revision of July 2021.

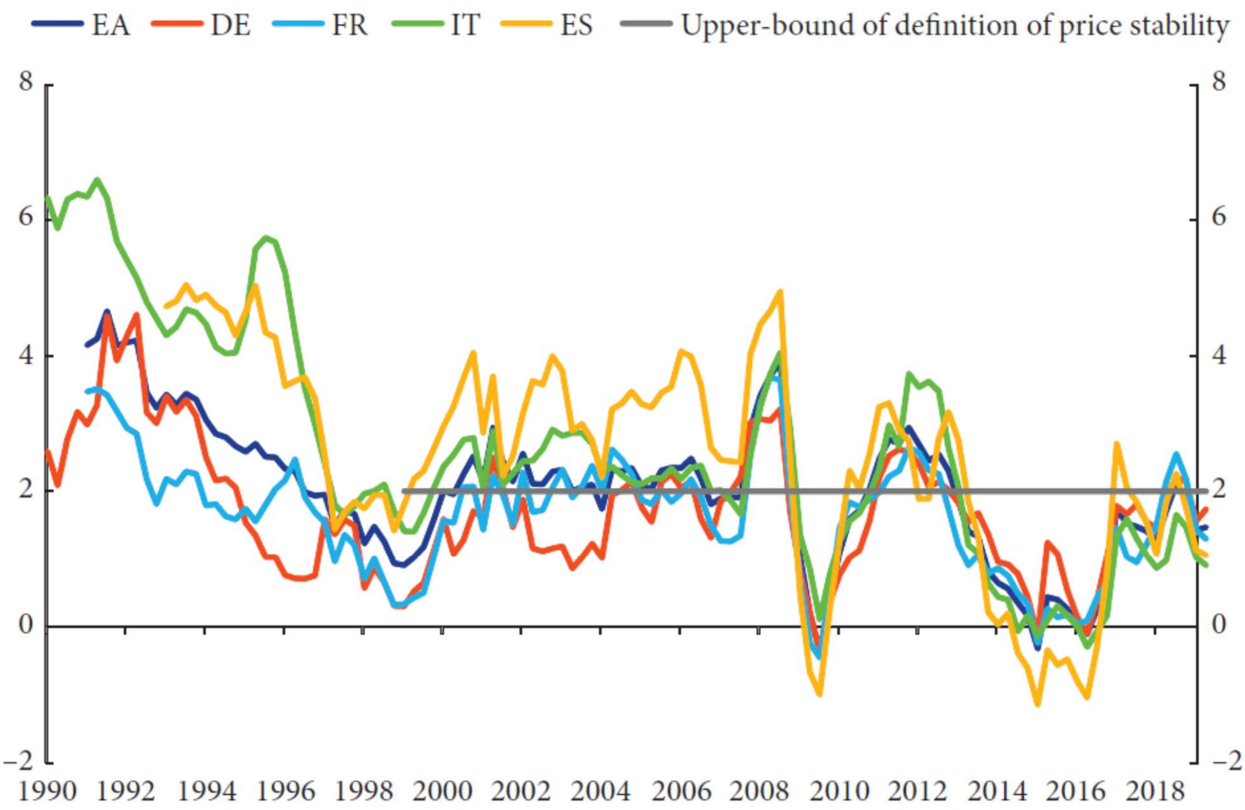

Figure 1 – HICP inflation in the euro area and four largest euro area countries (year-on-year % change).

Source: Eurostat, Rostagno et al. (2021), figure 2.1.

2. The long crisis and the old regime

We skip Chapter 3, a technical evaluation of the effectiveness of the strategy fine-tuned in 2003. Quite of a different style and interest is Chapter 4 devoted to the first phase of the financial crisis.

The narrative of the financial crisis albeit useful is rather conventional, with no fundamental questions asked about the structural contradictions of market economies. Nor is there any particular exploration of the similarities between the current account crisis in the eurozone and past crises caused by fixed exchange rate regimes with freedom of capital movements. An evaluation also is missing as to whether in the first decade of the euro the economic performance of the eurozone would have been much worse without the indebtedness of some peripheral countries. Indeed, the eurozone would have rapidly shown the deflationary bias predicted by Mundell (1961) as the only way to preserve the current account equilibrium among member countries.

2.1. The prodromes of the crisis

The prodromes of the crisis appeared early, in August 2007, and arrived from German and French banks that were deeply implicated in the emerging US toxic assets crisis. The ECB's reaction was timely and a rehearsal for what would happen on a larger scale a year later. The immediate victim of the crisis was the confidence in the monetary inter-bank market where over-reserved banks lend central bank liquidity to under-reserved banks. [6]

On 9 August 2007 bad news concerning German and French banks froze the interbank market when: “banks with liquidity surpluses withdrew *en masse* from the money market for fear that their interbank loans might default (…) and started to build liquidity buffers in their current accounts and deposit facility (DF) with the ECB. At the same time, banks with liquidity needs could no longer raise funds in the interbank market and thus found themselves on the brink of default” (ibid, p. 174).

The ECB promptly reacted according to the traditional canons of central banking by making unlimited liquidity available to the banking system through fine-tuning operations, and in particular by experimenting with fixed-rate full allotment (FRFA), i.e. by making an unlimited amount of reserves available to companies at the main refinancing operations (MRO) rate (refinancing operations were previously carried out through auctions) (ibid. pp. 179-82). An extraordinary Longer term refinancing operation (LTRO) was also announced on 22 August 2007,

[6] For a short review of the role of the interbank monetary market in monetary policy and of the main ECB policy instruments see Cesaratto (2020, chapter 7).

the start of a gradual increase in the maturity with which banks could acquire reserves from the ECB (in one decade LTROs have grown from three months to the current four years duration).

The employment of monetary policy instruments intensified and became more variegated, as shown in figure 2 (Rostagno et al. 2021), figure B.4.2.1) that is a useful reference for the next pages.

The authors introduce here the so-called "separation principle" that, they argue, informed the ECB's conduct until the middle of the last decade. The separation principle would entail that the “ECB normally keeps a strict dividing line between the monetary policy decisions and the implementation of that policy through monetary policy operations” (ibid, p.177). Monetary policy decisions concern the interest rate, while monetary policy operations (or liquidity management) regard the provision of liquidity (reserves) required by the banking system.

The events of August 2007 exemplify the principle: given the stance of monetary policy (an unchanged policy interest rate), the amount of money created by the central bank varied as a result of the increased demand from the banks (they desired extra reserves to frontload the drying up of supply via the interbank market). The central bank passively accommodated this larger demand.

