

The myth of market neutrality: A comparative study of the European Central Bank's and the Swiss National Bank's corporate security purchases

Pre-proof version – Article forthcoming in New Political Economy

Abstract

Monetary policy operations in corporate security markets confront central banks with choices that are traditionally perceived to be the prerogative of governments. This article investigates how central bankers legitimise corporate security purchases through a comparative study of the European Central Bank (ECB) and the Swiss National Bank (SNB). As we show, central bankers downplay the novelty of corporate security purchases by relying on familiar pre-crisis justifications of Central Bank Independence. Citing an ideal of “market neutrality”, central banks present corporate security purchases as pursuing a narrow objective of price stability, and obfuscating their distributive consequences. In this way, central bankers depoliticise corporate security purchases: they reduce the potential for choice, collective agency, and deliberation concerning both the pursuit of corporate security purchases and the choices made in implementing these policies. We also describe the undesirable democratic, social and environmental dimensions of these practices, which we propose to address through enhanced democratic accountability.

Jens van 't Klooster, Max Weber Fellow, European University Institute,
jens.vantklooster@eui.eu

Clément Fontan, Assistant Professor of European Economic policy, UCLouvain/Université
St-Louis, clement.fontan@uclouvain.be

Introduction

The past decades saw central banks acquire considerable independence from democratic institutions (McNamara, 2002; Singleton, 2010). Governments justified their decision to delegate monetary policy by relying on a narrow conception of monetary policy, which focuses on the setting of short term interest rates to achieve a long-term objective of stable price levels. A crucial element in the justification of central bank independence is the idea that monetary policy is an apolitical, technical area of policymaking (Marcussen 2009). The loss of democratic control that results from the creation of an independent central bank was also thought to be minimal, because distributive choices would remain with elected governments, who both decided on the central bank mandate and retained the use of fiscal instruments to achieve their distributive objectives. In this way, governments *depoliticised* monetary policy in the sense of reducing the potential for choice, collective agency, and deliberation around the use of monetary policy (Fawcett, Flinders, Hay, & Wood, 2017; Hay, 2007; Wood & Flinders, 2014).

The Global Financial Crisis (GFC) led central bankers to move far beyond the narrow task assigned to them under the traditional justification of Central Bank Independence (CBI), which threatens their legitimacy (Goodhart, Gabor, Vestergaard, & Ertürk, 2014; Papadia & Välimäki, 2018; Tucker, 2018). To rescue a global financial system on the brink of collapse, central bankers assumed new roles as lenders and market makers of last resort (Gabor & Ban, 2016; Mehrling, 2010). In the years that followed, central bankers continued to experiment with a range of new, powerful monetary tools, including Quantitative Easing (QE) programmes (Braun, 2018; Lombardi & Moschella, 2016; Ronkainen & Sorsa, 2017).

Central bankers, meanwhile, are openly concerned that the use of unconventional tools threatens their independence (Group of Thirty, 2015; Jordan, 2017a; Goodhart & Lastra, 2018). Indeed, when independent regulatory agencies extend their power, political authorities often

seek to regain control (Elgie, 2002; Héritier & Lehmkuhl, 2011). Central bankers, accordingly, try to counteract repoliticisation and these efforts shape their policies. As we will show, rather than governments, it is now the central banks themselves that seek to depoliticise monetary policy.

To investigate the simultaneously occurring processes of politicisation and depoliticization (Sørensen & Torving, 2017; Fawcett et al., 2017), we investigate how central bankers relate to the political dimensions of their new unconventional policies. To this end, we analyse the efforts of the European Central Bank (ECB) and the Swiss National Bank (SNB) in legitimising their corporate security purchases. Corporate security purchases have been the topic of vigorous debates, making them into some of the most controversial measures taken since the crisis. The ECB's €178bn Corporate Sector Purchase Programme (CSPP), which represents a modest portion of its €2,500bn asset purchase programme (APP), is geared heavily towards investments in controversial sectors such as the fossil industry, car manufacturing, low budget airlines and gambling companies (Campiglio et al., 2018; Corporate Europe Observatory, 2016; Matikainen, Campiglio, & Zenghelis, 2017). The SNB has built a massive CHF 790bn foreign currency portfolio, 32 per cent of which in corporate securities, making it a powerful investor in foreign stock markets and raising the question of how its returns compare to those of sovereign wealth funds (Allen, 2017; Artisan de la Transition, 2018; Jordan, 2017b).

While the strategic settings and the distributive effects of QE programmes have attracted a fair amount of academic attention, the peculiarities of corporate security purchases have escaped close scrutiny. The study of the ECB's sovereign bond purchases reveals that, while central bankers were constrained by legal, doctrinal and institutional forces (Braun, 2015; Högenauer & Howarth, 2016; Lombardi & Moschella, 2016), they used these programmes to promote fiscal consolidation and structural reforms (Fontan, 2018). Turning to its distributive effects, it

is now widely recognised that QE increases wealth inequalities (Bank of England, 2012; Montecino & Epstein, 2015). Political philosophers have studied the effects of these developments on central bankers' legitimacy and called for more political controls over monetary policy (Clément Fontan, Claveau, & Dietsch, 2016; Best, 2016; Dietsch, Claveau, & Fontan, 2018; Klooster, 2018a, 2018b). Our article contributes to this stream of analytical and normative research on central banking in the age of unconventional monetary policy by investigating corporate security purchase programmes. We analyse both central bank strategies for depoliticising corporate bond purchases as well as the normative aspects of these strategies.

Our first aim is to show that central bankers depoliticise their security purchases by subsuming them under the pre-crisis justification of CBI. We highlight two aspects of the resulting pretence to continuity. First, with regard to goals and instruments, we show that in deciding whether and how to purchase corporate securities, central bankers present themselves as pursuing price stability, while in reality engaging in these purchases for reasons that are entirely unrelated to price stability. Second, with regards to distributive consequences, we show that rather than acknowledging and managing the market impact of their policies, central bankers pursue 'market neutrality', e.g. they seek to minimize the impact of their purchases on the relative prices of financial assets. By emphasising continuity, central bankers keep decisions on new instruments in the domain of their expert judgment, and thereby outside the domain of democratic politics.

Building on this analysis, our second aim is to show that there are serious procedural and substantive objections to the corporate security programmes currently implemented by unelected central bankers. From a procedural perspective, the governance structure of an independent central bank precludes adequate structures of democratic accountability. Decision-making is neither constrained by mandates nor subject to adequate political checks and

balances. From a substantive perspective, we argue that, as a consequence of their effort to make corporate security purchases market neutral, these programmes are insufficiently sensitive to environmental and societal concerns. Building on this dual diagnosis, we argue that, rather than waiting for central bankers to pursue social and environmental objectives, legislatures should take a more active role in shaping the investment strategies of central banks.