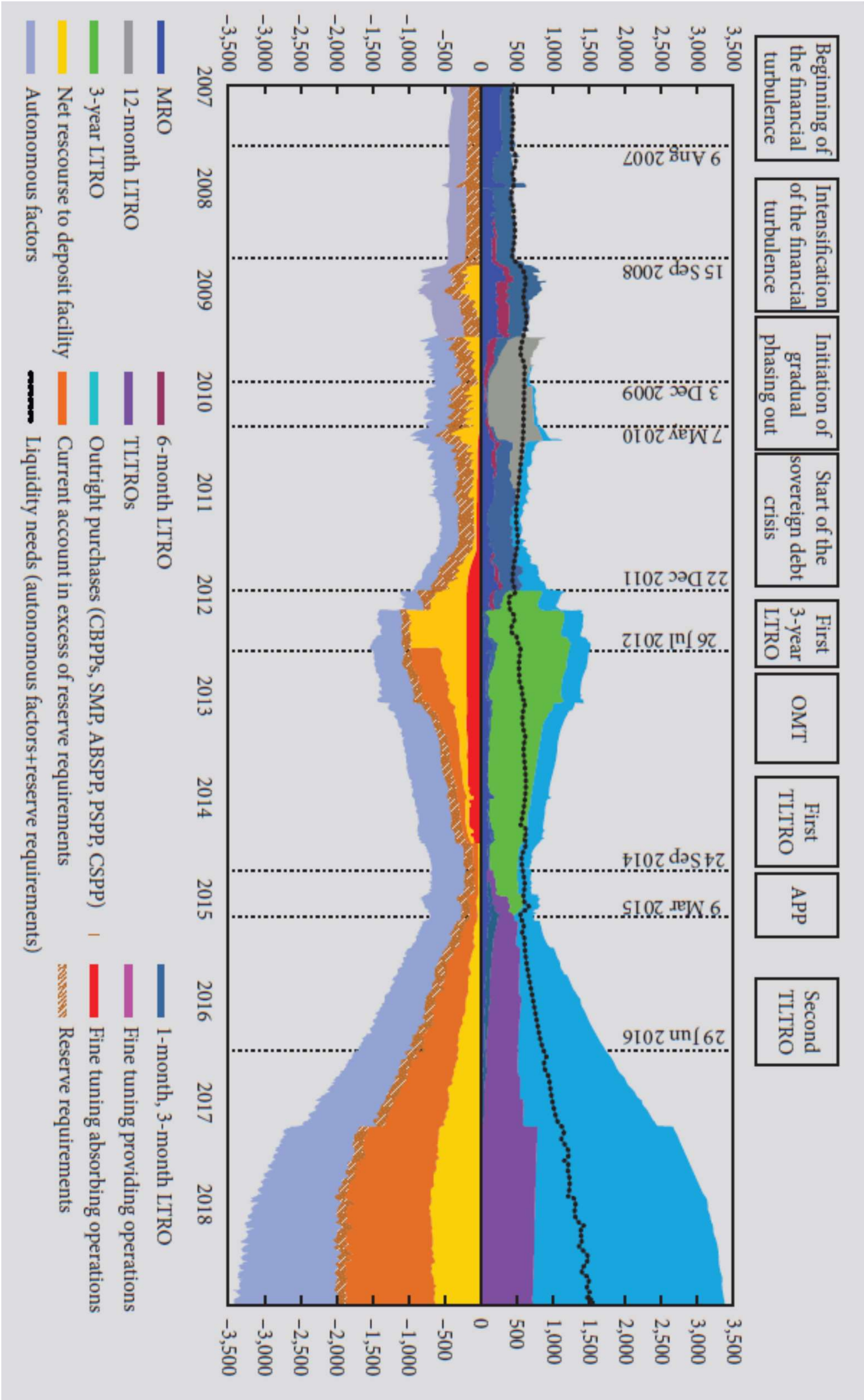

Figure 2 – Evolution of the Eurosystem balance sheet (EUR billion).

Source: ECB, Rostagno et al. (2021), figure B.4.2.1.

Notes: Autonomous factors are in net terms, and include ANFA portfolio (i.e. holdings of financial assets which are related to national tasks of the NCBs but not related to monetary policy). Latest observation: 31 December 2018.

2.2. The ill-famed July 2008 rate hike and the acceleration of the events

The separation principle found another application in 2008. The new year proposed a somewhat unprecedented situation for the ECB, namely the resurgence of financial instability on the one hand, with its possible transmission to the real economy via a bank credit crunch; and inflationary signals on the other. The bank was thus forced into a manoeuvre that was somewhat opposite to that of macroeconomics textbooks: raising interest rates as an anti-inflationary signal, and increasing the money supply to keep the banking system liquid.

The separation principle in a sense reassured that the management of the liquidity-stance did not contradict the price-stability target:

> there was a sense that the separation principle could help to resolve [the dilemma]. The ECB could supply liquidity in elastic amounts as necessary to relieve the pressures in the market for interbank lending, and still restrict the stance—or at least take more time to assess the outlook—as required by its price stability objective. This notion that the separation principle had problem-solving qualities endured through the crisis (ibid, p. 185).

The principle was later (in 2013-2014) abandoned.

The authors are adamant to specify that since late 2007 only “some staff” (ibid, pp. 188, 200) were alarmed that a surge in inflation due to oil prices might affect also core inflation[7] through “second-round effects” (nominal wage escalations) (ibid, p. 199). Preoccupations of credibility probably prevailed, and on 3 July 2008 the GC finally increased the main refinancing rate by 25 basic points to 4.25% (ibid, p. 200, see figure 3). On 15 Sept. 2021 Lehman Brothers, the US fourth investment bank, went bankrupt.

Panic spread through the financial markets, interrupting the financing flows on which financial institutions had increasingly relied (ibid, pp. 203-204). Relaying on the separation principle, the ECB thought until early October 2008 that it could hold the target-rate bar steady while it watched the situation unfold. In fact, market rates were slipping out of its hands with Euribor (the interbank rate on multi-month maturities) shooting upwards and the overnight rate (Eonia) at the ceiling of the corridor (ibid, pp. 204-205).

[7] Core inflation excludes volatile energy and food prices.

Subsequently, the Bank began a gradual decrease of policy rates, bringing the MRO rate to 1% in May 2009. Refinancing reverted to full allotment at a fixed rate; the rating of the eligible collateral (the securities pledged by the banks in the refinancing repos operations with the ECB) was cut; euro-dollar swap agreements with the Fed allowed the ECB to refinance in dollars European banks with maturing US dollar-denominated debt; longer-term refinancing (LTRO) was extended in frequency and maturity; and a support operation for covered bonds was implemented (covered bonds are bank securities backed by safe assets).

Figure 3 (Rostagno et al. 2021, figure 4.5) shows the ECB rates corridor and Eonia from 2008 until 2018, a reference useful also over the next pages.

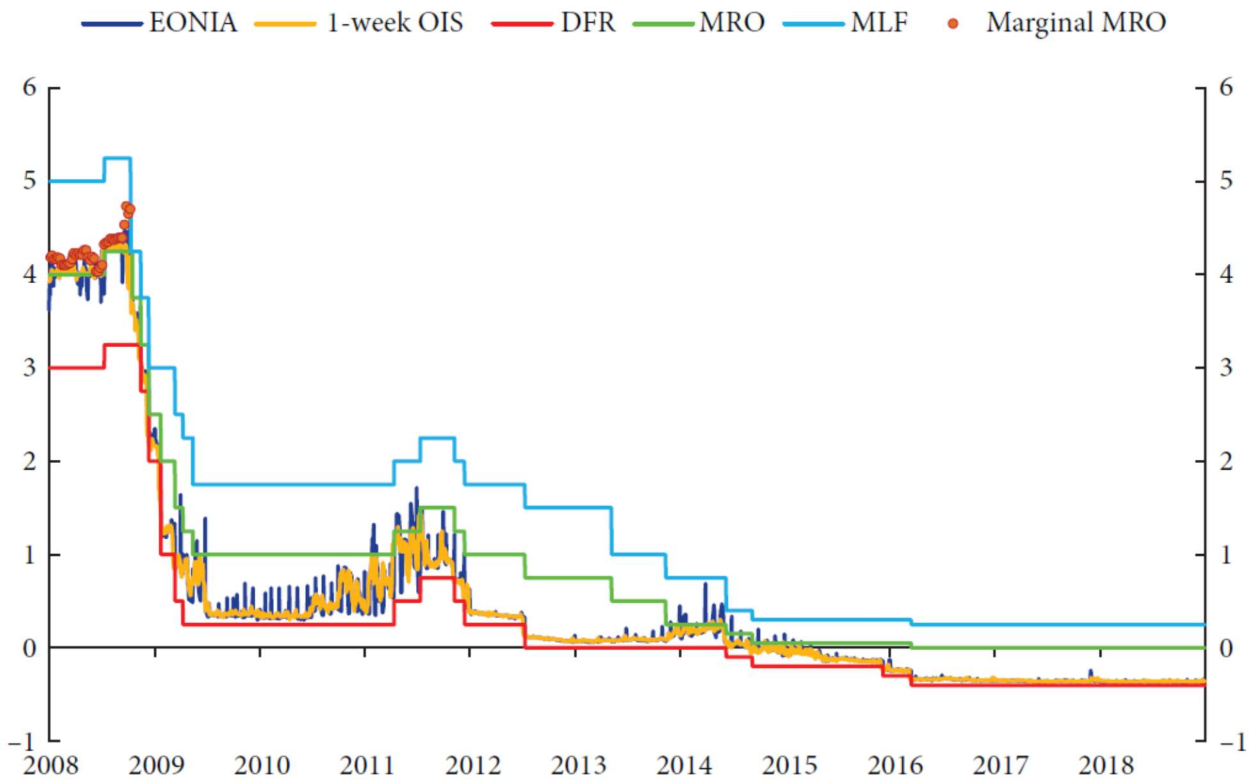

Figure 3 – EONIA and the key ECB interest rates (percentage per annum)

Sources: Bloomberg and Refinitiv.

Notes: Another rate (OIS) is represented in the figure that we did not comment in the text. Latest observation: 31 December 2018.