In order to explore the SNB and ECB programmes from both analytical and normative perspectives, we performed a systematic review of ECB and SNB documents and the public statements of board members that refer to the relevant purchase programmes as well as policy documents and secondary financial and economic literature. We develop our empirical argument through case study comparison. Because the SNB and ECB are two very different central banks, comparing their programmes helps us to identify striking similarities in their depoliticisation strategies (Blatter & Haverland, 2012). The ECB is a supranational EU institution that operates as a decentralised central banking system and interacts with fragmented and competing governments (Howarth & Loedel, 2005). The SNB is a joint-stock company operating under Swiss federal law and is partially in private hands.ⁱ The economic circumstances to which they respond are also different. The Eurozone crisis saw the ECB confronted with a sovereign debt crisis, which brought its very existence into question; the Swiss, in contrast, overcame the impact of the crisis much quicker but had to deal with a dramatic flight of capital into the Franc. Taking these institutional, political and economic differences into account, we seek to bring out the striking parallels between their respective depoliticisation strategies. The crucial similarity of the ECB and the SNB that we identify is that they are both independent central banks with a narrow price stability mandate. This comparative approach also suggests that our arguments apply more widely to central banks defending their independence in the face of dramatic post-crisis changes to the practice of monetary policy implementation.

In what follows, we present the pre-crisis CBI model that informs the practices and rhetoric of central bankers to this day (§I), explain how the ECB and SNB invoke it in depoliticising their corporate security purchases (§II) and outline our normative objections (§III).

I. Discretion and legitimacy: the myth of Ulysses and the justification of CBI

After centuries of significant historical variation in their autonomy and objectives, the decades before the GFC saw central banks' convergence on the ideal of Central Bank Independence (CBI). We explain two ways in which this development led to a depoliticisation of monetary policy: First, independent central banks treat monetary policy as having a narrow objective, which can be achieved with a clearly-defined toolbox and, second, central bankers treat distributive consequences as insignificant and sanctioned by the central bank's mandate.

Central banking and legitimacy

In making its central bank independent, the government gives up its legal authority over monetary policy. Instead, setting monetary policy is delegated to a central bank board or independent committee, whose members are appointed at regular intervals. In the absence of a direct democratic mandate, the legitimacy of this arrangement has always been shaky. It relied crucially on ideas whose essential features are well-known from the myth of Ulysses and the sirens (Conti-Brown, 2016; Elster, 1979). In some versions of the story, it is a tragic desire to promote social welfare that undermines the government's commitment (Kydland & Prescott, 1977). In other versions, the government is tempted by its desire to deceive the public in the run-up to elections (Blinder, 1999). The upshot of these stories is that the government's own weak will requires it to delegate monetary policy to an independent central bank so as to retain credibility in the eyes of financial markets. Unlike elected officials, the narrative goes, central bankers do not have incentives for the excessive use of the money supply. This credibility ensures price stability because economic agents trust central bankers' announcements and set

their behaviour accordingly. Like Ulysses, governments are to tie themselves to the mast, so as to avoid short-term monetary temptations.

If the government is to tie itself to the mast, then who should hold the oars? Central banks have long faced challenges to their legitimacy, which rely on various democratic ideals of popular self-government. To address such challenges, they depend on a political justification that puts central banks in the lowly position of Ulysses' rowers (Issing, 2008). Their ears filled with wax so as to be deaf to the government's plea for a monetary stimulus, the central banks set interest rates to secure a low level of inflation. Two features of this justification are crucial for legitimising the independence of the central bank, as we will now explain in more detail.

Objectives and instruments

In the Ulysses metaphor, the central bank has one goal, price stability, and one tool to achieve it, which is setting short-term interest rates. The goal is narrow in the sense that it can be achieved without making further political decisions. It is also objective in the sense that it can be operationalised through a consumer price index, which provides for a narrow quantitative criterion of success. Like Ulysses' rowers, having only one tool at its disposal means that the central bank is also constrained in how it achieves this objective. A trope that often comes up in this context is what is known as Tinbergen's rule, which says that for every objective policymakers wish to achieve they should have at least one lever with which to influence the economy (Tinbergen, 1952).

Alongside price stability, central banks have always pursued a range of further policy objectives. First, most central banks have some responsibility for banking supervision and financial stability. Second, even where it concerns setting monetary policy, central bankers never focused on price stability as their only objective. To achieve price stability, the central

bank reduces economic activity so as to stop prices, and in particular wages, from rising too fast. One of the main challenges that central bankers face is to minimise the economic damage they cause in pursuing a low level of inflation. In existing mandates, the objective of price stability is therefore always complemented with (generally more vague) macroeconomic policy objectives. The ECB mandate states that ‘without prejudice to the objective of price stability’, it is to ‘support the general economic policies in the Union’ (Treaty on the Function of the EU (TFEU) Article 127). The SNB is to ‘ensure price stability’ but ‘[i]n so doing, it shall take due account of economic developments.’ (National Bank Act (NBA) Article 5). A third objective, particularly for central banks of smaller currency areas, is to stabilise the exchange rate. Because the exchange rate is a crucial determinant of the price of imports and the volume of exports, it can be used to stabilise domestic price levels. But it can also be used to influence the balance of payments and its often far from clear that it is only stabilised for achieving price stability.

Before the crisis, the claim that central banks had only one instrument was considerably more accurate. Over the course of the 1980s and 1990s, central bankers converged on a very specific set of practices for implementing monetary policy (Borio, 2001). Central banks set short-term interest rates in money markets by providing credit to the banking system. Even though central banks for a long time implemented their monetary policy with a small set of practices, their mandates generally allowed them to use a much wider range of policy tools. In fact, the only operation explicitly prohibited for both the SNB and the ECB is that of purchasing bonds directly from the government (TFEU Article 125, NBA Article 11).

Prior to the GFC, trade-offs between price stability and other objectives occurred, but their resolution could generally be presented as a largely technical matter (Marcussen, 2009). The implementation of the monetary policy was meant to take place at a considerable remove from

the real economy. Lending to corporations and households was left to private financial institutions, which are were seen as guided by the dynamic of competitive markets. Central bankers could claim that there was an optimum level of price stability, which could be attained by an adequate interest rate; the only challenge they faced was to find out that rate.

Distributive consequences

The second crucial feature of the justification of CBI is the idea that central banks achieve their narrow objective of price stability without much in the way of distributive consequences (Ingham, 2004), treating monetary policy as distributively ‘neutral’ in two senses. First, central bankers subscribed to the monetarist claim that monetary policy has short term macroeconomic effects, but is fundamentally constrained by supply-side factors such as the skill levels of employees and available capital goods. Monetary policy was said to do little more than guide the economy towards a long-term equilibrium determined by supply-side factors (Friedman, 1968; Issing, 2008). In this context, price stability is seen as not merely ‘one of a long list of political and economic objectives’, but rather ‘a common goal and a pre-condition for the successful pursuit of other objectives’ (Issing, 2008, p. 27). Political economists have done a lot to challenge this purported neutrality (McNamara, 2002; Forder, 2005; Adolph, 2013).

Our interest in the following will be particularly in a second notion of neutrality, which also derives from the pre-crisis justification of CBI. Monetary policy was said to be neutral in the sense that it did not change the relative prices of financial assets (Bindseil & Papadia, 2006; Chailloux, McCraighrin, & Gray, 2008). Collateral frameworks, setting strict requirements on the assets that the central bank acquires in the event of a defaulting counterparty, served to minimise the central bank’s exposure to credit risk. This, first of all, shielded the central bank from potential financial losses. It also ensured that decisions on the price of risk, so-called risk

premia, were left to financial markets (Cheun, von Köppen-Mertes, & Weller, 2009), rather than involving central banks in choices that were perceived to be ‘political’. In this sense, monetary policy was meant to be ‘market neutral’.

In arguing for the neutrality of monetary policy, central bankers did not always deny the existence of at least some distributive consequences. Where monetary policy did have distributive effects, central bankers could describe their role as that of implementing their mandate. The objective of price stability is not chosen by the central bank; it is assigned to it by governments in the form of a legal mandate. Insofar as there are distributive consequences that follow from the very practice of inflation-targeting, central bankers could argue that these had their basis in decisions made by democratic institutions.

II. Justifying corporate security purchases

As we saw in the introduction, the past decade saw central bankers move far beyond their pre-crisis focus on short-term money markets. In fact, in designing a corporate security portfolio, a vast universe of assets becomes available for acquisition. As we now show, rather than acknowledging the new political choices that they face, central bankers revert to the traditional justifications of CBI. We highlight two aspects of this feigned continuity. First, with regard to goals and instruments, we show that in deciding whether and how to purchase corporate securities, central bankers frame their operations as led by their price stability mandate, while in reality they engage in these operations for reasons that go beyond price stability. Second, with regards to distributive consequences, we show that rather than acknowledging the peculiar distributive consequences of corporate security purchases, central bankers continue to describe their operations as approximating an ideal of market neutrality. We do not claim that central bankers lie about these facts. Rather, we argue that by pretending that pre-crisis narratives of a

narrow objective and market neutrality continue to apply, central banks obfuscate the novelty of their operations and the choices that they face. Thus, by reverting to the traditional justifications of CBI, central bankers reduce the potential for choice, collective agency, and deliberation around corporate security purchases.

The many objectives of corporate security purchases

Why do central bankers engage in the purchase of corporate securities? They claim that these purchases serve to achieve the narrow, pre-crisis objective of price stability. Against this claim, we show that neither the ECB nor the SNB needs these new instruments to achieve price stability. In the case of the SNB, the purchases are primarily used to increase the returns on its foreign currency investments. The ECB purchases corporate securities to circumvent political obstacles to QE in sovereign bond markets and to promote market-based finance in the Eurozone.

The SNB

In 2010, the Swiss Franc was considered a safe haven for global wealth in fleeing uncertainty and accommodative monetary policies in Europe and North America. This led to an increased demand for the Franc, which appreciated sharply. In response, the SNB introduced an exchange rate policy under which it would not allow the Franc to drop below CHF1.20 against the Euro (Swiss National Bank, 2011; Moschella, 2015). It is in this context that corporate security purchases are presented as countering a ‘strong valuation of the Swiss Franc [which] was increasing the downside risks to price stability in Switzerland’ (SNB, 2011). Although the peg was abandoned in January 2015, the SNB still intervenes heavily in currency markets.ⁱⁱ In 2017, the SNB’s foreign currency portfolio had a total size of CHF 790bn. Of this, 11 per cent was invested in private sector bonds and another 21 per cent is in ‘a globally well-diversified equity portfolio of about 6,600 individual shares’, for a total value of CHF 252bn (SNB, 2017, p. 77).

Despite presenting its corporate security purchases as motivated by the objective of price stability, the SNB does not need to purchase corporate securities for this. If it solely sought to maintain price stability, the SNB could simply implement its currency peg, through which it pursues price stability, by relying on trades in more traditional reserve assets. The Investment Policy Guidelines that form the basis of the SNB's purchases provide a high-level account of principles on the basis of which its portfolio is designed. Assets in the portfolio must be easy to sell ('liquidity'), chances of losses must be very low ('security') and, only if these conditions are met, the asset portfolio should be as profitable as possible ('return'). Liquidity is important because the SNB must be able to swiftly reverse its purchases if its monetary policy objective requires it to strengthen the Franc. By ordering its priorities in this way, the SNB seeks to ensure that 'monetary policy take[s] precedence over investment policy' (Maechler, 2016).

In turning to corporate securities, the SNB pursues the distinct objective of increasing the return on its investment portfolio. Compared to investment in sovereign bonds, stock market investments are neither safer nor more liquid. Rather, in the current low interest rate environment, investment in sovereign bonds is not very profitable, which would be unfortunate for the SNB's public shareholders. Because the SNB issues Swiss Francs to purchase foreign currency denominated assets, its investment portfolio loses value when the Franc appreciates. Returns from riskier corporate securities help the SNB to maintain the value of its balance-sheet and avoid a potential recapitalisation by the state, which could lead to a loss of independence. Precisely because corporate securities are riskier than sovereign bonds, they offer higher yields, which allows the SNB to improve the profitability of its portfolio. The SNB corporate security purchases, accordingly, are included in the programme to increase investment returns.

The trade-offs that the SNB faces between security, liquidity, and returns in designing the programme have a clear political dimension. Rather than merely focusing on liquidity and

security, the SNB weighs that objective against its interest in achieving returns. Indeed, the SNB has faced repeated calls to make its foreign currency portfolio more like a sovereign wealth fund, which the SNB argues would undermine its independence (Allen, 2017; Jordan, 2017a). Instead of entering into that discussion, we invoke it to illustrate that making these trade-offs involves political choices, and explaining the objective of purchases in terms of price stability obfuscates them.