2.3. The double corridor

The measures taken led to a lengthening of the ECB's balance sheet (figure 2), similarly to other major central banks. This lengthening implied a change in the conduct of monetary policy based in normal times on the interest rate corridor. Indeed, when liquidity (reserves) in the hands of banks becomes abundant, the market rate tends to squeeze towards the corridor floor, more clearly visible between 2009 and 2010, and later (figure 3). By virtue of necessity, the floor rate, i.e. the rate on the deposit facility, could be defined as the new target policy rate, and the corridor can then be redefined as the "floor system". This is what the US Fed did, for example, but not the ECB. The ECB thus found itself with a stable and somewhat schizophrenic divergence between two rates that it had wanted to converge until recently: the MRO official rate (policy target) and the market rate Eonia (the operative target). The "separation principle" between interest rates and liquidity management was also adapted to the new situation: the short-term rate decided by the ECB (the MRO rate) indicates the basic orientation of monetary policy (stance), while the market rate (Eonia) reflects liquidity conditions, the latter being dictated by the need to grease the payment system and not dictated by the policy stance:

> Accordingly, the separation principle had to be reinterpreted. It was duly redefined as implying that the MRO rate was the pivot of the monetary policy stance in the euro area, while the EONIA was merely a market reflection of the abundant excess amount of liquidity that was now floating around the system (ibid, p. 209).

The authors appear critical of this hybrid situation which, however, also reflected a second schizophrenia of the euro area: the dichotomy between "ostracized" and "non-ostracized" banks in the euro area (ibidem), i.e. banks that, being banned from the interbank market, had to turn to the more expensive ECB window to refinance themselves (at the MRO rate, or the higher rate on LTROs), and those that, having regained access to that market, found more advantageous sources of funding there (at the Eonia rate crushed to the DF floor). Febrero et al. (2015) traced this division back to that between peripheral and core countries.

Notably, Eonia's gravitation towards the corridor floor (figure 3) made the ECB's stance more expansionary than signalled by the official rate, reducing the ECB's lag behind the Fed (ibid, p. 210).

As noticed, behind the excess of technicalities, the book reveals the clash between hawks and doves. For the former, like the German member of the executive board Jürgen Stark, the Eonia's plunge to the floor and its divergence from the reference rate on MROs was temporary and due to be reabsorbed with the return to more stable financial conditions (ibid, p. 217). According to the hawks, moreover, the adoption of the floor system would have sanctioned the use of liquidity to steer the short-term interest rate, possibly making it dangerously abundant for price stability. Keeping the MRO rate as the reference for the policy stance thus safeguarded, at least in part, the *separation principle* between the interest rates policy stance and liquidity management. For the doves, including President Trichet, on the other hand, the de facto floor system signalled the policy stance (interest rates and liquidity) in more aggressive terms (ibid, p. 217).

2.4. The illusory recovery and the euro-collapse of 2010

In the summer of 2009 "reinvigorated global demand—boosted by expansionary monetary and fiscal measures in the United States and fiscal expansion in China—was providing strong support to the export-oriented euro area companies" (ibid, pp. 217-218), notwithstanding an appreciation of the euro due to an expected early withdrawal of the expansionary monetary measures. The authors thus underline the absence of a European fiscal and monetary package. In fact fiscal policy was initially mute and later pro-cyclical. The ECB begun to be left alone.

Hawks and doves clashed again, so that some measures, such as full fixed-rate allocation in MROs was maintained, while some LTRO-related incentives were gradually removed (ibid, pp. 220-221). The truth was that the global recovery was helping some countries, especially export-led Germany, but not others like Spain where, moreover, credit activity continued to tighten despite the ECB's monetary stimulus (ibid, 221). The regional asymmetries of European monetary construction came to the fore. Revelations of Greece's underestimated fiscal imbalances alerted financial markets about the laxity of European fiscal surveillance. Notwithstanding assurances from the March 2010 European Council that euro area members would show solidarity with Greece through bilateral loans in tandem with the IMF, and despite the fiscal adjustment package prepared by Athens, spreads on Greek bonds rose to over 900 bps, a fever that soon infected the bonds of other peripheral countries (ibid, p. 223).

The first ten days of May 2010 saw a package of measures that appeared to be, but were not, decisive: firstly, the governments and the IMF launched an initial aid package of 110 billion euro which, not too far from the truth, allowed French and German banks to pull themselves out of the Greek swamp (the book does not comment on this). Secondly, a first, provisional European financial agency was set up to collect funds that might be needed for financial aid packages (the *European Financial Stability Facility*, EFSF). The authors claim that the ECB proposed a more ambitious *European Stability Mechanism*, which, however, had to wait for complicated legal steps to be overcome (ibid, p. 225). Finally, the ECB launched the so-called *Securities Market Programme* (SMP), a programme of purchases of government bonds basically aimed at the most distressed countries (initially the three small peripheral countries). The authors do not hide the irrelevance of this programme (ibid, p. 229).

The *separation principle* dear to the hawks reappeared here in requiring the Bank to reabsorb through specific operations (fixed-term deposits offered to banks) the liquidity created by the SMP so that it would not interfere with the monetary stance (ibidem).[8] Two other events made the situation darker. The first was the emergence of the doom loop between banks and states in the most troubled jurisdictions: States that had loaded themselves with banks' debts, and banks that continued to back their governments' securities, or by not doing so weakened their rescuer (ibid, pp. 229-230). The second event was Angela Merkel and Sarkozy's controversial walk along the beach in Deauville in which they threatened the "private sector involvement" (PSI) in European bailouts, which triggered a market panic eventually concerning Italian and Spanish government bonds (ibid, pp. 230-231).

According to the authors, the ECB regarded the Deauville approach as nonsense in the light of what was being done in the rest of the world, while the ECB proposal about the ESM (European Stability Mechanism) "did not contemplate a debt restructuring as a precondition for official lending" (ibid, p. 232).

2.5. Wrong judgement (the terrible 2011)

The authors are not indulgent on European economic governance at the dawn of 2011. While the markets were "fundamentally disillusioned about the capacity of Europe to stabilise itself" (ibid, p. 232), the European crisis was considered by the European policy makers as "local", the effects of restrictive policies on the "periphery" transitory, the success of German non-EU exports the example to be imitated. This last element shows that in the prevailing analysis of the Eurocrisis this had national and not European roots and had, therefore, to be tackled with "structural reforms" and not with a change of the overall governance. The ECB itself reasoned on the basis of an "inaccurate judgement about the genuine state of the economy" (ibid, p. 234). As a result, although the Bank's economists had denied persistent (imported) inflationary pressures in the medium term, concerns about the Bank's credibility in keeping the inflation rate below 2% led the GC to raise the rate by 25 bps on 7 April 2011, and again on 7 July 2011 — the second time just

[8] Officially, the SMP aimed at improving the transmission of the interest rate policy to all the ECB jurisdictions; sterilization allowed the separation of this policy from liquidity management (for a critical discussion see Bordes and Clerc 2012, pp. 176-180).

before the eurozone financial crisis precipitated: *errare humanum est perseverare autem diabolicum*.

The markets' concerns about the resilience of the Spanish banking system (still burdened by the aftermath of the real estate bubble) and the Italian banking system (associated to its SME system crisis) were compounded by the PSI proponents call for a further restructuring of Greek foreign debt: "The run on the Italian debt started in earnest on Friday 8 July [2011] and, on that day, the European crisis took on a systemic dimension" (ibid. p. 240).

The authors claim as an ECB's merit the support for an the extension of ESM range of action in intervening in the bond market and in recapitalising banks (what happened a year later in favour of Spanish banks). Above all, the Bank's pressure is said to have been the reason for the eventual European governments' rejection of the PSI through the launch of the ESM (ibid, pp. 236-237).[9] By mid-2011 European economic policy accentuated fiscal stringency towards troubled countries, worsening their crisis, while the ECB limited itself to the extension of its weak SMP to Spain and Italy and to revamp the LTROs, anyway the only barriers to disaster, as the authors disconsolately testify: "In the autumn (…) markets grew exceptionally disillusioned (…) and the ECB—with its revamped SMP and longer term refinancing operations—remained the only bulwark against a complete breakdown of the financial system" (ibid, p. 243).

3. The new regime: enters Draghi

Draghi's entry in November 2011 could not have come at a more dramatic time: with markets distrustful of European institutions, and yields on Italian government bonds at levels normally considered unsustainable and in need of an international rescue programme. In this context, the Italian Berlusconi government was replaced, with questionable procedures, by a government more to Brussels' liking, with a programme of tears and blood. To be fair, Draghi himself inspired it in a in/famous letter to the Italian authorities signed with Trichet at the beginning of August 2011. [10]Nonetheless, with the entrance of the new President and his already mentioned closest executive board members (Vìtor Constancio, Peter Praet, and Benoit Couré) a new phase opened at the ECB. Draghi's first move was the launch of two massive "Very Longer Term Refinancing Operations" (V-LTRO) for EUR 1.1 trillion disbursed at the beginning of 2012 (figure 2). The

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[9] The ESM was established by a first *Treaty Establishing the European Stability Mechanism* on 11 July 2011. A second *Treaty* was signed on 2 February 2012 that perfected the rules set out by the first. The ESM became operative in October 2012.

[10] Curiously, in Europe governments cannot interfere with the ECB while the opposite in not true.

operations were conducted in FRFA modality, with the rate fixed at the average MRO rate over the life of the operation (ibid, p. 245). Was this operation a quantitative easing in disguise (Brunnermeier and Reis, 2019, pp. 46-47; Pisani-Fery and Wolff 2012)? The fact is that “the Italian and Spanish banks participating in the three-year LTROs diverted the borrowed funds into generous purchases of securities issued by their respective sovereigns” (ibid, p. 246). The reasons why they did so are still debated. Forms of moral suasion by the government may have mattered, just as the advantages of the carry trade — borrowing at low rates while lending at high rates to your government — were not irrelevant given the dire state of those banks' balance sheets. And anyway, a collapse of one's own state would have bankrupted domestic banks anyway, so support one’s own government did not sound irrational (an argument the authors call a 'gamble for resurrection', ibid, p. 246).[11]

Figure 4 (figure 4.40 of Rostagno et al. 2021) shows the increase of Italian and Spanish domestic government bonds holdings by euro area monetary financial institutions (MFIs) as a result of the V-LTRO.

[11] See Angelini, Grande and Panetta (2014) for a review of the issue.

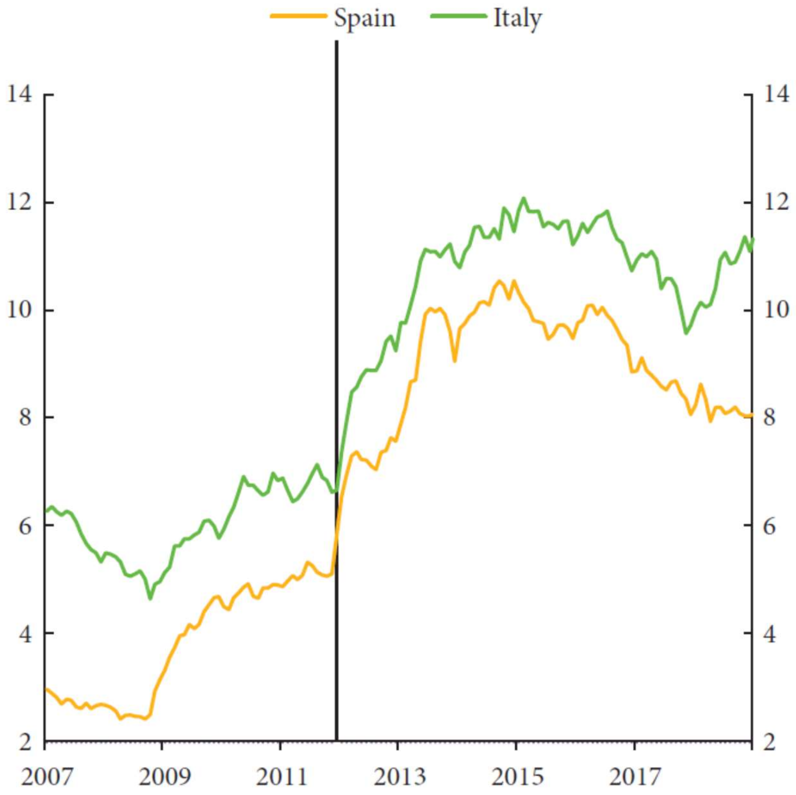

Figure 4 – Holdings of domestic government bonds by euro area MFIs (percentage of main assets)

Source: ECB BSI, Rostagno et al. 2021, figure 4.40)

Notes: the vertical gridline indicates the date of the settlement of the first operation of the three-year LTRO. Latest observation: December 2018

Peripheral banks also used 3y/LTRO funds to liquidate loans obtained from core banks, what Rostagno et al. (2021) call "liability substitution":

> The drain of cash from periphery to core had two implications: *it changed the liability mix of banks in the periphery—from private to official funding—and the asset mix of banks in the core—from cross-country interbank credit to liquid claims vis- à- vis the Eurosystem.* The glut of excess reserves that formed in the books of core country banks made them scramble to reduce it through advance payments of three-year LTRO money (ibid, p. 274, my italics).

The authors do not touch the V-LTRO/TARGET2 controversy that started in 2011 at this juncture of the events, but only later in the book. The controversy over TARGET2 has taken on a new shape since 2015 in the wake of the APP (see below section 3.4), and resurfaces from time to time.[12]

[12] Most recently Sinn (2020) and Perotti (2020). For the Post-Keynesian discussion see Cesaratto (2013a, 2015), Lavoie (2015).

Be this as it may, the V-LTROs only momentarily mitigated the sovereign debt crisis, “financial strains returned with a vengeance in April 2012 and became more acute moving into the summer” following both the deepening of the Spanish banking crisis and the drying up of liquidity sources. (ibid, p. 248). A brainstorming session at an emergency meeting on 17 June designed a joint intervention package involving the ECB and the newly created ESM (itself promoted by the ECB), which formed the basis for Draghi's famous speech on 26 July. The package envisaged that a country that had lost market access (at reasonable rates) would first enter an EFSF/ESM assistance programme; the EFSF/ESM would provide financial assistance conditional on a fiscal adjustment programme; and the ECB would in turn consider further intervention in the outright purchase of the country's bonds in the secondary market (an operation denominated Outright monetary transactions, or OMT). In the ECB proposal there was, indeed, a fourth step, the swap of the securities purchased by the ECB with "EFSF/ESM notes". But this would have limited the ECB's firepower to that of the EFSF/EMS (ibid, p. 251). For this reason, this fourth element was dropped. In the final package approved by the Bank at the beginning of September, the securities purchased would be held until maturity and the ECB would not be senior to other creditors. Finally, the purchased securities would be concentrated in the range between one and three years, the range most subject to "market expectations of an upcoming default of the issuer" (ibid, p. 253) (this was because the eventual default was considered a short-term event, while a readjustment was expected in the longer term, ibid, p. 253, fn).

The result of the OMT announcement for Spain and Italy was a decline of "spreads" of 200 bps by the end of the year (see figure 5 taken from figure 4.42 of the book). According to the authors, the relative success of the operation was due to the unlimited firepower threatened by the ECB, as well as to the fiscal conditionality in the intervention, and to the clarity of the intervention (the authors implicitly compare OMT to the narrowness and opacity of the SMP) (ibid, p. 254). The authors note that, however, OMT raised the extra-eurozone investor appetite for European bonds and this led to an appreciation of the euro. This “held back recovery in the periphery” in 2013 while not harming the more competitive German exports (ibid, p. 257, fn 4). Notably, the book treats the exchange rate policy rather in passing, possibly because this policy is not included in the ECB mandate, at least officially; in this way, however, an important aspect of the story is left outside.