The ECB

The ECB, too, is at pains to stress that the objective of its Corporate Security Purchase Programme (CSPP) is price stability. When announcing it, the ECB president Mario Draghi presented the CSPP's aim as that of strengthening 'the pass-through of our asset purchases to the financing conditions of the real economy', in order to 'accelerate the return of inflation to levels below, but close to, 2%' (Draghi, 2016). Again, however, corporate security purchases are in no way required to achieve price stability, but rather motivated by considerations that are at best remotely related to price stability.

First, there are distinctly political reasons for *not* implementing its asset purchases programme (APP), e.g. QE, solely through the purchase of sovereign bonds. As indicated by the resignation of two members of its Governing Council, the purchase of sovereign bonds by the ECB is as controversial, if not more controversial than, its corporate security purchases.ⁱⁱⁱ In order to minimise internal dissent and avoid legal constraints imposed by the European Court of Justice, the ECB set limits on its purchases under the APP (Lombardi & Moschella, 2016). Hence, the ECB has restricted itself from buying more sovereign bonds than 33 per cent of a particular issue or more than 33 per cent of the total outstanding volume of any individual sovereign. The ECB has also required that the composition of its purchases follows the ECB's capital key (the proportion of capital invested in the ECB by the member states). Finally, the ECB has excluded

Greece from the APP because its bonds do not meet its minimal credit rating. These self-imposed constraints hinder the ECB from implementing the APP solely with sovereign bonds. Corporate bonds are included to keep the volume of overall purchases stable, while respecting the ECB's self-imposed rules.

The ECB also has an independent motivation to include corporate bonds, which is to support the European Commission's project for a Capital Markets Union (CMU). The aim of the CMU is to provide European firms with access to funding from EU-wide capital market. Capital markets, the EU hopes, will provide European firms with more funding and an alternative to bank-based finance in the event of a future banking crisis (Braun & Hübner, 2018). The ECB has been an active proponent of relaunching the securitisation market from 2010 onwards, which motivated the inclusion of Asset-Backed Securities in the APP. Similarly, the inclusion of corporate bonds into the APP is a way to encourage market-based bond finance. The successful completion of the CMU may, potentially, facilitate the ECB in achieving its monetary policy objectives, but that rationale provides at best an indirect link between the CSPP and the objective of price stability.

In sum, the rationales of the SNB and the ECB for purchasing corporate securities are very different. On the one hand, the SNB resembles an institutional investor, seeking higher returns to compensate for long-term appreciation of the Franc. On the other hand, the ECB acts as a genuine market maker in supporting the corporate securities market and promoting the Capital Markets Union project. These different rationales reflect the flexibility of central bank mandates, which we will return to as part of our procedural objection (cf. Section III). Despite the different motives for their programmes, however, both central banks seek to present their operations as motivated by the objective of price stability.

The distributive consequences of corporate security purchases

The decision to move into corporate securities raises entirely new questions concerning what assets from the vast universe of available securities to buy. In the face of this challenge, central bankers argue that their purchases should not benefit certain assets over others, but rather faithfully reflect risk premia set by financial markets. In this way, central bankers again seek to maintain continuity with the pre-crisis narrative, which favoured leaving distributive choices to private investors. But, in the actual design of the investment portfolio central bankers face difficult political questions, which their invocation of market neutrality removes from an overtly political process of deliberation.

The SNB

On the basis of Investment Policy Guidelines, the SNB portfolio is 'managed as neutrally and passively as possible' (Jordan, 2017b). The SNB does not actively engage in 'stock picking', instead using a 'rule-based procedures to invest in a very broad equity universe' (Zurbrügg, 2014). By buying equities in proportion to their relative size in a specific stock index, the SNB seeks to ensure that their only effect is to stabilise the exchange rate: 'our activities have as small an impact as possible on the relative share prices of individual companies or sectors.' (Maechler, 2016). Market neutrality also serves to 'prevent [...] specific biases towards or against certain companies or sectors from influencing our investment policy' (Jordan, 2017b).

Despite the aim of neutrality, the design of a corporate security purchase programme involves considerable political choices. For one, there is a range of potential conflicts of interest. With regard to Swiss companies, which the SNB does not purchase, conflicts of interest result from the damage that monetary policy can do to the market value of domestic companies. The SNB does not invest in shares of medium and large-cap banks and quasi-bank institutions since such

purchases would conflict with the SNB's role as a regulator. The Investment Policy Guidelines also contain three more substantive social criteria, banning purchases from companies that 'produce internationally banned weapons, seriously violate fundamental human rights or systematically cause severe environmental damage.'^{iv} In a similar vein, the SNB delegates its voting rights to external service providers, which have the task of securing 'good governance' principles in the companies whose shares have been purchased. Despite its strict ethical criteria, the SNB still contributes to the funding of companies clouded in ethical controversy. For example, despite its environmental criteria, the SNB invests in companies that are known not to respect the most lenient human rights, environmental protection and corruption standards of the UN Global Compact. Among the 15 companies at stake, half are engaged in the extraction of natural resources. Overall, 26 per cent of the SNB's equity portfolio is invested in highly carbon intensive sectors such as the fossil fuel and automotive industries (Artisan de la Transition, 2018).

The ECB

Like the SNB, the ECB seeks to downplay the distributive consequences of its corporate security purchases by claiming that they are market neutral. Because the ECB 'is mandated to act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources' (ECB, 2017), the ECB 'aims for a market-neutral implementation of the APP, and therefore CSPP purchases are conducted according to a benchmark that reflects proportionally the market value of eligible bonds' (ECB, 2017).

The ECB adheres to an even stronger notion of neutrality than the SNB in not making purchases subject to ethical guidelines. Green bonds are bought, but only in volumes proportional to their market share. Prohibitions of specific companies are limited to the exclusion of financial

institutions for reasons of conflict of interest. For example, the ECB purchased bonds from the German carmaker Volkswagen from June 2016 onwards despite its involvement in the emissions scandal, which was revealed September 2015. This is in contrast to two other European public financial institutions, the European Investment Bank and the European Bank for Reconstruction and Development, which did ban the company (Teffer, 2016). The ECB purchase list includes the luxury group LVMH, which is the French company with the largest number of subsidiaries in tax havens.^v The list also includes Ryanair, the French weapon maker Thalès and drinks companies such as Pernod-Ricard, Heineken and Anheuser-Busch. For the ECB (2017), it is ‘up to political decision-makers (in the first instance) to agree on, define and promote appropriate policies and measures’.