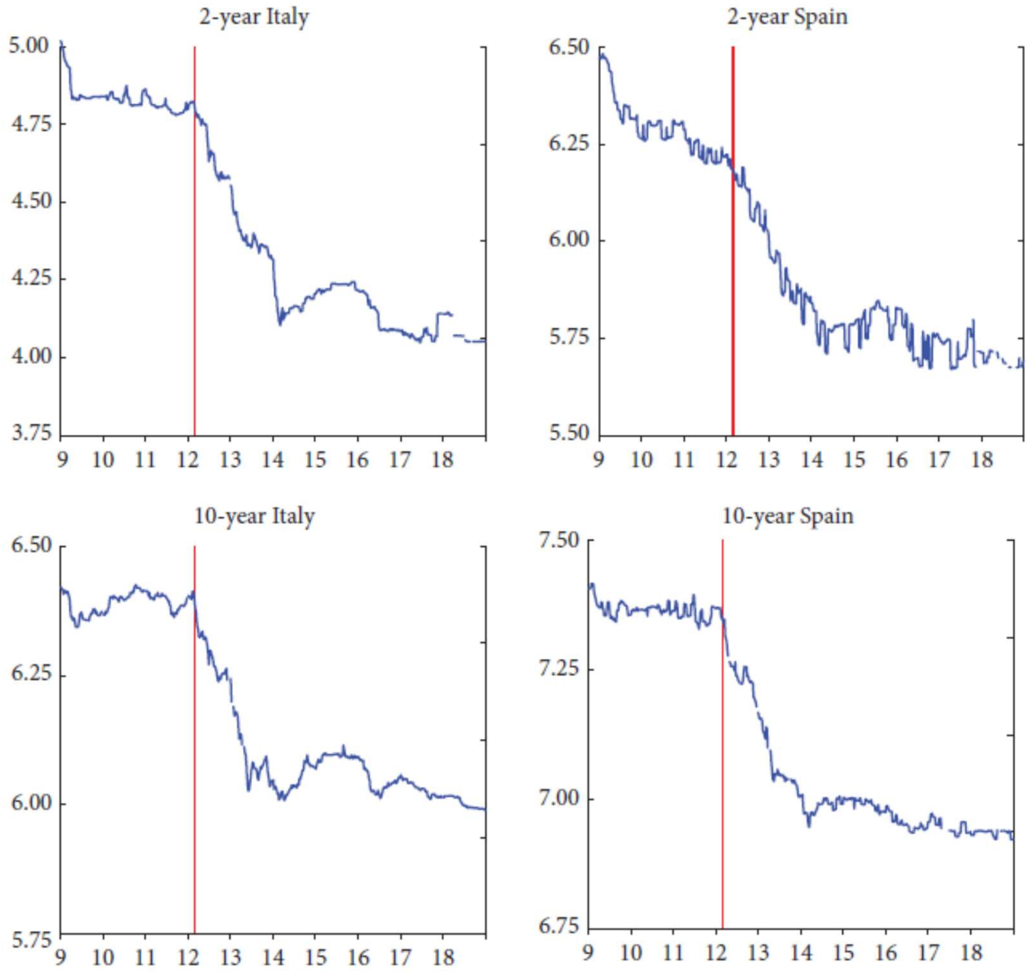

Figure 5 — Reaction of the two-year and ten-year sovereign yields to the 'whatever it takes' speech (percentages per annum)

Source: Bloomberg; Rostagno et al, 2021, figure 4.42.

Notes: Horizontal axis refers to trading hours. The vertical lines indicate the time in London when the ECB's President, Mario Draghi, said that the ECB would do 'whatever it takes' to preserve the euro (12:09 p.m.).

3.1. The second regime: fighting the deflation risk

From its peak in mid-2011, European inflation began a downward trend that brought it below zero in 2015 and again in 2016 (figure 1). In July 2012 the rate on the deposit facility was set to zero, then regarded as a zero lower bound (ZLB) (figure 3). In the de facto *floor system*, the short-term interbank market rate (Eonia) was also dragged down to zero. In May 2013 the discount window rate (Marginal lending facility, MLF) was decreased by 50 bps, and the MRO rate by 25 bps, so that the corridor was 1% (MLF), 0.5% (MRO), and zero (DF).

With the floor system the rate on DF, and no longer that on MROs, began to suggest the stance of monetary policy. In this sense, the authors argue, the separation principle was overcome (ibid, p 261-262).

The authors note the paradox that a ZLB target rate might steepen the interest rate curve: for the simple reason that if markets believe that rates have bottomed out, they can only go back up — a sort of Keynesian liquidity trap. This limits the central bank's ability to bend down the long-term interest rates curve. As recalled in Cesaratto (2020, pp.233-234), in 2016 the then vice-President of the ECB Vitor Constâncio (2016) quoted John Hicks (1937, p. 155) in this regard: “In an extreme case, the shortest short-term rate may perhaps be nearly zero. But if so, the long-term rate must lie above it, for the long rate has to allow for the risk that the short rate may rise during the currency of the loan, and it should be observed that the short rate can only rise, it cannot fall”. Contrary to Hicks’s opinion that zero interest rates can only rise, Constâncio argued that the ECB and other central banks were demonstrating that they can continue to fall.

At the end of January 2013 banks begun an unexpected early reimbursement of LTRO funds (figure 2). Optimists interpreted it as a sign of healing, while others interpreted it as a retreat of the banks from giving credit: “a system regurgitating liquidity was necessarily a system that *did not need* liquidity. … They saw LTRO pre-payments as a symptom of bank deleveraging, and bank deleveraging as a harbinger of a credit crunch” (Rostagno et al, 2021, p. 266). Later, in May 2013, there was the "taper tantrum" episode, following the Fed Chairman Ben Bernanke's announcement of a gradual withdrawal from the bond-buying plan belying investment funds' expectation of an indefinitely into the future extension of the programme. This generated global uncertainty and particularly felt in Europe about the stance of monetary policy (ibid, pp. 267-268).

The perverse effects of the ZLB on the interest rate curve, the premature withdrawal of banks from the LTRO, and the effects of the taper tantrum prompted the ECB to introduce in July 2013 a new approach to communicating its stance: *forward guidance* (FG). Already practised by the Fed, the FG overcomes the ECB's traditional attitude of not committing to future rate policy (“we never pre-commit”). “The effect of the new communication on market interest rates was substantial on the front end of the curve and much less visible over longer maturities”, report the authors (ibid, p. 269). In November the GC decided to “compress the rate corridor further”: the MRO rate was reduced to 0.25% while the DF rate remained at zero per cent (figure 3).

3.2. Credit crunch

Between 2013 and 2014, the authors narrate, the contraction of credit activity in peripheral banks intensified. Since 2011, they had compensated for the flight of deposits and loans from other banks of the core countries thanks to the three-year LTRO funds by shifting their liabilities from private to official funding, while, symmetrically, the core banks shifted their assets “from cross-country interbank credit to liquid claims vis-à-vis the Eurosystem” (TARGET2 claims) (ibid, p. 273). Moreover, the excess reserves in the books of core country banks “made them scramble to reduce it through advance payments of three-year LTRO money” (ibidem). This shift of liquidity from peripheral to core banks comes on top of the flight of investors from peripheral government bonds, again enabled, as noted above, by the use of LTRO funds by peripheral banks to stand in for foreign investors. The result was an increase in TARGET2 balances, the subject of the aforementioned controversy.

Bad loans and “the massive blow delivered by the sovereign crisis to the balance sheet position of the banking system … forced these [peripheral] banks to reduce the riskier portion of their assets” (ibid, p. 274). Peripheral banks thus began a deleveraging process while lending conditions to customers did not respond to the ECB's lowering of rates “a sign of profoundly dysfunctional transmission in a bank-based financial system such as Europe’s” (ibidem). In this context “the vicious loop [the unlikely mutual support of banks and states both in difficulty] largely prevented sovereigns in those countries from coming to the rescue of their national banking systems with the same vigour with which the governments of Germany and the Netherlands, for example, had intervened just a few years earlier” (ibid, p. 279). Nor did Europe had (and still has not) adequate institutions, unlike the United States, to solve banking crises at federal level without burdening national budgets, as Daniel Gros (2012) timely explained. A footnote quotes the Governor of the Bank of Italy, Ignazio Visco, explaining the Italian government's difficulty in intervening in the recapitalisation of banks, both because of the acute problems of public finance and because of the introduction of European rules which “conditioned the use of public funds on the preventive burden-sharing by the banks’ shareholders and subordinated bondholders”. In other words, bail-ins would have presumably been rather unpopular among the public. It is however unclear why Italy, unlike Spain in June 2012, did not resort to ESM funds for this recapitalisation; reasons of political prestige or to avoid unpopular bank restructuring due to the new no-bail-in rules?

Non-performing loans of peripheral banks in those years were likely explained by the contractionary fiscal stance. However, possible reasons of caution prevent the authors from going much further than the suggestion that: " While part of the contraction of loans in the periphery could no doubt be explained by a deficit in aggregate demand, the central bank could find new instruments to revive the supply of loans” (ibid, p. 280). The aggregate demand deficit was exacerbated by the appreciation of the euro, “since the London speech in July 2012 had triggered a massive repatriation of capital into the euro area, the euro had appreciated by 12% in nominal effective terms, a cumulative exchange rate adjustment that was clearly restraining the economy” (ibidem).