By emphasising that its asset purchases are market neutral, the ECB seeks to avoid making overt distributive choices. The pursuit of market neutrality, as we show below, has its own distributive consequences. But, even apart from the specific distributive consequences of market neutrality, the ECB mandate also contains passage that speak against a market neutral implementation of the CSPP. The secondary objective of the ECB is to support the general objectives of the EU, which include ‘the sustainable development of the Earth’ (Treaty on European Union, article 3). Article 11 TFEU requires that ‘Environmental protection requirements must be integrated into the definition and implementation of the Union's policies and activities, in particular with a view to promoting sustainable development.’ (Solana, 2018). Rather than merely passively following its mandate or the market, the decision to forego environmental criteria is made by the ECB itself.

Market neutrality?

We now turn to a more general exploration of the concept of market neutrality to describe how corporate security purchases generate distributive outcomes. Central bank security purchases increase demand in the market, thereby raising the price of securities. For this reason, central banks' purchase decisions are followed very closely by market participants. When a central bank intends to purchase certain assets, this shapes the strategies of investors, who seek to anticipate the appreciation in value of the securities. Indeed, even before purchasing a single corporate security, the ECB announcement of the inclusion of corporate bonds in March 2015 lowered financing costs and increased securities emissions from companies. Euro-denominated bond issuance was at €185 billion in 2015 and grew to €218 billion in 2016. In March 2016, no Eurozone corporate bonds were traded at negative interest rates; in July 2016, 18 per cent of the market, that is €250 billion of debt, traded at negative rates (Turner, 2017). The CSPP is most beneficial to those segments of the corporate bond market that are actually included in the programme.

While acknowledging that the CSPP has more impact on the price of bonds that are eligible than those that are not (Abidi & Miquel-Flores, 2018), the ECB emphasises that the CSPP programme is meant to benefit market segments beyond the narrow range of assets included in the programme. For example, the ECB (2018) claims that the CSPP help Small & Medium Enterprises (SMEs) by incentivising banks to provide more SME-funding. SMEs are also meant to benefit from a more favourable economic environment. Yet, emitting bonds is costly procedure, which SMEs usually refrain from. Moreover, even if they did emit bonds, they would be unlikely to meet the high credit standards of the ECB. This does not mean that SMEs do not benefit at all from corporate purchases, for example through better borrowing conditions

in corporate lending more generally, but they still benefit less than their multinational competitors. In short, the CSPP has a bias against SMEs.

Within the realm of firms that have access to capital markets, corporate security programmes benefit those firms that are most reliant on external bond funding. The requirement of a high credit rating and the focus on firms that rely on external financing taken together mean that firms whose securities are purchased under the CSPP have a disproportionate carbon footprint (Corporate Europe Observatory, 2016; Matikainen et al., 2017). Manufacturing, oil and electricity companies need more financing than administrative, information or communication companies. Sunk cost in expensive capital equipment and natural resource reserves serve as collateral for loans, which contributes to a higher credit rating. As a consequence, the firms that benefit most from the CSPP are firms such as INI, Repsol, Shell and Total. European renewable energy companies all fail to meet ECB eligibility criteria.

Central bank corporate securities purchases also benefit specific *individuals* by incentivising bond-funded share buybacks. A company can use the funds it has on hand for three purposes: investment in capital expenditures (be it human or physical), saving or buying shares. Because of the post-crisis economic environment firms have only limited appetite for investment, while returns on savings are low. As a consequence, cheap debt incentivises firms to buy their own shares, which benefits their owners, rather than saving or investing (Crowther & Erturk, 2016).

Despite its impact being spread out over a much larger universe of potential investments, similar observations holds for the SNB, whose purchases benefit those firms included in the programme over those that are not. SNB corporate bond purchases are similarly constrained to issuers with high credit ratings and its equity portfolio limited to mid-cap and large-cap funds.

These observations serve to explain why market neutrality is a myth: no attempt to replicate market structure will ever succeed in removing the political dimension from security purchases and ‘offset’ distributive consequences. As critical political economists, sociologists and anthropologists have so frequently argued, markets embody a specific, political vision of society, which is not shared by every member of the polity (Strange, 1986; Streeck & Schäfer, 2013). Consequently, even if central bank purchases perfectly reflected the structure of the corporate sector, they would still reflect specific political views.

III. The ethics of unconventional monetary policy

Our topic so far has been how the ECB and the SNB legitimise their corporate security purchases. We have seen that central banking today no longer fits the Ulyssean story that features a narrow technical task with a clear objective and a well-defined set of tools. Instead, central bankers design their own tools and set their own objectives, while the choices they make have their own peculiar distributive consequences. We now turn to a more principled ethical evaluation of central banking in the era of unconventional monetary policy. We raise two objections to the new ways of implementing monetary policy we have described. First, from a procedural perspective we argue that unconventional monetary policy gives central bankers broad discretion without commensurate democratic accountability. Second, from a substantive perspective, we argue that in pursuing market neutrality central bankers fail to make their programmes sufficiently sensitive to their broader societal and environmental consequences. Assuming that unconventional monetary policies are here to stay, we argue for a more prominent role of the legislature in the design of unconventional monetary policy operations.

Procedural objections

Past decades saw central banks expand their powers dramatically, while their legal mandates have remained virtually unchanged. In the absence of a clear mandate, we have seen, central

banks make crucial distributive choices without much in the way of democratic accountability (Fontan, Dietsch & Claveau, 2016). This raises two kinds of concerns. Consider first that the choices of central bankers lack any meaningful democratic consent. The exercise of political power has democratic legitimacy if the power is assigned to a political agent with the consent of citizens or their elected representatives (Held, 2006; Klooster, 2018b). This consent has a *prospective* dimension, in that the exercise of political power requires authorisation from citizens. It also has a *retrospective* dimension, in that citizens can hold those who exercise power to account. Since central bankers are unelected, they do not have their own source of consent. Rather, the justification of CBI assigns a crucial role to the legal mandate in meeting both dimensions of democratic consent (Elgie, 2002). The mandate provides the central bank with prospective consent in licensing operations required for fulfilling the price stability mandate. The mandate also provides the central bank with retroactive legitimacy: the central bank can be held to account for achieving price stability or not. But the mandate does not provide any legitimacy for choices made by central bankers in designing corporate security purchase programmes. As we have shown in Section II, neither the ECB nor the SNB needs corporate security purchases for achieving price stability, so this objective itself does not provide a rationale for these programmes. Thus, the democratic consent that the mandate provides to corporate security purchase programmes is weak, at best.

The absence of a source of proper democratic structures also raises a second objection, which concerns arbitrariness (Klooster, 2018b; Lovett, 2010). An exercise of power is arbitrary if ‘its exercise is not externally constrained by effective rules, procedures, or goals that are common knowledge to all persons or groups concerned.’ (Lovett, 2010, p. 96). Rules act as reliable constraints if they are diligently observed by the political agent. Constraints can also take the form of procedures in which other political agents are involved or consist in a clear goal that the agent is to pursue. What is decisive is that the constraints are external to the agent, rather

than derived from principles that the agent itself decides to abide by. In this regard, non-arbitrariness requires either a mandate that is sufficiently strict so as to constrain permissible operations or checks and balances from other political agents. But, as we have shown, central bank mandates set hardly any constraints on what instruments central banks can use, and the price stability objective provides no standard by which to judge their content. As a consequence of central bank independence, there is also no political actor providing checks and balances on the design of unconventional monetary policy tools. Central banks decide autonomously what to include or exclude from purchase eligibility and whether they respect any self-imposed limits. When investment rules conflict, central bankers are both judge and party to the decision which takes precedence. Despite almost identical mandates, the ECB decides to focus entirely on market neutrality, while the SNB imposes a limited number of ethical criteria. The absence of external constraint on deliberation makes existing decision making objectionably arbitrary.

Substantive objections

We now turn to the substantive merits of corporate security purchases. Today, central bankers treat asset purchases as a mere vehicle for introducing money into financial markets. As we have shown, perhaps unsurprisingly, where that money is introduced matters. If new funds are used to support fossil fuel companies, it hinders a transition to more sustainable economic development. If, in contrast, investments are centred on green alternatives, the purchases will facilitate such a transition (Volz, 2017). To ensure that monetary policy has the most beneficial impact, they should be designed so as to adequately reflect environmental and social priorities.

Making such choices, of course, is exactly what central bankers hope to avoid through their market neutral investment strategies. We saw the ECB and the SNB put forward a plethora of reasons for their reluctance to make their operations subservient to societal and environmental

priorities, channelling views widely held in the central banking community (Group of Thirty, 2015; Tucker, 2018). Two types of argument reoccur in the justification of the market neutral approach, which we want to address directly.

First, central bankers argue that leaving decisions on risk premia to financial markets contributes to an efficient allocation of resources (Chailloux et al., 2008; ECB, 2017). Yet, this claim cannot be maintained in its generality. The very existence of monetary policy is premised on the possibility that financial market prices diverge from those required to realise macroeconomic policy goals. If markets were indeed always fully efficient, no central bank asset purchases would be needed in the first place. Similarly, climate risks are not adequately priced by markets, since successful climate transition requires assets to be written off for a value somewhere between US\$1 and 4 trillion (Mercure et al., 2018). Greening the monetary policy strategy would help offset such market failures, thereby increasing the chances of making financial markets more efficient.

Second, central bankers argue that making their policies sensitive to environmental and social proprieties would involve making political choices, thereby politicizing monetary policy (Jordan, 2017a, 2017b; Tucker, 2018). Instead, the pursuit of such objectives should be left to governments, which can simply use the more traditional tools of government expenditure and regulation. But, as we have seen, the design of unconventional monetary policy raises a range of political choices, of which the choice for market neutrality is just one example. Where such choices are already made, they should be made by taking all relevant considerations into account.

A democratic alternative

What does our argument imply for the future of central banking, given that unconventional monetary policy is likely here to stay? Note that there is a tension between the two lines of objection that we have outlined. We object to central bank discretion on democratic grounds, but also argue for more ambitious policies to achieve specific environmental and societal priorities. Giving more leeway to central bankers to pursue societal and environmental priorities, as some have argued (Campiglio et al., 2018; Matikainen et al., 2017; Volz, 2017), will only exacerbate the procedural issues we have identified above. We have also shown that central bankers will be hesitant to pursue such a policy because their very legitimacy is based on a narrative in which their role is technical and apolitical (Marcussen, 2009). The proper way forward, we believe, is not to increase central bank discretion but to enhance democratic oversight of monetary policy implementation.

While the ECB and SNB fear losing some of their autonomy under such procedures, going so far as to suggest that it would end their independence (Jordan, 2017a), the myth of Ulysses and the sirens does not provide any rationale for removing these decisions from democratic control. Rather, the essential point of the justification of CBI is precisely that that distributive choices should be left to governments, which design the central bank mandate. Ulysses, not his oarsmen, decides the destination of travel. The design of monetary policy tools does not involve any short-term monetary temptations, so that there is no clear reason why the design of new instruments should not be made democratically (Klooster, 2018a). In fact, despite the pre-EMU Bundesbank's unquestioned independence, its mandate prescribed in detail not only the asset classes in which it was permitted to trade, but also required guarantors, valuation haircuts and other risk-mitigation measures (BuBa, 1957).

It is not our intention to sketch the exact nature that such democratic oversight should take. Some possible forms this oversight may take involve more ambitious forms of public control over investment, either through public development banks or government programmes such as a Green New Deal. Minimally, the design of corporate security purchases and similar forms of unconventional policies should be referred back to democratic institutions, which can both seek to justify a new mandate for an independent central bank or revise the very institutional role that central banks currently play.

Conclusion

We have described how the ECB and SNB have sought to justify the introduction and design of corporate security purchases by invoking traditional justifications of CBI and the closely associated ideal of market neutrality. We have also shown that this depoliticises corporate security purchases by obfuscating the very choice of pursuing such programmes, as well as the choices made in designing it. In this process, monetary policy becomes driven by the search for legitimacy, leading central bankers to neglect societal interests and contribute passively to a slowly unfolding environmental disaster. Recognising the importance of a more active investment strategy, we reject a return to narrow objectives and limited tools, left to the discretion of an independent institution. Central bankers will, at the latest when the next financial crisis hits (Hunt & Hay, 2018), unavoidably move beyond such narrow roles again. Rather than hiding behind the myth of market neutrality, central banks should be open about their choices so that these can be made accountable to democratic institutions and aligned with environmental and social priorities.