3.3. Draghi in Amsterdam

A speech in Amsterdam in April 2014 is considered by the authors as the turning point towards an enhanced ECB proactive stance. Draghi alluded to the possibility of negative interest rates and to a stronger action on long-term rates through the outright purchase of "long-dated assets" (ibid, p. 281).

On 5 June 2014, the DF rate was actually brought into negative territory (-0.1%) and the MRO rate reduced to 0.15% (figure 3). The liquidity sterilisation of SMP purchases was also discontinued (figure 2). This signals for the authors the dismissal of the "separation principle" as well “in an official recognition that the ‘separation principle’ had been more a distraction than a constructive element of the ECB’s approach to policy management” (ibid, p. 284).

In fact, the end of the V-LTRO operation had left the banks short of liquidity that the ECB met also with new liquidity providing operations. The most important was the Targeted LTRO (T-LTRO), launched in June 2014 (figure 2), which linked more favourable conditions of access to funding to the transmission of these advantages to the price of credit to customers to stimulate an expansion of credit. As in the case of the 3-years V-LTRO, here too Rostagno et al. (ibid, p. 287) speak of liability substitution:

> T-LTRO-I was an innovative instrument: ...Assuming a take-up of no less than €400 billion, staff estimated that the possibility for participating banks *to substitute expensive private funding with T-LTRO liquidity* would foster a decline in lending rates by more than 10 bps—what they called a ‘direct pass-through channel’. But the beneficial effects would extend far beyond the pool of participants. As the banks taking part in T-LTRO-I would likely cancel or postpone plans to issue bonds on the market, bank bond scarcity would bring funding cost relief even to those banks that were to shun the operations—in other words, a ‘portfolio rebalancing channel’ would operate indirectly and across the board.

In the case of V-LTRO peripheral (or ostracized) banks substituted funding from core banks with the ECB funds after the sudden stop of capital flows episode of 2011 (section 3 above). In the T-LTRO case, the ECB offered funds cheaper than private funding in order to diminish lending rates.

With regard to the "liability substitution", I wonder if it is not possible to envisage a ("sort of") intermediary role of the ECB between banks rich in liquidity (generally from "core" countries) that remain "idle" in reserve accounts, and banks poor in liquidity and supplied by the ECB (generally located in "peripheral" countries).

Be this as it may, the T-LTRO I operation was not successful given the mid-2014 pessimist expectations (attributed to tensions over Crimea and not to the persisting eurozone fiscal stance)[13] that provided "room for disappointment in terms of both the T-LTRO-I volumes and its effects" (ibid, p. 288).

The T-LTRO operation was reinforced by the purchase of bank securities (asset-backed securities and covered bonds) which marked the transition from conventional monetary policy instruments (interest rate policy) to less conventional ones, the outright purchase of securities. In Draghi's words to the European Parliament in September 2014: " With the purchase programmes, we are starting a transition from a monetary policy framework predominantly founded on passive provision of central bank credit to a more active and controlled management of our balance sheet" (ibid, p. 293).

In September 2014, the MRO rate was cut to 0.05% and the DF rate to -0.2% (from -0.10%) (figure 3). Technically, the distance between the two rates was maintained in order to preserve the convenience of the interbank market. More specifically with "reduced trading spreads that too narrow a corridor would bring with it … the return that banks could earn from lending liquidity to other banks—and exposing themselves to some counterparty risk— would be too small compared with the return from holding liquidity idle in the deposit facility" (ibid, p. 294). The effective lower bound was also estimated by ECB economists to be -0.25% by measuring the costs to banks of holding banknotes instead of deposits at a negative rate.[14] Later on, these costs were estimated to be larger, allowing further decreases in the DF rate (currently -0.50%, March 2022).

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[13] Admittedly, European sanctions against Russia severely damaged Italian exports (ibid, p. 297).

[14] Holding reserves in banknotes is costly for banks (cost of safety, of using them for payments etc.) compared to current accounts at the Central bank. However, if negative interest rates on excess reserves are too penalizing, holding banknotes might become more convenient.

In another famous speech in Jackson Hole in September 2014 Draghi explicitly denounced the lack of a European fiscal policy. This accusation by Draghi makes clear why the markets were not particularly impressed by the measures taken so far by the ECB (ibid, p. 298), and indeed in December 2014 "measured year-on-year inflation fell below 0% for the first time since 2009" and there was "a non-negligible probability that negative inflation could develop into a grinding process of self-perpetuating deflation" (ibid, p. 299) .

The synthesis the authors provide of the GC in December 2014 is however surprising — a Jackson Hole *à l'envers* one would say:

> The GC …had grown disinclined to shift the blame for inflation misalignments to outside forces (oil, structural factors) or other agents (fiscal, income policymakers) and had reasserted the belief that inflation was indeed 'always and everywhere a monetary phenomenon' (ibid, p. 302).

If this is the analytical background that prepared the later adoption of quantitative easing (QE), it certainly brings to mind the words with which a prominent ECB monetary economist labelled long ago Japan's first QE in 2001, a reminiscence of monetarism: "Although it may be unclear how exactly an excess reserves target is supposed to help a country escape from the deflationary trap, it at least seems unlikely to do any harm" (Bindseil 2004, p. 41), in other words *why not, it can't hurt*.

More plausibly, the objectives of QE were to bend the long-term yield curve, with particular concern for the sustainability of some countries' public debts, and to achieve a depreciation of the euro: "based on elasticities of inflation to interest rate changes, and of interest rate changes to purchases of long-dated assets, they [the ECB's staff] derived the 'missing stimulus' and the Eurosystem balance sheet expansion that was necessary to correct the inflation shortfall" (ibid, p. 302). But the two likely targets, support of troubled sovereign debts and the exchange rate depreciation, through which to sustain aggregate demand and the price level are possibly unmentionable for the authors (or, at least, not much emphasis can be put on them). In this light QE does not look so "unconventional".

3.4. 2015: the QE era

On 22 January 2015, the GC announced that purchases of bank bonds would be supplemented by purchases of "investment-grade securities issued by euro area governments and agencies and European institutions (the PSPP) … to form a new encompassing purchase package that came to be referred to simply as the asset purchase programme (APP)" (ibid, p. 305) (see figure 2).

The characteristics of the APP (Asset purchasing programme) are well known. To begin with, full risk sharing would only apply to securities purchased directly by the ECB (8% of the total) or purchased by the national central banks (NCBs) from European institutions (12% of the total). The remaining 80% concerned government bonds of individual countries purchased by their respective NCBs who would bear the full risk.[15] The purchases were distributed in proportion to the participation of the countries in the capital of the ECB, the so-called capital key.

The definition of the purchasable tranche of each issue led to specific problems. A regulation linked to the establishment of the ESM legitimised a share of at least 25% of the subscribers in blocking any restructuring of a single issue of government bonds through a collective action clause. This restructuring included a possible "redenomination" of the debt. [16] In order to prevent embarrassing situations for the ECB, a limit of 25 per cent was set on the purchase of each tranche, which then was increased to 33 per cent “'subject to a case-by-case-case verification that this would not create a situation whereby the Eurosystem would have blocking minority power, in which case the issue share limit would remain at 25%’” (ibid, p. 308). Unfortunately, the authors do not elaborate on this complication, which later gave the ECB a lot of headaches in view of the scarcity of purchasable German bonds.

The amount of securities purchased was initially set at EUR 60 billion and the programme was scheduled to end in September 2016. The authors point out that the *forward guidance* shifted from interest rates guidance to the criteria guiding APP implementation. More specifically, the end or possible continuation of this programme was linked to the inflation target, which had to be achieved in a robust manner (ibid, p. 307). The effect of the APP on the redemption of long-term sovereign bonds was, according to the authors, significant, particularly on peripheral bonds, and began even before the announcement when it became common knowledge not to ask if but when the ECB would start (ibid, p. 409). In practice, the authors are admitting that, “launched as a monetary policy instrument to stem the rate of disinflation… unofficially, QE constituted a bailout for over-indebted countries”, as Eurointelligence (18 November 2021) has recently put it. Figure 6 confirms that the fall, e.g., of the yields on the Italian 10y government bonds began much earlier than the start of the APP as a long-term consequence of OMT and of the expectation of a

[15] A degree of hypocrisy, typical of the European governance, seems hidden here: in order to be an effective support of sovereign bonds of troubled countries, the risk had clearly to be European.
[16] The official explanation for this clause is that it would make it easier for a qualified minority of holders to approve a sovereign debt restructuring procedure; not coincidentally, the clause is a provision of the ESM Treaty.

European QE. This last measure stabilized the fall, so to speak, that has been later subject to the vagaries of Italian politics.

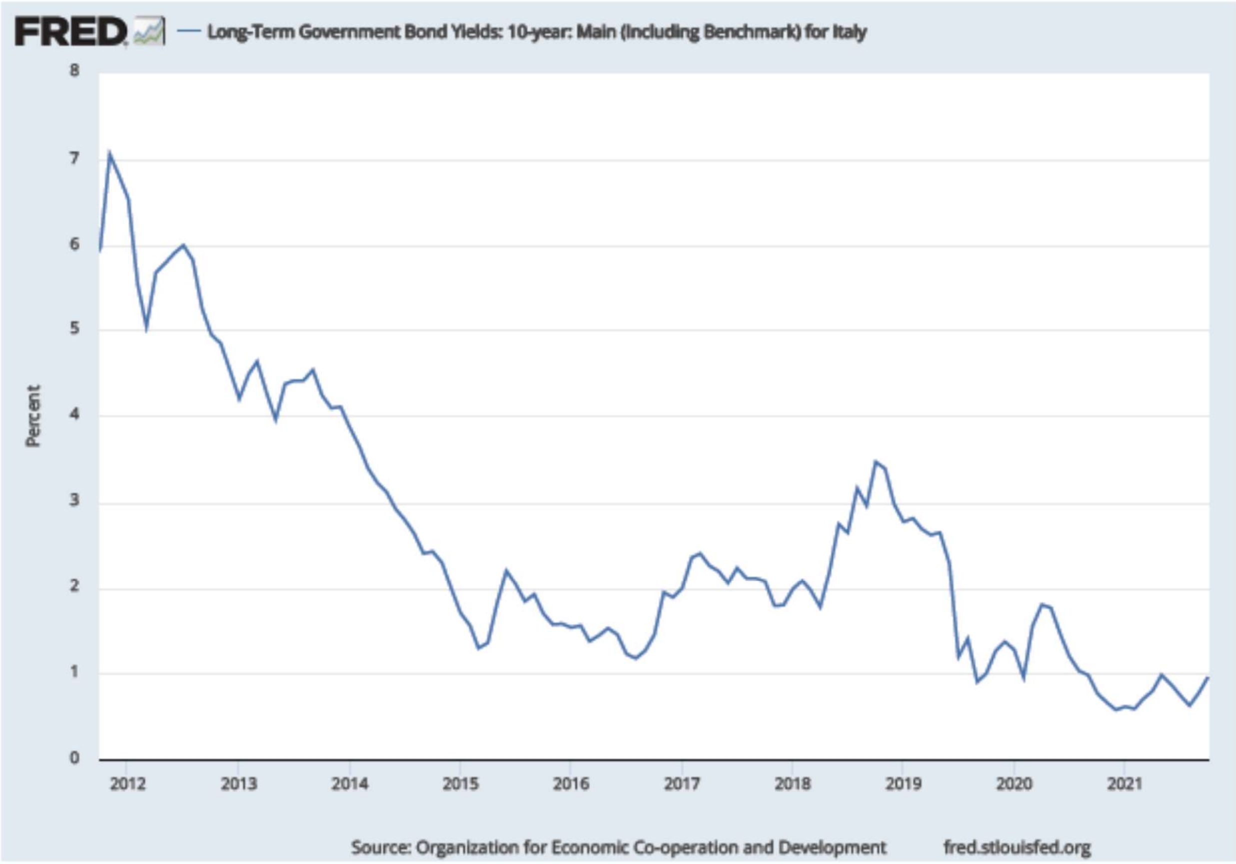

Figure 6 – Long-term government bonds yield for Italy

Source: St Louis Fed.

3.5. APP and TARGET2

We discussed the first instance of growth in TARGET2 balances at the beginning of this section, which was linked to the V-LTRO operation. The second episode is linked to the APP. In the authors' sketchy example, an NCB, say the Bank of Spain, decides to buy securities of its own government from foreign investors who have current accounts in other EMU jurisdictions, e.g. Germany. This would lead to a flow of liquidity from Spain to Germany, resulting in TARGET2 liabilities for Spain and symmetrical claims for Germany. These TARGET2 balances would then be merely the result of the technicalities involved in conducting the APP (ibid, p. 313).

The issue of substance is however that, in practice, the purchase of Spanish government bonds is carried out by the Bundesbank, which issues liquidity in exchange for a TARGET2 claim. In effect, the Spanish State is buying back its own debt securities in exchange for TARGET2 liabilities. Hans-

Werner Sinn's concerns seem again justified (Sinn 2020, p. 56; Cesaratto 2020, pp. 230-231, 2021, pp. 389-392). The authors dismiss the possible capital flights of domestic investors who, having liquidated their positions in (their own) government bonds, take their capital to other euro area jurisdictions generating TARGET2 unbalances.

3.6. Karlsruhe against Frankfurt

An important section of the book deals with the repeated challenges that groups of German academics have brought to the legitimacy of the ECB's policies through appeals to their country's Constitutional Court. As one may expect, the object of contentions that begun in 2015 is whether the policies of buying government bonds in the secondary market, threatened with the OMT and carried out with the APP, entailed "undermining the disciplining function of financial markets vis-à-vis public creditors” (ibid, p. 315).

From the German Court point of view, a fiscal support would prefigure a violation of the German Charter, according to which the Bundestag must be invested in decisions that imply a possible German fiscal commitment (in case, for example, the ECB had bought securities of a country that then goes bankrupt). The strategy of the German High Court was to defer the matter to the European Court of Justice (CJEU) in whose jurisdiction the ECB falls, and then "once the CJEU has issued its ruling, by determining whether the measure, also in light of the CJEU’s jurisprudence, is consistent with German Basic Law” (ibid, p. 314).

Obviously, it is not easy for the ECB to surreptitiously continue this policy of lender of last resort, and the repeated legal appeals and Karlsrhue rulings may gradually undermine this action that with the pandemic and the Ukrainian crisis is still necessary. [17]

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[17] The fact that the German court intends to have the last word led to a clash between the German and European Courts in 2020 and 2021. As *Eurointelligence* (9 June 2021 comments: “The German constitutional court has always retained absolute supremacy over certain political areas, the most important of which is fiscal policy. It does not allow the EU to extend the remit into this field. Under German constitutional law, an elected Bundestag cannot give the go-ahead to a fiscal union (…). The future of the fiscal union is why we think this case is so important. It is not about the ECB, but about whether the German legal blockade towards a fiscal union will persist”.

4. The 2017-2018 recovery as a (presumed) monetary policy success

4.1. Fighting deflation with (only) monetary tools

Despite the modest effects of the interest rate policy (rates cut and forward guidance) on corporate credit and of the launch of APP,[18] price developments in 2015 and prospectively in 2016 still presented a deflationary bias, while the euro area was the only major economy not to have recovered pre-crisis income levels (ibid, p. 325). The anti-deflationary stance was therefore reinforced on 2 December 2015 by a DF rate reduction to -0.3% and an extension of APP from the original deadline of September 2016 to March 2017 (figure 3). Expecting more, once again markets were disappointed (ibid. pp. 326-327) (incidentally, in December 2015 - January 2016 the euro appreciated against the dollar). According to the authors negative rates on the DF and APP were mutually reinforcing since abundant liquidity forced banks "to reallocate their cash holdings towards more productive uses" (ibid, p. 27). With this sort of supply side strategy,[19] I am not surprised that at the beginning of 2016 "inflation in the euro area was projected to remain close to 0% for the next six months, and (…) create an inertial process by which low inflation would perpetuate itself through backward-looking expectations (ibid, p. 328).