Bibliography

- Abidi, N., & Miquel-Flores, I. (2018). *Who Benefits from the Corporate QE? A Regression Discontinuity Design Approach* (ECB Working Paper No. 2145). Frankfurt: European Central Bank.
- Adolph, C. (2013). *Bankers, Bureaucrats, and Central Bank Politics: The Myth of Neutrality*. New York: Cambridge University Press.
- Allen, M. (2017, June 14). Does Switzerland need a Sovereign Wealth Fund? Retrieved from SwissInfo website: https://www.swissinfo.ch/eng/business/snb-challenge_does-switzerland-need-a-sovereign-wealth-fund/43255380
- Artisan de la Transition. (2018). *The Swiss National Bank's Investments in the Fossil Fuel Industry Inflicts Heavy Losses to Switzerland*. Fribourg: Artisan de la transition.
- Bank of England. (2012). The distributional effects of asset purchases. *Quarterly Bulletin*, 52, 254–266.
- Best, J. (2016). Rethinking Central Bank Accountability in Uncertain Times. *Ethics & International Affairs*, 30, 215–232.
- Bindseil, U., & Papadia, F. (2006). *Credit risk mitigation in central bank operations and its effect on financial markets: The case of the Eurosystem* (Occasional Paper Series No. 49; pp. 271–302). Frankfurt am Main: European Central Bank.
- Blatter, J., & Haverland, M. (2012). *Designing case studies: Explanatory approaches in small-N research*. Palgrave Macmillan.
- Blinder, A. (1999). *Central banking in theory and practice*. Cambridge, MA: MIT Press.
- Borio, C. (2001). *A hundred ways to skin a cat: comparing monetary policy operating procedures in the United States, Japan and the euro area* (BIS Working Papers No. 9). Basel: Bank for International Settlements.
- Braun, B. (2015). Governing the future: the European Central Bank's expectation management during the Great Moderation. *Economy and Society*, 44, 367–391.

- Braun, B. (2018). Central banking and the infrastructural power of finance: the case of ECB support for repo and securitization markets. *Socio-Economic Review*.
<https://doi.org/10.1093/ser/mwy008>
- Braun, B., & Hübner, M. (2018). Fiscal fault, financial fix? Capital Markets Union and the quest for macroeconomic stabilization in the euro area. *Competition & Change*, 22, 117–138.
- BuBa. (1957). *Law concerning the Deutsche Bundesbank of 26 July 1957* [Enclosure to Monthly Report of the Deutsche Bundesbank]. Retrieved from
<https://www.bundesbank.de/en/publications/reports/monthly-reports/monthly-report-august-1957-704612>
- Campiglio, E., Dafermos, Y., Monnin, P., Ryan-Collins, J., Schotten, G., & Tanaka, M. (2018). Climate change challenges for central banks and financial regulators. *Nature Climate Change*, 8, 462.
- Chailloux, A., McCraighrin, R., & Gray, S. (2008). *Central Bank Collateral Frameworks: Principles and Policies* [IMF Working Paper 08/222]. Washington, D.C.: International Monetary Fund.
- Cheun, S., von Köppen-Mertes, I., & Weller, B. (2009). *The collateral frameworks of the Eurosystem, the Federal Reserve System and the Bank of England and the financial market turmoil*. ECB Occasional Paper.
- Conti-Brown, P. (2016). *The Power and Independence of the Federal Reserve*. Princeton University Press.
- Corporate Europe Observatory. (2016, December 12). The ECB's 'quantitative easing' funds multinationals and climate change. Retrieved 22 February 2017, from Corporate Europe Observatory website: <https://corporateeurope.org/economy-finance/2016/12/ecb-quantitative-easing-funds-multinationals-and-climate-change>

- Crowther, I., & Erturk, I. (2016). Post-Crisis Bank Regulation and Financialised Bank Business Model. In I. Erturk & D. Gabor, *The Routledge Companion to Banking Regulation and Reform*. London: Routledge.
- Dietsch, P., Claveau, F., & Fontan, C. (2018). *Do Central Banks Serve The People?* Cambridge: Polity.
- Draghi, M. (2016, March). *ECB Monthly Press Conference*. Presented at the Frankfurt am Main. Frankfurt am Main.
- ECB. (2017). *The ECB's corporate sector purchase programme: Its implementation and impact*. . 4, 40–45.
- ECB. (2018). *The impact of the corporate sector purchase programme on European bond markets and non-financial companies* (Economic Bulletin No. 3; pp. 66–84).
- Elgie, R. (2002). The politics of the European Central Bank: principal-agent theory and the democratic deficit. *Journal of European Public Policy*, 9, 186–200.
- Elster, J. (1979). *Ulysses and the Sirens: Studies in Rationality and Irrationality*. Cambridge University Press.
- Fawcett, P., Flinders, M., Hay, C., & Wood, M. (2017). Anti-Politics, Depoliticization, and Governance. In *Anti-Politics, Depoliticization, and Governance* (pp. 3–25). Oxford University Press.
- Fontan, Clement. (2018). Frankfurt's double standard: the politics of the European Central Bank during the Eurozone crisis. *Cambridge Review of International Affairs*, 0, 1–21.
- Fontan, Clément, Claveau, F., & Dietsch, P. (2016). Central banking and inequalities: Taking off the blinders. *Politics, Philosophy & Economics*, 15, 319–357.
- Forder, J. (2005). Why Is Central Bank Independence So Widely Approved? *Journal of Economic Issues*, 39, 843–865.
- Friedman, M. (1968). The Role of Monetary Policy. *American Economic Review*, 58, 1.

- Gabor, D., & Ban, C. (2016). Banking on Bonds: The New Links Between States and Markets. *JCMS: Journal of Common Market Studies*, 54, 617–635.
- Goodhart, C., Gabor, D., Vestergaard, J., & Ertürk, I. (Eds.). (2014). *Central Banking at a Crossroads: Europe and Beyond*. London: Anthem Press.
- Goodhart, C., & Lastra, R. (2018). Populism and Central Bank Independence. *Open Economies Review*, 29, 49–68.
- Group of Thirty (Ed.). (2015). *Fundamentals of central banking: lessons from the crisis*. Washington, DC: Group of Thirty.
- Hay, C. (2007). *Why We Hate Politics* (Vol. 5). Cambridge: Polity.
- Held, D. (2006). *Models of Democracy*. Stanford University Press.
- Héritier, A., & Lehmkuhl, D. (2011). New modes of governance and democratic accountability. *Government and Opposition*, 46, 126–144.
- Högenauer, A.-L., & Howarth, D. (2016). Unconventional Monetary Policies and the European Central Bank's Problematic Democratic Legitimacy. *Zeitschrift Für Öffentliches Recht*, 71, 1–24.
- Howarth, D., & Loedel, P. H. (2005). *The European Central Bank: the new European leviathan?* Basingstoke: Palgrave Macmillan.
- Hunt, T., & Hay, C. (2018). *The Coming Crisis*. Palgrave Macmillan.
- Ingham, G. (2004). *The Nature of Money*. London: John Wiley & Sons.
- Issing, O. (2008). *The Birth of the Euro*. Cambridge ; New York: Cambridge University Press.
- Jordan, T. (2017a). *Central bank independence since the financial crisis: The Swiss perspective* [Speech]. Swiss National Bank:
https://www.snb.ch/en/mmr/speeches/id/ref_20171109_tjn/source/ref_20171109_tjn.en.pdf.

- Jordan, T. (2017b). *Comments on the SNB's monetary and investment policy* [Speech]. Swiss National Bank: https://www.snb.ch/en/mmr/speeches/id/ref_20170428_tjn.
- Klooster, J. van 't. (2018a). Central banking in Rawls's Property-Owning Democracy. *Political Theory*. <https://doi.org/10.1177/0090591718810377>
- Klooster, J. van 't. (2018b). Democracy and the European Central Bank's Emergency Powers. *Midwest Studies In Philosophy*, 42, 270–293.
- Kydland, F. E., & Prescott, E. C. (1977). Rules Rather than Discretion: The Inconsistency of Optimal Plans. *Journal of Political Economy*, 85, 473–491.
- Lombardi, D., & Moschella, M. (2016). The government bond buying programmes of the European Central Bank: an analysis of their policy settings. *Journal of European Public Policy*, 23, 851–870.
- Lovett, F. (2010). *A General Theory of Domination and Justice*. OUP Oxford.
- Maechler, A. (2016). *Investment policy in times of high foreign exchange reserves*. Speech [Speech]. Swiss National Bank: https://www.snb.ch/en/mmr/speeches/id/ref_20160331_amr.
- Marcussen, M. (2009). Scientization of Central Banking: The Politics of A-Politicization. In K. H. F. Dyson & M. Marcussen (Eds.), *Central banks in the age of the euro: Europeanization, convergence, and power* (pp. 373–390). Oxford: Oxford University Press.
- Matikainen, S., Campiglio, E., & Zenghelis, D. (2017). The climate impact of quantitative easing. *Grantham Institute Policy Papers*, 1–36.
- McNamara, K. (2002). Rational Fictions: Central Bank Independence and the Social Logic of Delegation. *West European Politics*, 25, 47–76.
- Mehrling, P. (2010). *The New Lombard Street: How the Fed Became the Dealer of Last Resort*. Princeton University Press.

- Mercure, J.-F., Pollitt, H., Viñuales, J. E., Edwards, N. R., Holden, P. B., Chewpreecha, U., ... Knobloch, F. (2018). Macroeconomic impact of stranded fossil fuel assets. *Nature Climate Change*, 8, 588.
- Montecino, J., & Epstein, G. (2015). *Did Quantitative Easing Increase Income Inequality?* (INET Working Paper Series No. 28). New York: Institute for New Economic Thinking.
- Moschella, M. (2015). Currency wars in the advanced world: Resisting appreciation at a time of change in central banking monetary consensus. *Review of International Political Economy*, 22, 134–161.
- Papadia, F., & Välimäki, T. (2018). *Central Banking in Turbulent Times*. Oxford, New York: Oxford University Press.
- Ronkainen, A., & Sorsa, V.-P. (2017). Quantitative Easing forever? Financialisation and the institutional legitimacy of the Federal Reserve's unconventional monetary policy. *New Political Economy*, 1–17.
- Singleton, J. (2010). *Central Banking in the Twentieth Century*. Cambridge University Press.
- SNB. (2011). *Swiss National Bank takes measures against strong Swiss franc* [Press release]. https://www.snb.ch/en/mmr/reference/pre_20110803/source/pre_20110803.en.pdf.
- SNB. (2017). *Annual Report* (No. 109). Berne and Zurich.
- Solana, J. (2018). *The Power of the Eurosystem to Promote Environmental Protection* (University of Oslo Faculty of Law Research Paper No. 2018–23). Oslo.
- Sørensen, E., & Torving, J. (2017). The Janus Face of Governance Theory Depoliticizing or Repoliticizing Public Governance? In P. Fawcett, M. Flinders, C. Hay, & M. Wood (Eds.), *Anti-Politics, Depoliticization, and Governance* (pp. 27–48). Oxford University Press.
- Strange, S. (1986). *States and Markets*. London: Continuum.

- Streeck, W., & Schäfer, A. (2013). *Politics in the Age of Austerity*. John Wiley & Sons.
- Teffer, P. (2016, July 22). ECB in ‘bail-out’ of scandal-tainted VW. Retrieved from EUobserver website: <https://euobserver.com/dieselgate/134459>
- Tinbergen, J. (1952). *On the Theory of Economic Policy*. Amsterdam: North-Holland Publishing Company.
- Tucker, P. (2018). *Unelected Power: The Quest for Legitimacy in Central Banking and the Regulatory State*. Cambridge (MA): Harvard University Press.
- Turner, M. (2017, June 19). Corporate bonds prepare for a world without CSPP.
- Volz, U. (2017). *On the role of central banks in enhancing green finance* (No. 17/1). United Nations Environment Programme.
- Wood, M., & Flinders, M. (2014). Rethinking depoliticisation: Beyond the governmental. *Policy & Politics*, 151–170.
- Zurbrügg, F. (2014). *The SNB’s investment policy: options and limitations* [Speech]. Swiss National Bank: https://www.snb.ch/en/mmr/speeches/id/ref_20160331_amr.

ⁱ The SNB is owned for 51% by the Swiss cantons and other public institutions and for 49% by private shareholders. Private shareholders returns, however, are capped at SFr 15 or 0.03% at current value.

ⁱⁱ The Dollar and the Swiss Franc are currently close to parity. The SNB publishes a quarterly account of asset classes and currencies on its website: https://www.snb.ch/en/iabout/assets/id/assets_reserves.

ⁱⁱⁱ Axel Weber resigned in 2011 and Jurgen Stark did in 2012.

^{iv} The more recent 2017 Annual Report tightens the restriction on ‘banned’ weapons to ‘internationally condemned weapons’ (SNB, 2017, p. 15).

^v A list of corporate securities held by the ECB as a part of the CSPP is published on a weekly basis on the website: <https://www.ecb.europa.eu/mopo/implement/omt/html/index.en.html>