According to a widespread opinion, the authors report, the negative interest rate policy (NIRP) resulted in a reduction in banks' lending rates, thereby squeezing their profits, which would have "crippled their capacity to generate capital organically" (ibid, p. 329). On March 2016 the ECB launched a T-LTRO mark II operation (figure 2) that made funds available at negative rates to banks with more dynamic lending activities so that the reduction in the cost of funding would offset the fall in lending margins. The fact is that the banks that resorted to the T-LTRO II funds expanded their lending (the banks that were already doing so were rewarded) while reducing their holdings of government bonds — unlike, the authors note, the 2011-2012 V-LTRO in which the banks that resorted to the measure increased their holdings of sovereign bonds (ibid. p. 331).

The GC meeting of March 2016 introduced further expansionary measures: the MRO and DF rate were brought to, respectively, 0% and -0.40% (figure 2); the APP monthly purchases increased from €60 billion to €80 billion; and purchases were extended to non-financial corporates "with a

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[18] Keynesian common sense would suggest that this was the typical case of the horse being driven to the fountain. I presume that, however, in the NKM-monetarist model the effects of interest rates on investment spending is treated in a very traditional way.

[19] The logic reminds that of the monetary multiplier (Fiebiger and Lavoie 2021).

view to enhancing the pass-through of the APP to the wider economy" (ibid, p.332). It would have been useful to know more about the motivations and criteria of this extension. The fall of the DF rate at -0.40% created a scarcity of German bonds eligible to purchases. Interest rates on German bonds had indeed fallen further after Brexit while the "legal framework governing the PSPP stipulated that no purchases would be made of securities with a yield to maturity below the DFR [deposit facility rate] (−0.4%), so the post-Brexit yield curve adjustments made a large share of the otherwise purchasable German universe ineligible" (ibid, p. 236). Later in December 2016 the GC "opted to address the scarcity of safe-haven securities by lowering the minimum residual maturity for eligible securities from two years to one, and by allowing purchases of bonds yielding less than the DFR 'to the extent necessary'" (ibid, p. 339). The GC also recalibrated APP going back to €60 billion of purchases until December 2017, admonishing through the FG that the programme would be increased if the path to a "sustained adjustment in the path of inflation" (SAPI) was not achieved (ibid, p. 339).

This reassurance seemed to work by leading "to a broad-based easing of euro area financial conditions: the sovereign term structure shifted lower, stock markets rallied and the euro depreciated measurably" (ibidem).

4.2. The 2017 recovery and the termination of APP at the end of 2018

The 2017 recovery posed a somewhat novel situation for the ECB, that of the coexistence of an economic recovery and weak inflation. One can indeed consider this a fortunate circumstance that allowed the ECB to maintain an expansionary stance without killing the recovery prematurely (ibid, p. 340).

At its June meeting the GC removed "the easing tilt to its rate guidance", while at the October meeting the pace of APP purchases was reduced to €30 billion but with an extended horizon to September 2018 (a "lower for longer" setting, ibid, p. 343). Assurance was given that "' the Eurosystem will reinvest the principal payments from maturing securities purchased under the APP for an extended period of time after the end of its net asset purchases, and in any case for as long as necessary'" (ibid, p. 345):

> All told, the focus in public communication was gradually shifting from the APP to the policy rate path, and from net purchases to the sizeable stocks accumulated in the monetary policy portfolio and the reinvestment policy that would help maintain it over time (ibidem).

The recovery slowed down in 2018 "earlier than previously projected", while a rapprochement to the inflation target seemed in sight (ibid, pp. 346-347). This context may explain the quantitative downsizing of the APP (15 €billion monthly from September 2018) and the decision to close the programme in December 2018 (ibid, p. 349). Consistently, the FG returned to interest rates alone, ensuring that the expansionary stance would continue at least until inflation had consolidated to the desired levels (ibid, p. 350). The market response was "benign", even with a slight depreciation of the euro (ibid, p. 350). The ECB thus seemed to have avoided Bernanke's disastrous "taper tantrum" of 2013.

The historical narrative of the book ends here, with a large part of chapter 6 (the last one) devoted to technical explanations about the interaction between the four axes of ECB monetary policy in Draghi's new regime (NIRP, T-LTRO, FG, APP), and to the quantitative analysis of their impact. Both

Conclusions

In the concluding section the authors reiterate the accusation of the absence of an anti-cyclical European fiscal policy what, however, would underline the power of monetary policy even if left alone:

> In this light, it doesn’t appear as an unconceivable paradox that fiscal policy could remain contractionary over the couple of years following 2010, even as the economy was slumping amidst looming risks of deflation, and could turn neutral only in 2015. What is remarkable is that the cross-currents that such a pro-cyclical conduct of fiscal policy created for monetary policy did not impede the robust expansion that started in late 2016 and reached a climax in 2017. (…) one could conclude that, while fiscal policy was a force pulling the economy away from the ‘virtuous equilibrium’, monetary policy was successful in keeping the economy anchored around it. We view this fact as testimony to the potency of monetary policy instruments, when a central bank is determined to deploy them with the necessary conviction and vigour (ibid, p. 406).

Probably having in mind the onset of the pandemic emergency the authors consider that in more extreme situations like the pandemic, monetary policy alone may be insufficient and fiscal policy even more necessary (ibid, pp. 406-407).

This is interesting, but one wonders whether in truth the ECB's action *also in recent years*, in particular with quantitative easing (APP), has not *already* aimed at making fiscal policy less countercyclical through savings in interest expenditure (particularly in countries with high public debt), and at the depreciation of the euro. There remains in this context a dissatisfaction with the absence in the book of (intelligible) explanations of the channels through which monetary policy has supported aggregate demand. It could not have done so through the mainstream mechanisms (we assume proper to the NKM-monetarist model) whereby interest rate reductions have a relevant impact on investment spending. The channel is discredited by the Keynesian metaphor of the horse at the fountain, as well as by other analytical results unfortunately hidden in the upper floors of the university libraries shelves (we refer to the devastating results of the Cambridge controversy on capital theory over the negative elasticity of capital demand with respect to the interest rate).[20] Although interest rate reductions can have positive effects on autonomous consumption (the one financed by consumers credit), this channel is generally impaired in depressions and balance sheet recessions.

Summa summarum, *Monetary Policy in Times of Crisis* has three relevant aspects.

The first is its criticism of the absence of an adequate European fiscal policy during the financial crisis. This left the ECB on its own.

The second feature concerns the evolution of the theoretical framework that guided the ECB's action. Leaving aside the excess of technicalities and reliance on the NKM, the progressive abandonment of the "separation principle" in favour of a "combination" of instruments (Rostagno et al. 2019, pp.3, 14) is intriguing. It is so particularly if more bravely extended to overcoming what the authors label "the odd combination" of fiscal and monetary policy during the crisis (ibid, pp. 22, 323), Reichlin et al. (2021, p. 51) criticise as the "strict separation of monetary and fiscal policy" in the European governance, and the ECB's recent "monetary policy review" claims as the opportunity of "fiscal and monetary policy to complement each other in times of crisis" (ECB 2021).

It is also interesting that the authors point out that monetary policy acts on the demand side (and is therefore neutral neither in the short nor in the long run). However, the explanation of the channels through which it influences demand is absent or relegated to very technical sections inaccessible to the ordinary educated reader and impervious even to the professional reader. It is possible that some reticence of referring explicitly to the effects of monetary policy in facilitating fiscal policy or on the exchange rate contributed to the widespread technical laboriousness of

[20] In 2016 Vitor Constâncio then vice-President of the ECB evoked the capital theory controversy and the problems it raised about the neoclassical notion of natural interest rate.

many pages of the book. The NKM background of the authors may have also prevented a more unprejudiced analysis.

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List of the abbreviations

APP	Asset purchase programme
DF	Deposit facility
DFR	Deposit facility rate
ECB	European Central bank
EFSF	European Financial Stability Facility
EMU	European Economic and Monetary Union
EONIA	Euro OverNight Index Average
ESM	European Stability Mechanism
FG	Forward guidance
FRFA	Fixed-rate full allotment
GC	ECB Governing Council
HICP	Harmonized Index of Consumer Prices
IT	Inflation targeting
LTRO	Longer term refinancing operations
MLF	Marginal lending facility
MRO	Main refinancing operations
NCB	National central bank
NIRP	Negative interest rate policy
NKM	New Keynesian Model
OMT	Outright Market Transactions

PSI	Private sector involvement
QE	Quantitative easing
SMP	Securities Market Programme
TARGET2	Trans-European Automated Real-Time Gross Settlement Express Transfer System
T-LTRO	Targeted-LTRO
V-LTRO	Very-LTRO (3y-LTRO)
ZLB	Zero lower bound